

FM 7-20

DEPARTMENT OF THE ARMY FIELD MANUAL

INFANTRY, AIRBORNE
INFANTRY, AND
MECHANIZED INFANTRY
BATTALIONS

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HEADQUARTERS, DEPARTMENT OF THE ARMY
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INFANTRY, AIRBORNE INFANTRY, AND MECHANIZED INFANTRY BATTALIONS

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CHAPTER 1 GENERAL

Section I. INTRODUCTION

1. Purpose and Scope

a. The purpose of this manual is to provide information and guidance which will assist commanders and staffs in the successful employment of the infantry, airborne infantry, and mechanized infantry battalions in tactical operations.

b. This manual provides guidance on doctrine, tactics, and techniques for employment of the foregoing infantry units. It includes specific doctrine pertaining to the organization, control, tactical employment and administrative support of these infantry battalions under all conditions of conflict. The basic material applies to nuclear warfare. Where appropriate, modifying guidance for nonactive nuclear and nonnuclear warfare is included.

c. The parts of this manual that pertain exclusively to one type of infantry battalion are so specified. Wherever the term infantry battalion is used, this will include all types of infantry battalions unless otherwise indicated.

d. This manual is designed to be used in conjunction with FM's 7-11, 7-30, 17-30, 54-2, 57-10, 57-35, 61-100, 101-5, and 101-10. General principles outlined in this manual may require modification in special operations (northern, jungle, desert, etc.) and under certain conditions of climate and terrain. Details on special operations will be found in the manual pertinent to that type of operation.

e. Users of this manual are encouraged to submit recommended changes or comments to improve the manual. Comments should be keyed to the specific page, paragraph, and line of the text in which the change is recommended. Reasons should be provided for each comment to insure understanding and complete evaluation. Comments should be forwarded direct to Commandant, United States Army Infantry School, Fort Benning, Ga.

2. Mission

The mission of the infantry battalion is to close with the enemy by means of fire and maneuver in order to destroy or capture him or to repel his assault by fire, close combat, and counterattack.

3. Characteristics and Capabilities

a. The infantry battalion is the infantry's basic tactical unit. The personnel, equipment and training of the battalion provide for versatility and enable it to accomplish a variety of combat missions with organic means. The battalion's command structure is designed to accept an augmentation of forces. The battalion is capable of fighting with or without vehicles, with minimum adjustment of equipment and personnel, whenever dismounted, mechanized, motorized, amphibious, airmobile, or joint airborne operations are required.

b. Battalions have the following capabilities:

- (1) Close with the enemy by means of fire and maneuver in order to destroy or capture him.
- (2) Repel enemy assault by fire, close combat and counter-attack.
- (3) Provide base of fire and maneuver elements.
- (4) Seize and hold terrain.
- (5) Conduct independent operations on a limited scale.
- (6) Furnish limited antitank protection.
- (7) Provide indirect fire support for organic and attached units.
- (8) Conduct long-range reconnaissance patrolling when appropriately equipped.
- (9) Participate in air landings when provided with sufficient air transportation.
- (10) Conduct operations in all types of terrain and climatic conditions.
- (11) Participate in amphibious operations.

c. Infantry battalions, when mechanized, have the following additional capabilities:

- (1) Possess high cross-country mobility with light armor protection and multiple communications.
- (2) Exploit the effects of mass destruction weapons.
- (3) Complement and enhance the inherent capabilities of tank elements, when employed in tank/infantry task forces.
- (4) Provide a highly mobile exploitation force when suitably reinforced with appropriate combat and combat support elements.
- (5) Traverse inland waterways while mounted.

d. Airborne infantry battalions (which may also be mechanized) have the following capability (in addition to those listed in *b* and *c*, above):

Frequent airborne assault by parachute or assault aircraft with minimum marshalling and planning procedures.

e. The battalion is a tactical and administrative headquarters; however, it is primarily dependent on higher echelons for administrative support.

4. Organization

The major units of the infantry, airborne infantry, and mechanized infantry battalions and details of the headquarters company are shown in figure 1. For details of organization and equipment, see appropriate TOE.

5. Organization for Combat

In organizing for combat the battalion commander may find it necessary or desirable to attach, place in support, or place under operational control one subordinate element of his command to another subordinate element. The decision as to which measure will provide the desired control of operations is based on unit capabilities to control and administer other units, and the requirements of a particular situation. The following definitions apply:

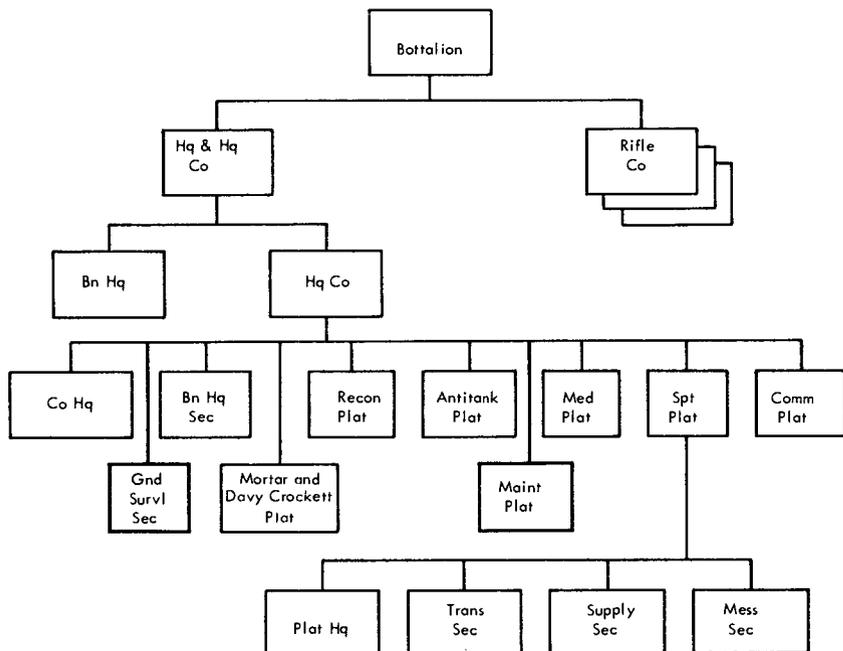


Figure 1. Infantry, airborne infantry and mechanized infantry battalion.

a. Attached. Units are bound temporarily to a command other than their assigned command. When a unit is attached to another unit, the commander to whom the attachment is made then commands the attached unit. Subject to the limitations imposed by the attachment order, this implies full responsibility for administrative support, training, and operations.

b. Direct Support. This is a mission or task requiring one unit, under command of its parent headquarters, to support another specific unit. The supporting unit is authorized and required to answer directly the supported unit's request for support.

c. General Support. Units in general support are commanded by their assigned commander and plan and conduct operations so as to provide support to the supported force as a whole and not to any particular subdivision thereof.

d. Operational Control. Units are placed under a commander or staff officer for assignment of tasks and authoritative direction to accomplish the mission. Operational control does not include responsibility or authority for administrative support, discipline, internal organization, or training.

e. Special Application. For specific application to artillery (support, direct support, general support, reinforcing, or general support/reinforcing), see FM 6-20-1.

Section II. GENERAL CONSIDERATIONS FOR NUCLEAR AND NONNUCLEAR WARFARE

6. General

a. Use of nuclear weapons or the threat of their employment may indicate more open formations as passive defense against nuclear effects. At the same time commanders must be prepared to face an enemy who disregards the risk of massing his forces. In each case the commander must evaluate his own situation and take appropriate action to counter the enemy, regardless of the risk of massing friendly forces.

b. At times, commanders at all levels may have to accept planned or unplanned isolation of their elements. In the absence of orders, they must be prepared to further the accomplishment of the overall mission within their capabilities. Reaction to situations of this nature must be rapid. A high premium is placed on the leader who has a high degree of initiative.

7. Terrain

Terrain is of vital concern in both nuclear and nonnuclear warfare. In nuclear warfare, the concentration of large bodies of

troops on easily identifiable terrain features may present lucrative and easily acquired nuclear targets to the enemy; therefore, the decision to control terrain by physical occupation with sizable forces must be carefully weighed against the risk involved. Key terrain may be denied the enemy or controlled to varying degrees by securing the approaches to it, by keeping it under constant surveillance and fires, by contaminating it, or by occupying it. In a nonnuclear attack, key terrain is normally seized and controlled by strong maneuver elements. Terrain may at times be neutralized by nuclear or CB (chemical and biological) fires used in conjunction with relatively small security elements.

8. Control

Nuclear warfare is characterized by relatively sudden and drastic changes in the tactical situation. This demands an alert and flexible system of command, with firm, centralized planning, decentralized execution, and doctrine that stresses initiative and flexibility by subordinate commanders. All commanders must be prepared to act instantly and aggressively and in the absence of orders. To provide for contingencies, advance planning, including the use of a complete unit SOP, must be routine. In nonnuclear warfare, when the battalion may attack or defend using more concentrated formations, more restrictive control measures may be required.

9. Concentration of Troops and Materiel

a. In nuclear warfare the prolonged concentration of troops and equipment must be avoided. It is inevitable that forces must, on occasion, concentrate to accomplish a particular mission. In these instances, commanders concentrate their forces at the last moment, execute missions rapidly, and quickly disperse to avoid presenting lucrative targets. The absence of a nuclear threat permits greater concentration of forces with less risk.

b. The fact that the enemy has not used nuclear weapons does not eliminate the possibility that he may do so at any time. Therefore, the battalion concentrates only to the degree necessary to accomplish the mission. The greater the mobility of a command, the greater the dispersion it can accept, provided adequate means for communication are available. In making an estimate of the situation, commanders at all echelons consider the following factors in determining the degree of dispersion that can be accepted. (METT):

- (1) MISSION.
- (2) ENEMY capabilities and tactics.
- (3) TERRAIN over which the operation is to be conducted and the effect of weather on the operation.

- (4) TROOPS (i.e., combat power) available to accomplish the mission. This includes available communication, administrative support, mobility, fire support, and all elements that affect the combat power of a unit.

c. Operations may be conducted in less dispersed formations than illustrated in this manual when the enemy's combat power forces concentration to accomplish the mission. For considerations in developing courses of action, see paragraph 55.

10. Nuclear Support

The allocation of nuclear weapons to a unit includes the permission to fire. Inherent in the authority to fire nuclear weapons is the responsibility for planning the nuclear attack, warning, coordination, and due regard for specific restrictions imposed by higher headquarters or the situation. In the event nuclear weapons are not allocated, commanders may request nuclear fires at any time. Requests for nuclear fires are based on target analyses, to include a comparison of the relative effects of both nonnuclear and nuclear fires.

11. Mobility

The battalion strives for the tactical mobility which is superior to that of the enemy through proper use of available Army aviation, armored personnel carriers (APC), trucks, and the ability of units to execute timely movements on foot. The need for speed in maneuvering and exploiting nuclear weapons effects places a great emphasis on tactical mobility.

12. Communication

Communication means must permit control within and between all levels of command under conditions of wide dispersion and rapid maneuver. Unit commanders and staffs must have a thorough understanding of the capabilities and limitations of all available means of communications. Personnel who operate communications equipment must be trained in the employment of countermeasures to minimize the effects of enemy jamming.

13. Intelligence

Combat operations under conditions of nuclear warfare demand increased emphasis on counterintelligence and the production of timely and accurate combat intelligence. To assist the expeditious collection and reporting of information of intelligence value, electronic surveillance means are integrated at company and battalion level.

14. Leadership

Nuclear warfare places greater demands on the individual soldier and combat leader and particularly the small unit leader. The individual Soldier must be trained to control his fears in order to prevent panic and to react in an aggressive manner against the enemy. The leadership role of the small unit leader—platoon leader and company commander—must be stressed since the future battlefield may see units dispersed over greater areas than ever before. Emphasis will be placed on a decentralization of authority, and the small unit leader will be making decisions normally made by officers of one or two grades higher in past wars. Small unit leaders must be prepared to cope with situations which will tax to the utmost their knowledge, judgment, initiative, and moral and physical courage. They must be prepared to operate under fragmentary, oral type orders.

15. Securing of a Position or Terrain Feature

The nature of a position or terrain feature, and the use to which it is to be put by friendly forces, dictates the extent of actions which must be taken to secure it. In its practical application, to secure a position or terrain feature is to gain possession of it, with or without force, and make such disposition as will prevent, as far as possible, its destruction, obstruction, or loss by enemy action. A position or terrain feature may be seized from the enemy and his use of it denied without it being "secured" for friendly use. For example, in order to secure a key terrain feature, the approaches to it are blocked to deny the enemy physical access to it. In securing a river crossing site or an airfield, sufficient terrain is seized and controlled (in addition to the site itself) to prevent the enemy from placing flat-trajectory or ground-observed indirect fire on the site.

16. Protective Measures in Nuclear Warfare

Protective measures are active and passive. Active measures include the destruction or neutralization of enemy nuclear delivery means and the destruction of enemy nuclear weapons. Passive protective measures fall in two categories: defense against the detection of troop dispositions by the enemy, and defense against the effects of enemy nuclear fires.

a. Defense against enemy detection of troop dispositions may be accomplished through the use of appropriate counterintelligence measures (FM 30-5) including the following: dispersion, frequent and rapid movement, use of camouflage and concealment, movement and operations during periods of low visibility, deception and

use of dummy equipment, communication security; and the proper employment of security forces, both ground and air.

b. Defense against the effects of a nuclear detonation may be accomplished by the following: dispersion, cover afforded by digging, armor protection, by taking advantage of the shielding afforded by the terrain, and protective covering on exposed parts of the body. See FM 21-40.

17. Reorganization After Nuclear Attack

Commanders must insure that their units are prepared at all times to withstand an enemy nuclear strike. They do this by indoctrinating individuals and preparing and rehearsing SOP to cover foreseeable situations. In the event of an enemy nuclear strike, commanders immediately take the following steps *in the priority dictated by the situation*:

- a. Accomplish the assigned mission.
- b. Determine losses of personnel and equipment.
- c. Insure or reestablish command control.
- d. Notify higher headquarters.

CHAPTER 2

THE COMMANDER, STAFF, AND CONTROL FACILITIES

Section I. THE COMMANDER

18. General

a. The commander, being responsible for everything the battalion does or fails to do, meets his responsibilities by sound planning, making timely decisions, issuing effective orders, and by personal supervision and leadership. His duties require a thorough understanding of the tactical and technical employment and capabilities and limitations of all organic elements and of arms and services that may be associated with the battalion.

b. For a general discussion of command authority and unit staff organization, actions, and responsibilities, see FM 101-5.

19. Exercise of Command

a. The succession of commanders from senior to subordinate through which authority passes and commands are given is known as the Chain of Command. It is through this channel that the commander exercises authority and prescribes policies, missions, and standards for the battalion. Effective operation of this chain requires that sufficient authority be delegated to subordinates so that they can accomplish tasks for which they are responsible.

b. The commander insures that his standards are maintained by personal visits and inspections by himself and his staff coupled with followup action. The combat effectiveness of the unit can only be determined by a continuous evaluation of the indications of leadership: morale, esprit de corps, discipline, and proficiency. The commander will insure the personal well-being of individuals by looking after their physical comfort; promoting confidence in, and respect for, their leaders; providing a sense of accomplishment; and fostering positive mental attitudes.

20. Relations With Staff

The commander uses his staff to acquire information; make recommendations; prepare estimates, detailed plans, and orders implementing his decisions; coordinate plans and operations; and relieve him of other details. He maintains a close relationship with

his staff officers, encourages frank appraisals and free expression of ideas and, in turn, keeps them fully informed. The battalion commander will establish definite functional responsibilities for his staff, charge the battalion executive officer with the responsibility for directing and supervising the staff, and insure that adequate authority is delegated commensurate with responsibilities.

21. Relations With Unit Commanders and Troops

a. Organic Units. The relationship of the battalion commander with his unit commanders is direct and personal. He encourages them to utilize his staff but to deal directly with him when appropriate. He makes inspections and informal visits to his unit commanders and troops. These actions tend to promote confidence, respect, loyalty, and understanding while they give the commander a first-hand knowledge of the tactical situation and the status of the unit.

b. Attached Units. Attached units are subject to the decisions and orders of the battalion commander. An attached unit commander is an advisor to the commander on the employment of the attached unit. The battalion commander's relations with attached units are essentially the same as with organic units.

22. Relations With Other Units

a. Supporting. The battalion commander insures adequate communication and liaison and keeps commanders of supporting units informed of the current situation and of the support needed. The supporting unit is required to establish communications with the support unit. When a unit of another command supports the battalion, but is not attached, the battalion commander requests the desired assistance. The supporting unit commander regards the request as an order. In case of conflicting interests the supporting unit initiates compliance, concurrently referring the matter to its parent headquarters. The commander of a supporting unit advises the battalion commander of the capabilities and limitations of his unit. He further recommends its employment, acts as staff advisor, and frequently accompanies the battalion commander and/or staff on reconnaissance.

b. Operational Control. When a unit is placed under the operational control of a battalion, the command relationship is similar to that outlined for an attached unit. The battalion commander will assign missions and direct operations of units under his operational control.

23. Command in Combat

a. The battalion commander uses all available means to accom-

plish his mission. His plans, orders, and supervision insure that the actions of all units contribute effectively toward that end. When additional combat or administrative support is required to accomplish the mission, the commander takes action to obtain it. He coordinates the activities of his command with those of adjacent and supporting units.

b. The battalion commander goes where he can best direct, control, and influence the operation. He may be at an observation post, with the main attack element, or anywhere else in his area of operations where his presence is required. Before he leaves the command post, he informs his staff of his itinerary and of plans to be made or action to be taken if the situation changes. When he is away from the command post, he keeps in contact by radio, telephone, or other means. If he issues orders while away from the command post or obtains pertinent information of the situation, he informs his staff and commanders at the first opportunity.

c. Although the command post is the nerve center of the battalion, the commander will frequently be required to move to other locations to observe or direct the action. In this case, he may use the command group (par. 47) for this purpose. When he is at the point of decision, he can gain personal information of the situation, influence the action by leadership, and establish closer control. However, he must not become so involved in small actions as to lose sight of the accomplishment of the overall mission.

Section II. THE UNIT STAFF

24. General

The unit staff at battalion level consists of the executive officer, S1, S2, S3, and S4. They are the principal staff assistants of the commander.

25. Relationship of Unit Staff to Special Staff and Subordinate Commanders

a. Figure 2 shows the general relationship between the battalion unit and special staffs. Although not indicated in the diagram, special staff officers have direct access to all members of the unit staff on matters within the area of responsibility of the unit staff officers concerned. The unit staff insures that the special staff is informed of the plans, policies, and decisions of the commander. The unit staff obtains information, estimates, and recommendations from the special staff and uses this data in preparing reports, estimates, recommendations and plans for the commander. Staff officers, both unit and special, must keep each other informed on matters of common interest.

b. A special staff officer usually deals with the commander through the appropriate unit staff officer; however, technical considerations of a particular problem may make it desirable for him to present information and recommendations directly to the commander. Whenever a special staff officer deals directly with the commander, he must inform the appropriate staff officer(s) of the information exchanged and the recommendations made.

c. Commanders and leaders of subordinate elements are routinely afforded direct contact with the commander. The commander will frequently call upon leaders of organic, supporting, and attached units for estimates and recommendations pertaining to their area of interest. To assist the commander in the exercise of command, his staff is given certain responsibilities. This will frequently include supervision of activities of a subordinate element of his command. This "staff supervision" does *not* include command. It *does* include and emphasize coordination.

d. The antitank, mortar, and reconnaissance platoon leaders are both commanders and special staff officers. These platoon leaders are under the immediate command of the battalion commander. The unit staff exercises staff supervision over these platoons in a manner similar to their supervision over any other elements of the command.

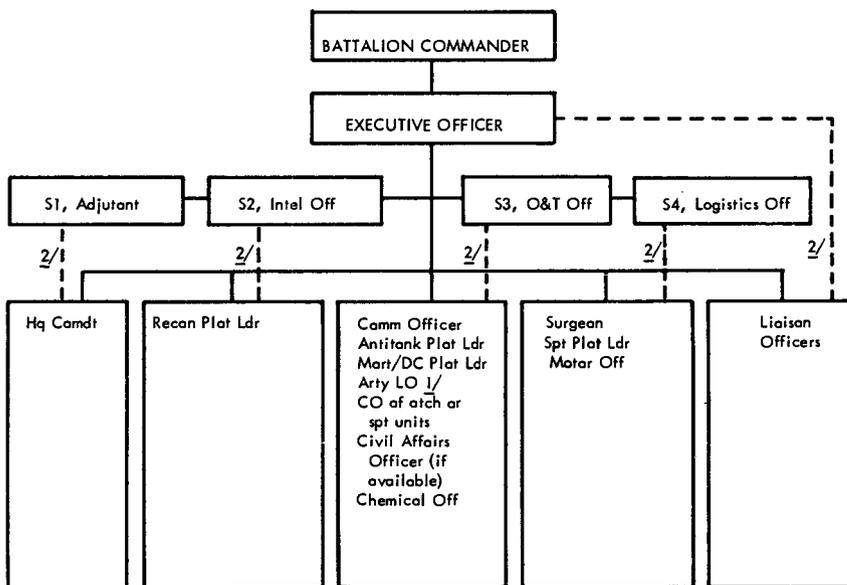
e. A unit staff officer may be required to assist or take over another staff section in an emergency. Therefore, he must be generally familiar with the duties and responsibilities of other staff officers. Similarly, he must train his assistant to function in his absence.

f. See FM 101-5 for further discussion of staff organization and procedure.

26. Executive Officer (XO)

a. *General.* The executive officer is the principal assistant and advisor to the battalion commander. He is normally charged with the responsibility for the execution of staff tasks, efficient and prompt response of the staff, and coordinated effort of its members. He transmits the commander's decisions to the staff sections, and to subordinate units when applicable, in the name of the commander. The executive officer keeps himself abreast of the situation and future plans. During his commander's temporary absence, the executive officer represents him and directs action in accordance with the commander's policies. He is prepared to assume command at any time.

b. *Duties.* The executive officer's specific duties vary, depending



NOTES

1/ Indicates FSC.

2/ The dotted line indicates primary unit staff responsibility for staff supervision of the personnel or activity. Even though two or more unit staff officers may have an interest in the activity, a commander assigns the responsibility to only one in order to avoid conflict. The commander makes these decisions based on his desires and the best arrangement to achieve his objectives.

Figure 2. Relationship between unit and special staff.

on the desires of the commander. He performs duties in the unit staff similar to those of the chief of staff at the general staff level (FM 101-5). In addition, the executive officer is responsible for the troop and public information programs.

c. *Location.* The executive officer is normally located at the command post. The commander and the executive officer should not be absent from the command post at the same time. In displacement of the command post, the executive officer usually moves with the last command post echelon.

d. The sergeant major is the senior noncommissioned officer in the battalion and as such is the commander's noncommissioned officer advisor and representative in dealing with other senior noncommissioned officers in the battalion. He holds periodic meet-

ings with the first sergeants of the battalion to disseminate information and orders from the battalion commander.

27. Adjutant (S1)

a. The S1 has unit staff responsibility for personnel activities and other administrative matters not specifically assigned to another staff officer. He performs functions similar to those of the personnel officer (G1), the commander's personal staff on a general staff level (FM 101-5), and the personnel functions of those special staff officers who are not present in a battalion staff, such as the adjutant general, inspector general, staff judge advocate, provost marshal, and special service officer. The S1 is normally located at the command post.

b. The personnel and administrative personnel staff NCO keeps the S1 and company commanders informed on all personnel and administrative actions pertaining to the personnel of the battalion. The personnel staff NCO performs his function by maintaining liaison with the administration company of the support command.

c. For detailed discussion of personnel functions and activities see chapter 3.

28. Intelligence Officer (S2)

a. The S2 has staff responsibility for keeping all concerned fully informed on matters pertaining to combat intelligence and counterintelligence. He collects, evaluates, and interprets information to determine the effect of weather, terrain, the enemy, and the civilian population on the mission. He insures that information and intelligence are disseminated expeditiously to higher, subordinate, and adjacent units. The S2 also has staff supervisory responsibility for certain functions pertaining to agencies concerned with the collection, evaluation, interpretation, and dissemination of information and intelligence.

b. In addition to performing duties in the unit staff similar to those of the G2 (FM 101-5), the battalion S2, within his primary staff responsibility, performs the following:

- (1) Prepares the daily battalion patrol plan (coordinating with the S3).
- (2) Plans, supervises, and insures briefing of reconnaissance patrols; furnishes information of the weather, terrain and enemy for all patrols; insures that all combat and reconnaissance patrols are debriefed; and insures preparation and dissemination of patrol reports (coordinating with the S3).

- (3) Supervises battalion surveillance activities and prepares the ground surveillance plan (coordinating with the FSC and S3). Submits requests for aerial surveillance as required.
- (4) Plans and supervises the activities of the reconnaissance platoon in execution of intelligence missions (coordinating with the S3).
- (5) Plans and supervises the operations of the battalion ground surveillance (radar) section (coordinating with the S3).
- (6) Supervises the activities of attached intelligence specialist teams.
- (7) Coordinates target acquisition by all organic and attached agencies and disseminates target information to nuclear and nonnuclear fire support agencies.
- (8) Maintains a current intelligence estimate and situation map (coordinating with the S3); insures that important items of information and intelligence are recorded in the unit journal; and prepares intelligence summaries and intelligence portions of operation plans, orders and annexes, operational situation reports, and the unit SOP.
- (9) Exercises staff supervision over the chemical officer in all matters relating to CBR monitoring and survey operations; posting of the fallout contamination map; interpretation of radiological survey data; and preparation of fallout prediction plots relating to enemy-burst nuclear weapons.
- (10) Prepares battalion air reconnaissance plans and forwards immediate and preplanned requests for air reconnaissance to appropriate agencies.
- (11) When unit censorship has been established, the S2 supervises these functions and is responsible for the training of those personnel who perform unit censorship duties. He is also responsible for the orientation and training of all members of the command in the purpose, importance, and mechanics of this security measure. See FM 30-28.

29. The Operations and Training Officer (S3)

The S3 has staff responsibility for matters pertaining to the organization, training, and combat operations of the battalion and attached units. His duties are similar to those prescribed for the G3 in FM 101-5. He exercises staff supervision over civil affairs matters in the battalion (par. 87). He exercises staff super-

vision over the chemical officer in all matters pertaining to the tactical employment of chemical and biological agents and in the preparation of fallout prediction plots relating to friendly delivered nuclear weapons.

30. Assistant Operations and Training Officer (S3 Air)

The assistant S3 (S3 Air) is the principal assistant of the S3 and performs duties assigned to him by the S3. He assists in planning functions and relieves the S3 of some of his administrative workload by assembling data and preparing reports. He is prepared to assume duties of the S3 and acts for him in his absence. He is a qualified nuclear weapons employment officer and will normally prepare the detailed target analysis when required. As a member of the Army air/ground system, he coordinates the employment of close air support with the battalion ground operations. He coordinates with the fire support coordinator (FSC). Other duties include—

- a. Preparing SOP for air/ground operations (coordinating with S2).
- b. Preparing the air support portion of the fire support plan.
- c. Preparing or processing requests for immediate and pre-planned close air support.
- d. Recommending and disseminating information on the location of the bomb line and other control measures used by higher headquarters in coordinating employment of tactical air support.
- e. Assisting the S2 by forwarding requests for tactical air reconnaissance.
- f. Supervising air/ground recognition and identification procedures within the battalion.
- g. Coordinating air-to-surface fires.

31. Logistics Officer (S4)

a. The S4 has staff responsibility for planning, coordinating, and supervising the operation of the logistical facilities of the battalion. He insures that organic and nonorganic administrative support elements adequately support the tactical plan of the battalion and that they function according to the orders of higher commanders.

b. The duties of the S4 are similar to those prescribed for the G4 in FM 101-5. In addition, the S4 coordinates and supervises the activities of the following personnel:

- (1) Support platoon leader.

(2) Surgeon.

(3) Battalion motor officer.

c. For a detailed discussion of logistical function and activities, see chapter 3.

Section III. THE SPECIAL STAFF

32. Chemical Officer

The battalion chemical officer is the principal advisor to the commander and his staff on the planning and coordination of chemical, biological, and radiological operations. In coordination with appropriate unit staff officers, the chemical officer supervises the CBR operational and training activities of subordinate units. In addition, the chemical officer is responsible for the accomplishment of certain CBR functions in the battalion headquarters. Each section of the unit staff coordinates with the battalion chemical officer those aspects of CBR operations and training which fall within its purview, as indicated below:

a. In coordination with the adjutant (S1), the chemical officer:

- (1) Assists in the preparation of records and reports regarding CBR casualties.
- (2) Maintains records of radiation dosage status of subordinate units.

b. In coordination with the intelligence officer (S2), the chemical officer:

- (1) Prepares radiological fallout predictions for enemy delivered weapons.
- (2) Disseminates the *Fallout Prediction Message* for enemy delivered weapons to subordinate units.
- (3) Disseminates the *Effective Wind Message* to subordinate units.
- (4) Directs and supervises radiological and chemical surveys within the battalion.
- (5) Consolidates radiological and chemical monitoring reports received from subordinate units and forwards consolidated reports to brigade.
- (6) Maintains radiological and chemical contamination maps.
- (7) Conducts the training of company CBR survey teams.
- (8) Commands CBR reconnaissance of routes and areas.
- (9) Analyzes information to estimate enemy CBR capabilities.

(10) Alerts higher, lower and adjacent units of enemy CBR attack.

c. In coordination with the operations and training officer (S3), the chemical officer:

- (1) Prepares fallout predictions for friendly delivered weapons.
- (2) Prepares the battalion CBR training program.
- (3) Disseminates *Fallout Prediction Messages* for friendly delivered weapons to subordinate units.
- (4) Conducts CBR training within the battalion.
- (5) Recommends units, personnel, and equipment from combat and tactical support units as required to conduct radiological surveys.
- (6) Prepares the battalion CBR SOP.
- (7) Prepares plans for the integration of chemical and biological agents with the scheme of maneuver.
- (8) In conjunction with FSC, prepares chemical target analyses, and assists in the integration of toxic chemical fires into the battalion fire support plan. Calculates troop safety requirements when toxic chemical agents are to be used.
- (9) Prepares recommendations for the integration of persistent chemical agents in minefield and barrier plans.
- (10) Plans and supervises the employment of flame weapons, flame field expedients, and smoke in support of operations.
- (11) Plans for the employment of attached or supporting Chemical Corps troop units. When directed by the battalion commander, exercises operational control over attached Chemical Corps units.

d. In coordination with the logistics officer (S4), the chemical officer:

- (1) Inspects CBR equipment in subordinate units.
- (2) Monitors the requisitioning and distribution of CBR equipment and supplies.
- (3) Plans for and supervises the installation of collective protection facilities, when appropriate.
- (4) Supervises CBR decontamination activities.

33. Surgeon

The battalion surgeon is a medical officer who is assigned to the battalion headquarters. He has direct access to the battalion com-

mander; however, he normally functions under the staff supervision of the S4 in matters directly affecting the health of the command, medical care of troops, or the proper employment of medical personnel, equipment and supplies. The surgeon exercises operational control over the medical platoon and attached medical elements under the authority delegated by the commander. His specific duties include the following:

a. Recommends and supervises procedures governing locating, first aid, collection, sorting, and evacuation of the sick and wounded; provides for and supervises medical treatment furnished by the battalion.

b. Recommends measures for the prevention and control of disease and injury.

c. Advises the commander concerning the effects of CBR agents on personnel, to include estimation of casualties caused by immediate and delayed effects of nuclear explosions.

d. Supervises the training of all troops in first aid, hygiene, and sanitation, and the training of all medical troops for individual and unit proficiency.

e. Recommends and supervises provision of medical care for prisoners of war and, when authorized by appropriate authority, medical care for nonmilitary personnel in the battalion area.

f. Supervises the examination of captured medical documents and equipment in coordination with S2, in order to obtain intelligence information.

g. Performs professional medical treatment duties as required.

34. Communication Officer

The battalion communication officer, in addition to commanding the communication platoon, coordinates and exercises technical supervision over the training and activities of communication personnel throughout the battalion. He keeps informed of current and planned activities of the battalion. Under the staff supervision of the S3, he prepares plans and makes recommendations for the employment of all signal communications and electronic warfare means. His functions include the following:

a. Coordinates with the S1 who selects the exact location for the command post.

b. Coordinates with the S2 on the location of observation posts and on communication security measures.

c. Obtains current signal operation instructions (SOI) and standing signal instructions (SSI) from higher headquarters. He prepares and distributes extracts of the SOI and SSI.

- d.* Prepares the communication portion of the battalion SOP.
- e.* Submits recommendations for paragraph 5 of the operation order and signal annexes when required.
- f.* Plans, supervises and coordinates matters pertaining to signal supply and maintenance.
- g.* Supervises employment of signal elements attached to the battalion.
- h.* Procures, stores, and distributes codes, ciphers, and crypto material.
- i.* Supervises the installation, operation and maintenance of the signal equipment issued to the platoon and the battalion headquarters.
- j.* Supervises the operation of communication installations.
- k.* Supervises the movement of communication installations when the command post displaces.
- l.* For a detailed discussion of actions and responsibilities of the communication officer, see appendix V.

35. Headquarters Commandant

The duties of the headquarters commandant (the company commander of the headquarters company) are similar to those listed in FM 101-5; they include the following:

- a.* Supervising the custody and evacuation of prisoners of war (PW) and the selection of the PW collecting point (coordinating with the unit staff).
- b.* Supervising the custody and return of stragglers to units.
- c.* Supervising the quartering party and establishment of CP facilities (coordinating with the S1).
- d.* Preparing plans for and supervising CP security (coordinating with the unit staff).

36. Fire Support Coordinator (FSC)

a. The FSC is normally a liaison officer from the artillery battalion in direct support of the brigade. In those instances when no artillery officer is available, the FSC is the mortar platoon leader.

b. The fire support coordinator functions under the staff supervision of the battalion S3. The FSC duties include:

- (1) Advising the commander and staff on all surface-to-surface fire support matters.
- (2) Preparing the fire support portion of the battalion SOP.

- (3) Preparing battalion fire support plans.
- (4) Coordinating all surface-to-surface supporting fires in conjunction with the S3 and S3-Air who coordinates air-to-surface fires including air-delivered nuclear weapons.
- (5) Keeping other artillery units informed of the battalion situation.

37. Liaison Officers

Two liaison officers are organic to the battalion headquarters and normally function directly under the staff supervision of the executive officer. The battalion commander may make them available for use as assistants to specific staff sections when they are not engaged in liaison activities. The S3 is normally assigned responsibility for briefing and debriefing these officers. However, they effect liaison for all of the staff sections and must insure dissemination of information to all interested staff officers. For other duties of liaison officers, see FM 101-5.

38. Support Platoon Leader

As the agent of the S4, the support platoon leader operates and controls the battalion field trains. He keeps informed on supply, transportation and feeding plans and uses the personnel of the platoon to implement them. In coordination with the battalion S1, he supervises the collecting and evacuation of the unit dead to graves registration collecting points located in the brigade trains area and operated by elements of the support command. He functions as the battalion ammunition officer.

39. Battalion Mortar and Davey Crockett Platoon Leader

The platoon leader acts as advisor to the battalion commander on employment of mortars and Davy Crockett weapons (par. 36a).

40. Antitank Platoon Leader

The platoon leader recommends employment of his platoon. He acts as antitank advisor in the absence of an attached or supporting tank company or battalion.

41. Reconnaissance Platoon Leader

The reconnaissance platoon leader plans and makes recommendations for employment of his platoon.

42. Motor Officer

The motor officer is an advisor on battalion motor transportation and maintenance. He prepares a battalion vehicle evacuation

plan and supervises the recovery and evacuation of vehicles from the battlefield. He is assisted in motor maintenance matters by the maintenance warrant officer.

43. Other Special Staff Officers

Tables of organization do not provide separate special staff officers for such functions as safety, claims, postal officer, etc. The battalion commander may appoint one of his TOE staff or other officers as required to serve in a special staff capacity in addition to their other duties. This may also apply to special staff functions required for certain tactical operations, e.g., appointment of an embarkation officer for an amphibious operation.

44. Commanders of Nonorganic Units

Commanders of attached and supporting units and units under operational control are advisors to the battalion commander and staff on matters pertaining to the employment of their units. In addition to commanding their units, they are responsible for—

a. Submitting plans and recommendations for the employment of their units.

b. Coordinating their activities with the proper battalion agencies and those of higher, lower, and adjacent units.

Section IV. COMMAND AND CONTROL FACILITIES

45. The Battalion Command Post

The battalion commander must insure that command and control techniques and facilities are efficient and responsive to operational needs. The direction and control of battalion operations is exercised primarily through the battalion command post (CP). The CP consists of the battalion commander; unit staff; necessary special staff officers; liaison personnel from attached and supporting units; and supporting personnel; vehicles and equipment required for its operation. The location, operation, and displacement of the command post are normally prescribed in the unit SOP.

46. Location

a. The command post is located to facilitate control of the battalion. Considerations that influence its location are troop dispositions, routes of communication, communication requirements, type of tactical operation, space required, cover, concealment, and security. Entrances to towns and villages, crossroads, and other

prominent terrain features which may attract enemy fire are avoided. Alternate locations are selected to which the command post may be moved.

b. In the attack, the initial location is well forward to avoid early displacement and to facilitate control. In defensive situations, it is generally located near the rear of the defensive areas to avoid displacement in the event of an enemy penetration. The CP may be located near the reserve to obtain security. Local security is obtained by establishing outposts with drivers and other personnel; when practicable, vehicular weapons are assigned specific sectors of fire.

c. The S3 makes recommendations for the general location of the CP after consultation with the communication officer (who suggests the general location from a communication viewpoint) and the S1 (who suggests possible location from the viewpoint of interior arrangement requirements). Following approval by the battalion commander, the S1, in conjunction with the communication officer, selects the exact site (sec. II, app. V).

47. Battalion Command Group

a. During tactical operations the battalion commander may form a command group (a subdivision of the command post) to operate forward of the CP. This group has no fixed organization but consists of personnel and equipment selected by the battalion commander for a given situation; it may include the S2, S3, FSC, forward air controller (FAC), necessary liaison and communication personnel, vehicles, and command radio facilities. The command group maintains continuous communication with the CP to insure timely exchange of essential information. By operating forward of the CP with a command group, the battalion commander can more effectively influence combat operations.

b. During mechanized and/or motorized operations on one axis, the command and control facilities are divided. A command group will operate near the head of the main body on the axis of movement, while the remainder of the CP will locate to the rear of the battalion formation. The primary control of the unit will stem directly from the command group. In situations where the battalion moves on two axes, the commander will place control facilities on each axis.

48. Alternate Command Posts

a. Plans are prepared and units trained to insure continued command and control in the event that the battalion command post is rendered inoperative through loss of the bulk of CP per-

sonnel and equipment. These plans are made by both brigade and battalion. They provide for immediate assumption of command by the senior officer present and the formation of a new battalion headquarters, including personnel and communication. Portions of these plans are included in the unit SOP.

b. The battalion plan for reestablishment of the CP will normally include a seniority list of officers, a list of possible staff officers in units, and provision for using the facilities of one of the companies or the combat trains as an alternate CP.

c. The brigade plan may provide for the formation of a replacement headquarters within resources available to the brigade. Additionally, consideration may be given to a temporary attachment of companies to another battalion or to direct control of companies by the brigade.

49. Headquarters Management

a. The S1 determines the interior arrangement of the command post in coordination with the communication officer and the headquarters commandant. The S1 designates the space or area to be occupied by the commander, each staff section, and other activities. Installations should be dispersed and dug in to insure minimum destruction or disruption of operations by enemy attack.

b. The message center is located near the entrance to the command post.

c. The motor park should have good entrances and exits and be established in a concealed location accessible to vehicles. It is located to prevent its detection from the air. Vehicle movement is kept away from the main part of the CP. A dismount point is established near the vehicular entrance to the CP.

d. Radio sets are sited to give the best transmission and reception, with consideration for the enemy's direction finding capability. Relay stations or remote control equipment may allow the CP to be located on low ground while radio facilities are on high ground.

e. The panel display, helicopter pad, and message drop and pick-up area are located on suitable terrain near the CP. The area should be generally level and free of obstructions to aircraft.

f. The switchboard is located on the perimeter of the CP in a covered and concealed area near incoming wire circuits and away from noise and interference.

g. The battalion communication officer coordinates with the S3, headquarters commandant and S1 in locating communication facilities. These facilities are integrated into the CP security plan.

50. Operation

a. The command post is organized for continuous operation. All staff elements operate in shifts for effective 24-hour operation and so that personnel can obtain needed rest.

b. Incoming messages delivered by messengers normally go first to the message center. Here they are receipted for and then circulated within the command post. He routes them first to the staff section most interested in their contents, then to other staff sections for their information. Each staff officer who receives the message initials it and indicates any action he takes.

c. All incoming messages are addressed to the commanding officer, but they seldom are sent to him directly. It is the duty of the staff to act on messages and, when necessary, inform the commander of their contents without delay.

d. Outgoing messages are delivered to the message center in duplicate. The originator of important messages affecting the unit or staff section insures that a summary is entered in the unit journal. The messages are processed and recorded at the message center.

e. The time for administrative processing and recording of messages should be reduced to the minimum. Where necessary, operational messages may be carried directly to the operations center and processing completed at a later time.

51. Displacement

a. The command post is displaced whenever necessary to insure security and/or continuous control of the command. Displacement may be dictated by change in the planned or current tactical disposition of friendly forces, or by enemy action, to include—

- (1) Interference with signal communications.
- (2) Ground maneuver threatening security of the CP.
- (3) Enemy intelligence (air surveillance and other means) capability of locating the CP if it remains too long in a given location.

b. When a displacement is planned, the S3 coordinates with the battalion communication officer and the S1 and recommends to the commander (or, frequently, the executive officer) a new general location and a time for displacement. The S1 coordinates with the following staff officers:

- (1) S2: weather forecast, road conditions, and enemy situation.

- (2) S3: troop dispositions, tactical plans, road priority, and the time that the new area will open.
- (3) S4: transportation and logistical considerations.
- (4) Communication officer: communication matters.
- (5) Headquarters commandant: movement of the CP, arrangements for security and guides, and the departure time of the quartering party.

c. The quartering party, consisting of the quartering officer (the S1 or headquarters commandant), security element, guides, communication officer, and selected enlisted assistants, moves to the general location and the quartering officer selects the exact site. After selecting the exact site and designating the location of each installation, the quartering officer posts guides to direct incoming elements into designated areas. The old CP is notified when arrangements have been completed.

d. The command post usually displaces in two echelons to insure continuous control of operations. Usually, the first echelon includes the battalion commander, S2, S3, FSC, liaison personnel, and designated enlisted personnel. The first echelon moves to the new area and prepares for operations. The second echelon continues to operate under the control of the executive officer. Throughout the displacement, the battalion commander retains command. Brigade headquarters and organic, attached, and supporting units are notified of the exact location and time of opening of the new CP. When it is ready to operate, the executive officer is notified. The new CP opens and the old CP closes simultaneously. The second echelon then joins the first echelon. A guide is left temporarily at the old CP location to give directions to the new command post.

e. The command post may displace as a unit in one move. In this case, command and control may be exercised by use of a command group while on the move.

Section V. COMMAND AND STAFF ACTIONS

52. General

The commander uses his staff in every phase of command and staff action. In tactical operations the S3 is the principal staff officer concerned. He is responsible for staff recommendations regarding the employment of the unit. The S1 and S4 determine how the operations can be supported from their particular viewpoint and provide the S3 with detailed information in their fields. The S2 provides the latest intelligence.

53. Command and Staff Action

The desired sequence of events leading up to the employment of a unit in a tactical operation is as follows:

a. The unit receives a *mission* from a higher headquarters. The commander and staff study the mission to insure that they thoroughly understand all its implications, to include deduced missions. The commanding officer assembles his staff and receives the latest information from their respective fields. Based on this information, his knowledge of the situation (to include a study of the map), knowledge of the higher commander's future plans, plus his own professional experience and judgment, he formulates and disseminates his planning guidance. *Planning guidance* provides the necessary direction for concurrent planning by providing a framework for making studies and estimates. It should include the following: analysis of the mission; any special aspects of the situation; any course(s) of action the commander desires the staff to consider in their estimates; general plan for using nuclear weapons or CB agents; restrictions placed on the operation; pertinent assumptions; and any additional information that will assist the staff in their estimates. This guides the staff along common lines of investigation in its search for the best possible course of action to accomplish the mission.

b. The staff, having received the commander's planning guidance, begin their individual *staff estimates*. The staff provides information to other staff members and the commander pertaining to their respective fields.

c. Formulation of the operation estimate requires certain detailed information from other staff officers. The S2 furnishes the S3 his conclusions and other information and intelligence resulting from his analysis of the weather, terrain, enemy situation, and enemy capabilities. The S1 and S4 furnish the S3 details pertaining to their respective fields. The S3 then determines the feasible courses of action that will accomplish the mission and announces them to the other staff officers. The S2 evaluates his own estimate in the light of the courses of action to see if additional detailed intelligence is required. The S1 and S4 complete their estimates using these courses of action to determine what limitations exist as to their support, and which course is favored, from their respective viewpoints. During the preparation or revision of staff estimates, planning for the employment of supporting fires, to include nuclear weapons, takes place.

d. A meeting is then held during which the S3 presents one or more courses of action and a recommended priority. Each of the

other staff officers comments in turn on significant aspects within his respective field and recommends the best course of action from his standpoint. The commander may question his staff to obtain any additional information he requires to complete his own estimate (*commander's estimate*). The commander completes his estimate and announces his *decision*. The decision is a concise statement of the general course of action which the unit will adopt to accomplish the mission. The statement should contain as much of the elements of who, what, when, where, how, and why as appropriate. In order that the staff may prepare detailed plans to execute the decision, the commander must elaborate upon the decision by issuing the *concept*. This concept is presented to the staff at the time of the announcement of his decision and is in sufficient detail to permit preparation of plans or orders. This concept in refined form becomes the basis for paragraph 3a of the operation order. The commander's concept is disseminated to provide subordinate commanders with a basis for taking appropriate action in the absence of specific instructions or when out of communications with the battalion commander. It presents the commander's visualization of the operation and may include—

- (1) Objective of the operation.
- (2) Development and phasing.
- (3) Organization for combat.
- (4) Unit making the main attack, if applicable.
- (5) Use of nuclear and nonnuclear fire support, to include the firing of a preparation, results expected from such fires, and limiting factors.
- (6) General control measures to be used.
- (7) Alternate plans for foreseeable contingencies.

e. Based on the decision and the concept, the staff will *complete planning* in their respective fields of responsibility. The S3 has primary staff responsibility for the preparation of the plan. Additional details for the operation are furnished the S3 by unit and special staff officers as a result of their planning. The plan will then be presented to the commander for his approval. After the approval, the S3 prepares the order for distribution to the subordinate units. The S3 authenticates the copies if required and insures the proper distribution.

f. After the order is distributed, the commander, assisted by his staff, *supervises its execution*. The staff coordinates with and assists the subordinate units where possible.

g. The executive officer will supervise the staff accomplishment of the above actions to insure that the proper coordination takes

place between staff officers, and that the commander's desires are being followed. By keeping abreast of the situation, the executive officer is prepared to assume command if necessary.

h. Planning for administrative support is accomplished concurrently with operation planning. The S4 has primary staff responsibility for the preparation of the administration plan.

i. Planning is a continuing process. Normally, a unit simultaneously participates in one operation while planning for another.

54. Modifications of Command and Staff Actions

a. In most instances, particularly fast moving mobile operations, the sequence as discussed in FM 101-5 will be too time consuming. Commanders and staff officers must be able to accomplish the necessary steps in minutes. Only commanders and staff officers who habitually make continuing estimates can hope to stay abreast of events. Decisions are based on rapid estimates. Recommendations must be sound and instantly available to the commander. Orders are oral and fragmentary. Subordinate commanders are seldom called to the rear to receive orders but are met near their units or called on the radio by the commander or designated staff officers. The techniques will vary in their application according to the time available, the personality of the commander, and the professional ability of the staff.

b. For a checklist of the battalion commander's actions in offense, defense, and retrograde, see appendix VIII.

55. Considerations in Developing Course(s) of Action

As a mental checklist, to insure consideration of essential elements in arriving at a course(s) of action considered in the estimate, the commander and staff habitually consider the mission, enemy, terrain and weather, and troops available (METT).

a. Mission. The assigned mission dictates employment of the battalion which, in turn, must be translated into missions for subordinate and supporting units. Planning is oriented toward accomplishment of the mission.

b. Enemy. All available information of the enemy's dispositions, strength, composition, recent and present significant activities, capabilities, and peculiarities and weaknesses is considered.

c. Terrain and Weather. Key terrain features, observation and fire, concealment and cover, obstacles, avenues of approach and the effect of weather on visibility, trafficability and men and equipment are considered in developing the best course of action.

d. Troops Available. This term refers to all combat power available to the battalion, to include maneuver elements, fire support, mobility means, administrative support, attached and supporting elements, and elements under operational control of the battalion. The disposition of the battalion and adjacent units, and the time and space factors must be taken into consideration. Class I, III, and V supplies are of primary importance.

CHAPTER 3

ADMINISTRATIVE SUPPORT

Section I. GENERAL

56. General

Administrative support encompasses the assistance provided to organic and attached troops in the functions of personnel, logistics, and civil affairs. A detailed description of these functions is contained in FM 101-5. This chapter includes a discussion of administrative support for the battalion including procedures and duties of organic administrative personnel.

57. Effects of Enemy Use of Nuclear Weapons on Administrative Support

a. Logistical Aspects. Following a nuclear attack, battalion units are reequipped and resupplied from the nearest available sources. Supply personnel are primarily concerned with assisting unit commanders in accomplishing the mission. However, commanders must be prepared to operate with major shortages of supply and equipment until such resupply is accomplished. Redistribution of supplies and equipment within the unit may be necessary.

- (1) Medical self-aid is practiced in all units. Personnel requiring evacuation are held at casualty collecting points, if established, or the battalion aid station where they are sorted and screened before evacuation. Evacuation to the rear is a division responsibility.
- (2) Battalion transportation is used as a supplemental means for evacuation of patients and resupply on a priority basis. Unit and route priorities prescribed in plans are implemented. Only those vehicles engaged in damage control activities and those required for tactical operations are permitted to enter the devastated area.
- (3) Decontamination activities are limited to those essential to continuing support of the battalion mission. Engineer equipment may be used to assist in decontamination such as using water point equipment to wash vehicles. Although the exact priority for decontamination is determined by the situation, the following have high priority:

personnel; communication equipment; weapons and equipment; supply installations; and evacuation facilities. The following have high priority for repair and reconstruction: signal communication; medical facilities; supply installations; field fortifications; and transportation facilities.

- (4) Unit commanders are responsible for damage control operations in their own areas. They insure that all measures possible are taken to minimize the effects of a nuclear attack. The two most important measures for supply operations are placing the unit trains where they will receive the maximum degree of protection from the terrain, and keeping all supplies mobile when possible.

b. *Personnel Aspects.*

- (1) *Actions following the attack.* The senior officer or non-commissioned officer in each unit retains or regains control of his unit immediately so that he can continue on the assigned mission. Commanding officers estimate losses and report to higher headquarters. Replacements may be made available on an individual, crew, or unit basis. The S1 coordinates with the S3 and notifies G1 of the estimated losses and makes arrangements to secure individual or unit replacements. Each company makes a detailed check of its losses as soon as possible to obtain accurate loss figures for its daily strength message to higher headquarters. Each company reports radiation exposure of each platoon to the battalion headquarters for use in predicting future radiation casualties.
- (2) *Graves registration.* The recovery of bodies in a contaminated area is deferred until it is safe for burial details to enter the area. When dealing with large numbers of bodies, it may be more practicable to bury them in place than to evacuate them, even when the bodies are not contaminated. Mass burials must be authorized by higher headquarters. If bodies are buried in place, additional graves registration personnel from higher headquarters may be required to assist in identifying them. Graves are appropriately marked and reported to higher headquarters.

c. *Civil Affairs Aspects.* Following a nuclear attack the control of the civilian population may present serious problems to the battalion commander. He should exercise control when required to clear areas, prevent congestion of roads, and maintain security.

Resources of the battalion are diverted to civil affairs activities only when success of the mission requires such action.

Section II. UNIT RECORDS AND REPORTS (FM 101-5)

58. Unit Journal

A unit journal is the official chronological record of events affecting the battalion. One journal is maintained for each staff section, combination of staff sections, or one for the entire headquarters, as directed by the commander or higher headquarters. If only one journal is maintained for the entire headquarters, the S1 is normally responsible for it.

59. Worksheet

A worksheet is kept by each unit staff section for keeping notes of information pertaining to the section. This provides an orderly and readily available means of recording information for use in the preparation of reports, orders, estimates, and plans.

60. Reports

The number of reports required of companies is minimized, and, whenever possible, personal or telephone conferences replace them. The battalion SOP should prescribe certain operational occurrences which require an immediate report from subordinate units. Examples of these occurrences are enemy nuclear strikes or a unit's seizure of objectives, after which units report personnel and logistical status. Operational reports (after crossing LD; after closing in assembly area, etc.) may also be prescribed in the SOP.

Section III. PERSONNEL

61. General

The S1 is the principal unit staff assistant on personnel matters. He coordinates personnel activities of the command and recommends changes to plans, policies, and orders to insure efficient use of the human resources of the command.

62. Major Areas of Responsibility

The major areas of personnel responsibility are as follows:

a. Maintenance of Unit Strength. The S1 has staff responsibility for requesting individual, crew and unit replacements and maintaining records and reports which keep the commander informed of the strength status of the battalion. The S1 coordinates

with the S3 and appropriate special staff officers in determining the priorities of allocation of individual and crew replacements and the requirement for unit replacements.

b. Personnel Management.

- (1) The S1 assists the commander in the discharge of his responsibilities for personnel management by supervising such procedures as classification, assignment, appointment, reduction, promotion, reassignment, reclassification, transfer, elimination, separation, retirement, and rotation. Personnel records pertaining to the personnel of the battalion are maintained by the AG section in the division administration company. The administration company personnel maintain the company and battalion records, reports, files, and correspondence prescribed by FM 12-11, DA Pam 600-8. The S1, through his personnel staff NCO furnishes and receives information on personnel actions for all personnel of the battalion from the division AG section. The S1 is responsible for all records, documents, correspondence, and personnel statistics that are not required to be kept by the division AG section.
- (2) The S1 acts as interim custodian of company funds when companies are in combat or when, in the opinion of the battalion commander, funds might be lost. He receipts for the funds and for all papers pertaining to them. He has no authority to make disbursements. He assists unit commanders in the preparation of personnel rosters, requisitions, and reports and advises and assists unit commanders in the assignment and classification of personnel. The S1 supervises training of clerical personnel. He also has staff responsibility for all civilian personnel management and the collection, safeguarding, and evacuation of prisoners of war.

c. Development and Maintenance of Morale. The S1 keeps the commander informed on the status of morale and *esprit* within the battalion. He assists the commander in such matters by establishing a personnel services program which includes leave, rest and recreation activities, character guidance, postal services, religious activities, and finance, welfare, legal assistance, and special services. The S1 also has staff responsibility for formulating plans and carrying out policies relating to awards and decorations, and for planning, coordinating and supervising all graves registration activities within the battalion.

d. Maintenance of Discipline, Law and Order. The S1 keeps the commander informed on all matters affecting the state of discipline, and recommends measures to maintain or improve discipline within the battalion. He assists the commander in the maintenance of discipline by supervising law and order activities such as control and disposition of stragglers and the administration of military justice within the battalion. Special problems which may be confronted are smuggling and blackmarket activities, pilferage of supplies, and currency manipulation.

e. Headquarters Management. The S1 has staff responsibility for the movement, internal arrangement, organization, and operation of the headquarters, and the allocation of shelter within the headquarters (pars. 45-51 and sec. II, app. V).

f. Miscellaneous. The S1 is responsible for all administrative matters not assigned another staff officer.

Section IV. LOGISTICS, GENERAL

63. General

The S4 is the principal unit staff assistant on matters pertaining primarily to materiel and services. He insures that the logistical support system is flexible and immediately responsive to the requirements of subordinate units. He is responsible for the preparation of logistical estimates and appropriate portions of operation plans and orders, the location and functioning of battalion trains, and supervision of all logistical functions.

64. Major Areas of Responsibility

The major areas of logistical responsibility are: supply, medical transportation, maintenance, and miscellaneous services. The battalion medical platoon provides medical service. The battalion support platoon provides supply and transportation with its supply and transportation sections. Services are provided by the battalion maintenance platoon and the battalion mess section, which is in the support platoon.

Section V. MEDICAL PLATOON

65. General

The medical platoon furnishes medical services to include collection, emergency treatment and evacuation of patients, and supervision of sanitation for the battalion. The platoon is organized to operate one aid station. The organization of the platoon in-

cludes a platoon headquarters, an aid man section, an evacuation section, and an aid station section.

66. Medical Platoon Headquarters

The platoon headquarters consists of the following personnel:

a. A Medical Corps officer is the platoon leader. His duties include keeping the surgeon informed of the medical situation at all times and supervising the treatment and evacuation of the sick and wounded in the battalion area. The platoon leader supervises the discipline, organization, employment, and training of the medical platoon.

b. A Medical Service Corps officer is the assistant platoon leader. His duties include acting as evacuation section leader, supervising the platoon's administrative activities, and other duties as the platoon leader may direct. He normally makes the necessary reconnaissance for the relocation of the aid station.

c. A noncommissioned officer functions as the platoon sergeant. He supervises the enlisted personnel of the platoon headquarters and assists the platoon leader and his assistant in supervising the nonprofessional activities of the platoon.

d. A general clerk maintains necessary medical and administrative records.

67. Aid Man Section

a. The aid man section consists of three medical noncommissioned officers and six senior medical aid men. One noncommissioned officer and two senior medical aid men are attached to each rifle company in order to provide a platoon aid man for each rifle platoon.

b. The platoon aid man of each rifle platoon performs the following functions:

- (1) Provides emergency medical care to casualties.
- (2) Returns to duty those casualties requiring no further immediate treatment.
- (3) Directs to the company aid post those casualties who require further attention but are capable of walking or riding general-purpose vehicles.
- (4) Arranges medical evacuation for litter patients.
- (5) Initiates emergency medical tags for the sick, injured, and wounded casualties that he treats.
- (6) Initiates emergency medical tags for the dead, time permitting.

c. In addition to serving as a platoon aid man for one of the platoons, the medical noncommissioned officer:

- (1) Treats the usual "sick call" conditions that come to his attention, returning to duty those who require no further attention, and forwarding to the aid station those who require additional treatment.
- (2) Operates a company aid post in the vicinity of the company trains. Here casualties can remain under observation pending arrangements for further evacuation.
- (3) Coordinates and directs the activities of supporting aid-evacuation teams operating in the company area.
- (4) Keeps the company commander informed concerning the medical status in the company area.
- (5) Keeps the medical platoon leader informed of the medical status in the company area, using messages transmitted through company communication or through the medical evacuation system.
- (6) Recommends necessary sanitation measures for the company and provides technical guidance to the vector control detail (AR 40-578).
- (7) When all rifle platoons are committed, the medical NCO attempts to arrange for other personnel (preferably medical personnel) to supervise the operation of the company aid post in his absence.

68. Evacuation Section

a. The evacuation section consists of six two-man aid-evacuation teams, each team made up of a medical specialist and an aidman driver with a vehicle.

b. Normally, the two members of each aid-evacuation team remain with their vehicle in providing emergency medical treatment and evacuation for casualties. They operate as far forward as the tactical situation permits, and frequently may find and treat casualties who have not yet been seen by the platoon aidman. The aid-evacuation teams serve in direct support of the companies, but they remain under the central control of the medical platoon in order to adjust to unexpected casualty loads.

c. Under some circumstances it may be desirable to use one aid-evacuation team in a company area, where they are familiar with the terrain and the tactical situation, for evacuation of casualties to the company aid post which is located with the company trains. A separate aid-evacuation team may then be

used for movement of casualties from the company aid post to the battalion aid station (fig. 3).

d. In the mechanized infantry battalion, three of the medical aid-evacuation teams are mounted in truck ambulances and three are mounted in APC ambulances. Use of the APC ambulances is as directed by the medical platoon leader; however, they are normally used for evacuation from those areas where track mobility or armor protection against fragments is desired. In most cases this will mean that APC ambulances evacuate casualties from the most forward areas to the company aid post; the truck ambulances then evacuate casualties to the aid station.

e. When the terrain and the tactical situation dictate, two of the aid-evacuation teams can be dismounted, leaving the vehicles at the company aid post, in order to form one four-man litter team. Additionally, six nonmedical soldiers could be detailed for duty with one aid-evacuation team to form two four-man litter teams, each one with a trained medical soldier.

f. Specific duties of the evacuation section include—

- (1) Maintaining contact with combat elements.
- (2) Evacuating litter casualties to the battalion aid station.
- (3) Administering emergency medical treatment as needed.
- (4) Directing or guiding walking patients to the aid station.
- (5) Assisting in movement of the battalion aid station.
- (6) Acting as messengers in medical channels.
- (7) Initiating emergency medical tags when necessary (time and situation permitting).

69. Battalion Aid Station

a. The first medical installation in the system of evacuation is the battalion aid station operated by the aid station section of the medical platoon. The aid station section consists of the following:

- (1) Two medical assistants who are highly trained enlisted technicians capable of performing many technical procedures under the direction of a medical officer.
- (2) Four medical specialists who assist in the treatment of patients and operation of the aid station.

b. The aid station is established as far forward in the battalion area as the tactical situation permits. It may be located farther forward in the attack than the defense. Considerations governing the location of the aid station include the following:

- (1) Tactical operation of the battalion.
- (2) Expected areas of high casualty density.

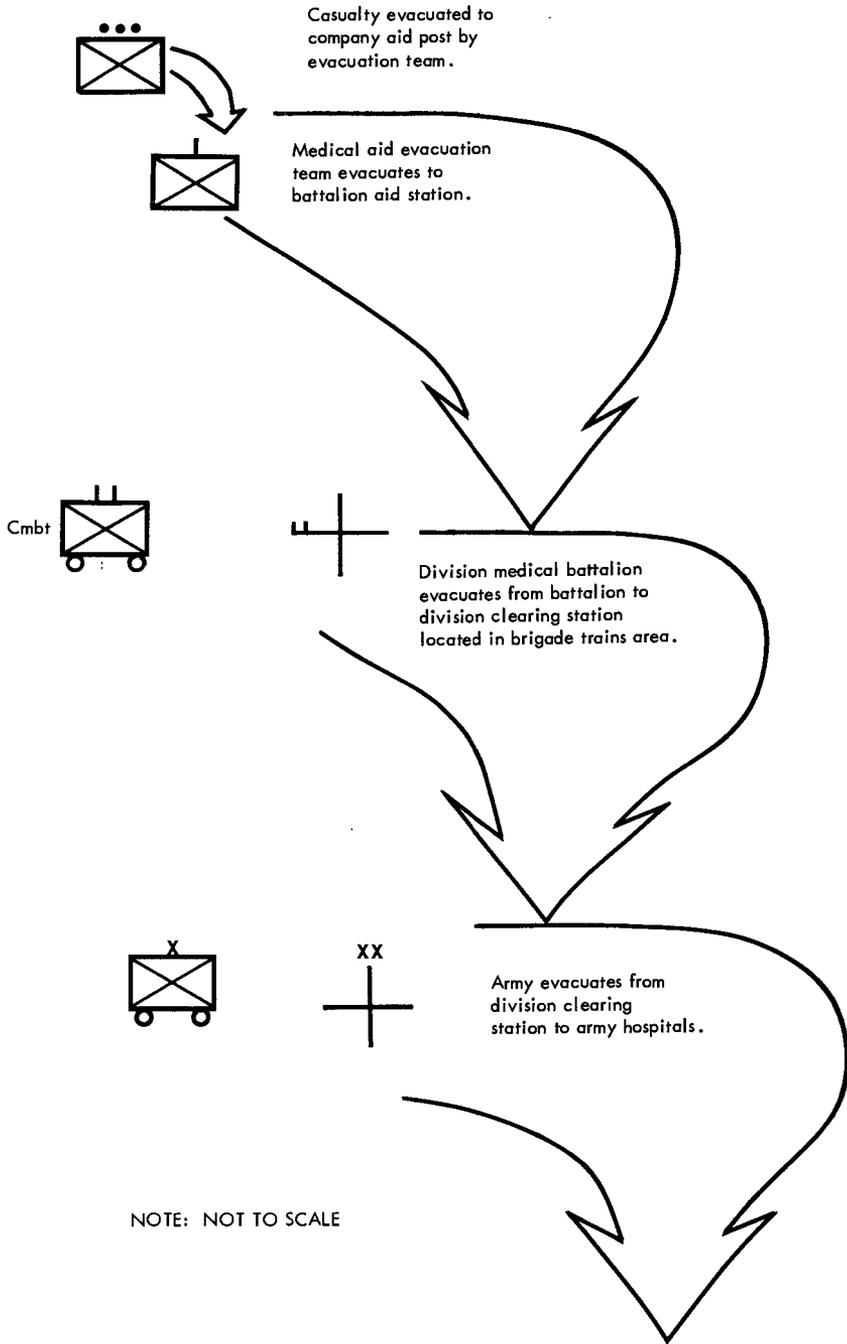


Figure 3. Ground evacuation of personnel casualties.

- (3) Protection afforded by defilade.
- (4) Convergence of lines of drift.
- (5) Evacuation time and distance.
- (6) Concealment and cover.
- (7) Security.
- (8) Accessible evacuation routes to front and rear.
- (9) Avoidance of likely enemy targets such as bridges, fords, important road junctions, firing positions, and supply installations.
- (10) Location of open areas suitable for landing helicopter ambulances.
- (11) Communication.

c. At the aid station, patients requiring further evacuation to the rear are given additional emergency medical treatment and prepared for evacuation. Constant efforts are made to prevent unnecessary evacuation. Men with minor wounds and illnesses are treated and returned to duty as soon as possible. Specific functions of the battalion aid station include—

- (1) Receiving and recording patients.
- (2) Examining and sorting patients and returning physically fit to duty.
- (3) Giving emergency medical treatment and preparing patients for further evacuation.
- (4) Monitoring personnel, when indicated by the situation, for the presence or radiological contamination prior to medical treatment.
- (5) Notifying the battalion S1 of all patients processed through the aid station, giving identification and disposition as directed by unit SOP.
- (6) Initiating emergency medical tags for those patients not previously tagged.
- (7) Verifying information contained on all emergency medical tags of patients evacuated to the aid station.

d. Patients requiring further evacuation and treatment are moved from the aid station by evacuation elements of division or field army medical units. Prior to evacuation of casualties, equipment is collected from individual evacuees. Care is taken to insure that collection of equipment (weapons, watches, binoculars, etc.) does not prevent later identification of the individual, if necessary.

e. Evacuation from the aid station is performed normally by

the division medical battalion. In airborne operations it may be necessary to retain casualties in the battalion aid station pending arrival of medical battalion elements or establishment of evacuation through Air Force channels.

f. Since there is no patent shelter and mess capability, the holding policy of the battalion is determined in hours rather than in days. Only those essential surgical procedures are performed in an aid station which are necessary to preserve life or limb, or which will stabilize the casualty sufficiently so that he can be moved safely to a supporting medical installation.

g. When tactically feasible, helicopter evacuation of casualties is provided by elements of the helicopter ambulance company from the field army. Augmentation for evacuation of large numbers of patients can be obtained by use of division helicopters, carriers, or wheeled vehicles under the control of the appropriate command surgeon.

70. Communication

The medical platoon is provided a telephone in the battalion wire net. Normally, this system provides communication with all major elements of the battalion and with supporting medical units. For radio communication, the platoon uses the radio set mounted in the platoon ¼-ton vehicle and operating in the battalion logistical net. Portable radio equipment is also provided and is normally used for control of the aid-evacuation teams. In the mechanized infantry battalion three radios are mounted in the APC of the evacuation section.

Section VI. THE SUPPORT PLATOON

71. General

a. *The battalion support platoon* provides supply, transportation, and mess support for the battalion. The platoon is organized into a platoon headquarters, a supply section, a transportation section, and a battalion mess section. The general functions of platoon elements are discussed below.

b. *Platoon headquarters* provides the command and control element for the platoon. The platoon leader operates under the staff supervision of the S4 and functions as a special staff officer (par. 38).

c. *The supply section* receives and consolidates supply requests, except for repair parts, from the companies and prepares and forwards battalion requisitions to the appropriate agency. Upon

receipt of the supplies, the section distributes them within the battalion.

d. The transportation section is organized and equipped with personnel and trucks required to transport all types of supplies from supply points to the companies of the battalion. During tactical operations, part of the transportation section will operate from the battalion field trains. Trucks loaded with ammunition and class III supplies needed for the immediate support of combat operations will be in the battalion combat trains.

e. The mess section is organized to provide meals for the entire battalion. During tactical operations it will usually be located with the battalion field train in the brigade trains area. This section normally prepares food in one central location and then carries it in insulated containers to the companies of the battalion. The section may provide centralized (battalion) or decentralized (company) messing as required.

72. Duties of Key Platoon Personnel

a. The support platoon leader is responsible for the accomplishment of the platoon mission and for the operations, movement, and security of the battalion field trains. (The S4 normally directly controls the combat trains.) The platoon leader maintains communication with the battalion S4 in the battalion logistical net.

b. The supply warrant officer is the section leader of the supply section. He directs section operations including the handling of supplies; the maintenance of records to reflect the current logistical situation; and the preparation of requisitions and other documents related to logistics. The section leader also assists the support platoon leader in the operation of the battalion field trains.

c. The truckmaster (infantry and airborne infantry battalion) or the *ammunition chief* (mechanized infantry battalion) supervises the operations of the transportation section which include the hauling of cargo and supplies.

d. The battalion mess steward directs the operation of the battalion mess. He supervises the cooks on duty to insure that meals are properly prepared and served to the troops. He organizes his personnel so as to be able to provide separate mess support for each company when required.

73. Support Platoon Operations

a. Supply operations of the platoon include the following:

(1) *Class I.*

(a) Prepare the daily ration request and submit it to division.

(b) Maintain 1-day supply of emergency rations.

(2) *Class II.*

(a) Consolidate unit requests and prepare requests to division (through supply channels).

(b) Maintain records on regulated items.

(c) Coordinate issues to requesting units.

(d) Maintain property accounting records.

(3) *Class III.*

(a) Prepare and submit forecasts for class III products to division.

(b) Coordinate issues to requesting units.

(4) *Class IV.*

(a) Consolidate unit requests and prepare requisitions to division (through command channels).

(b) Coordinate issues to requesting units.

(5) *Class V.*

(a) Supervise the consolidation of unit requests to insure rapid replenishment of supply.

(b) Maintain records as required regarding expenditures, available supply rate, etc.

(c) Coordinate issues to requesting units.

(6) *Miscellaneous supplies.*

(a) Receive and process requests.

(b) Supervise distribution to requesting units in the same manner as for other supplies (except for maps which are procured and distributed by the S2).

b. *Transportation operations* of the platoon include the following:

(1) Transport of supplies including water and fuel.

(2) Coordinate use of transportation with supporting transportation units when required.

(3) Establish and disseminate traffic plans.

(4) Coordinate use of battalion vehicles when they are pooled as an operational expedient.

c. *Aerial resupply operations* of the platoon include the following:

(1) Supervise operation of the drop zone or aerial resupply point.

(2) Coordinate aerial resupply missions with the requesting units, division agencies and other interested agencies.

(3) Provide terminal guidance for aerial delivery at the drop zone aerial resupply point.

Section VII. BATTALION TRAINS

74. General

a. *General.* The *battalion trains* are logistical elements, including vehicles, equipment and personnel, which provide the logistical support for the battalion. They are under the staff supervision of the S4. The *company trains* are logistical elements, including vehicles, equipment and personnel, which provide logistical support for the company. The battalion trains are classified according to their tactical employment and disposition, e.g., combat or field trains (fig. 4). Company trains are not further classified.

b. *The Combat trains* are those vehicles, equipment and personnel required for the immediate logistical support of the battalion combat mission. Their composition varies with the mission, transportation available, friendly and enemy situation, terrain, and weather. The location of the combat trains is determined by the battalion S4. The battalion combat trains are normally located near the battalion CP and may function in an emergency as an alternate CP. Although the combat trains provide their own local security, additional security may be obtained by locating the trains near reserve elements; this is particularly true in mechanized units in a fast moving situation. Some of the activities in the battalion combat trains include:

- (1) Class III distributing point.
- (2) Class V distributing point.
- (3) Limited maintenance facilities.
- (4) Medical elements.
- (5) Elements of combat trains.

c. *The Field Trains* are the focal point for logistical operations in the battalion. Field trains are normally located in the brigade trains. Their specific location is determined by the support platoon leader in conjunction with the brigade S4. They may include the battalion mess section, POL and ammunition vehicles of the support platoon, the bulk of the maintenance platoon, plus the field trains of attached or supporting units. When the battalion field trains are operating in the brigade trains area, they move under the control of the brigade S4. They receive support from logistical support elements of the division including the following: forward support company of the maintenance battalion; medical battalion; and supply and transportation battalion. These division units provide maintenance support; organize distributing points; organize the division clearing station; and provide other logistical services to the brigade (fig. 5). Field trains of the battalion may operate

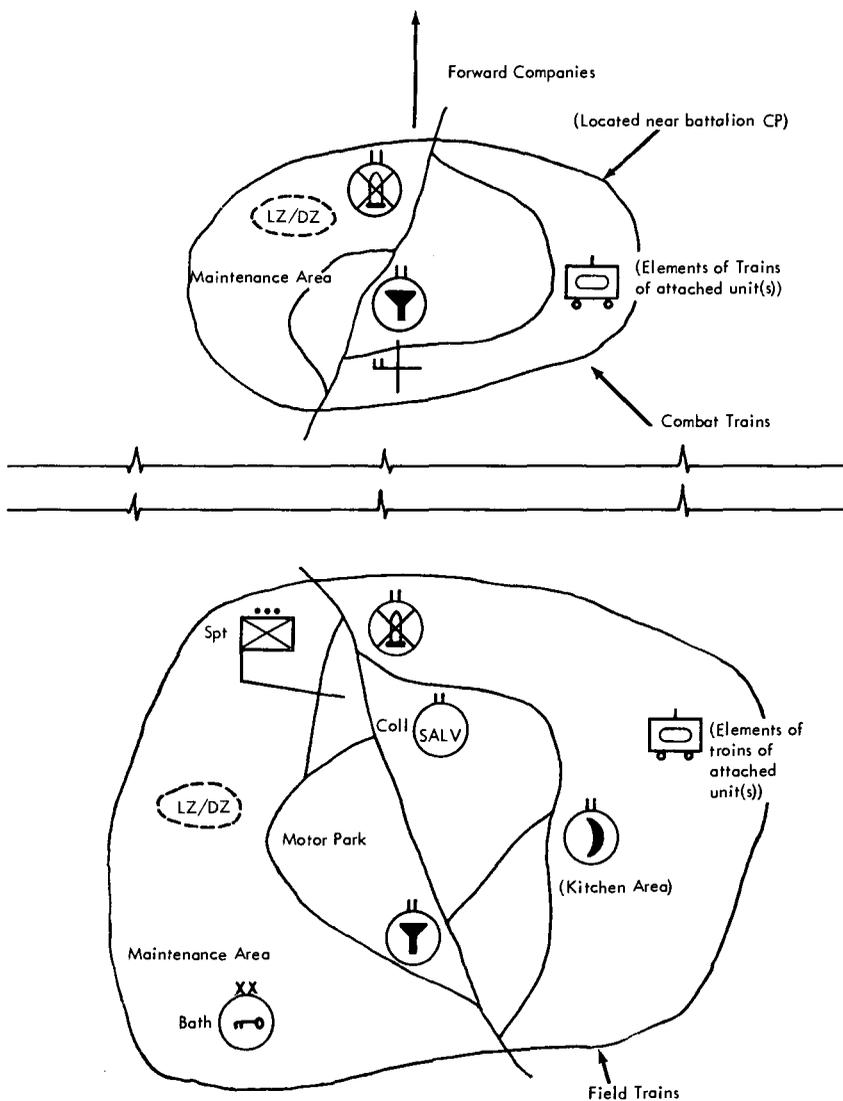
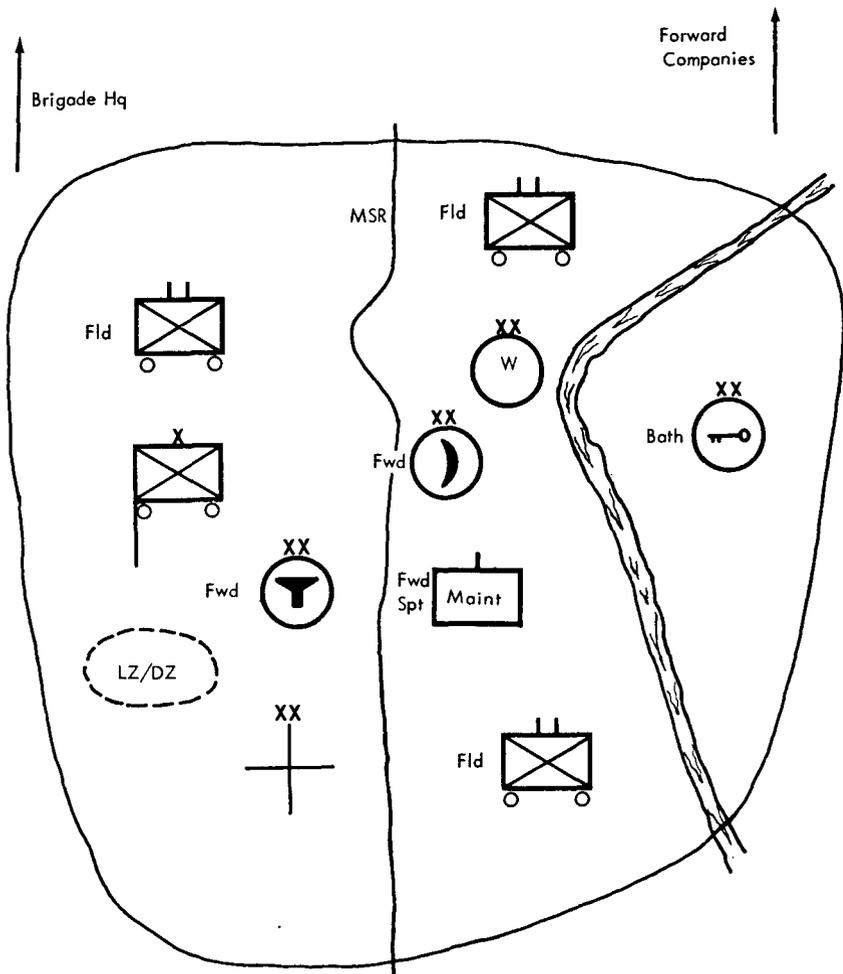


Figure 4. Organization of battalion trains.

independent of the brigade trains in order to provide continuous and adequate support to the battalion. Some of the activities in the field trains include—

- (1) Class I distributing point.
- (2) Kitchen area.
- (3) Maintenance area.



NOTE: NOT TO SCALE

Figure 5. Organization of brigade trains.

- (4) Class III distributing point.
- (5) Bath and clothing exchange units.
- (6) Motor park.
- (7) Salvage collecting point.
- (8) Collecting points for excess equipment and captured enemy material.
- (9) Class V distributing point.
- (10) A drop zone or aerial resupply point.
- (11) Elements of trains of attached units.

75. Characteristics of Trains Area

a. The trains areas should have the following characteristics:

- (1) Be convenient to the units being served. If possible, there should be a convenient road net front to rear that will allow units to reach the areas quickly and easily. The system should contain alternate routes so that movement can still be made even though some roads are cut off by excessive travel or enemy activity.
- (2) Not interfere with the operations of the combat elements. The areas must be far enough from the combat elements so that 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.
- (3) Contain sufficient area to permit dispersion of vehicles and activities.
- (4) Offer concealment from hostile ground and aerial observation.
- (5) Offer firm ground for parking vehicles.
- (6) Be where no terrain feature, such as an unfordable river, is or may become a barrier to supply operation.
- (7) Contain terrain features that favor defense against air or ground attacks and facilitate local security.
- (8) Be so disposed that, in conjunction with other installations, they do not present a lucrative nuclear target.
- (9) Offer, if appropriate, a suitable landing site for attached or supporting Army aircraft employed in resupply activities.

b. In addition, the location of the train areas should provide water for vehicles and bathing and be beyond the range of the mass of enemy light artillery fire. During tactical operations the battalion trains are moved and located so as to best support the battalion.

Section VIII. SUPPLY

76. General Supply Procedures

a. Equipment and supplies to be carried by individuals and units of the battalion are listed in the unit TOE and directives from commanders.

b. Requests for supplies (except class IV and repair parts) are submitted through supply channels. Class IV supplies are requested through command channels; repair parts are requested through maintenance or medical channels as appropriate. Units

submit requests (a written message, telephone call, radio message, etc.) for supplies to the support platoon headquarters normally located in the battalion field trains. Necessary consolidations, postings, and requisitions are prepared at that headquarters.

c. In normal situations, division distributes all class I, II, III and IV supplies by unit distribution. Ammunition (class V) re-supply is made by supply point distribution from army ammunition supply points.

d. Medical supply is requested and delivered through medical channels.

e. Salvage collected by the battalion is transported to the rear in any available transportation going to the rear.

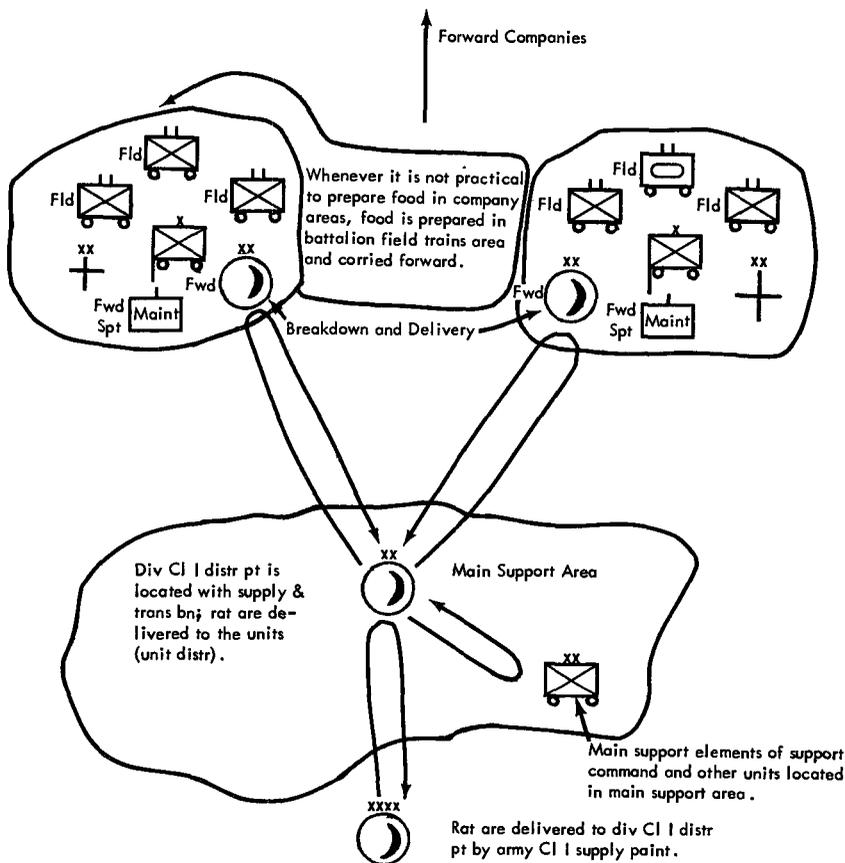
77. Systems of Supply

a. *Class I Supplies* (fig. 6).

- (1) *Requests and requisitions.* The battalion S4 submits a daily ration request to the division supply and transportation battalion. This may be placed by telephone, radio, TWX or other means of communication. The information required in each message need only indicate unit designation and type and quantity of ration desired. (Only periodic reports indicating unusual variations in type or quantity of ration may be required once the division supply office has sufficient issue experience.)
- (2) *Distribution.* Division delivers rations to the division distributing point in the brigade trains area. Here rations are further broken down to battalions for distribution to the battalion mess section. A combination of supply point and unit distribution may be utilized to distribute the rations from the brigade trains; however, unit distribution is desirable.

b. *Class II supplies* (fig. 7).

- (1) *Requests and requisitions.* Elements of the battalion normally enter combat with all authorized class II items. When a class II item is lost, damaged, destroyed, or worn out, the unit commander makes a request for a replacement to the support platoon headquarters by written message, wire, or radio. If repair parts are required, the request is made through maintenance or medical channels (par. 77g). Class II requests (except for medical class II supplies) are consolidated for all units of the battalion, posted, and placed on requisition by the supply section. The requisitions are then transmitted to the supply and



NOTE: Companies submit informal requests for rations to the battalion support platoon. Battalion consolidates the requests and submits informal request to the supply and transport battalion.

Figure 6. Flow of class I supplies.

transportation battalion. Medical class II requisitions are submitted to the supporting medical company in the brigade trains area.

- (2) *Distribution.* Division delivers class II items to the battalion field trains in the brigade trains area. The supplies are broken down into company lots according to requests submitted by the units. The supplies are normally delivered to the requesting units by mess personnel. A large requirement for class II items, such as a change from cotton to woolen clothing, usually necessitates distribution when the unit is out of contact with the enemy. Major items of class II equipment may be issued by divi-

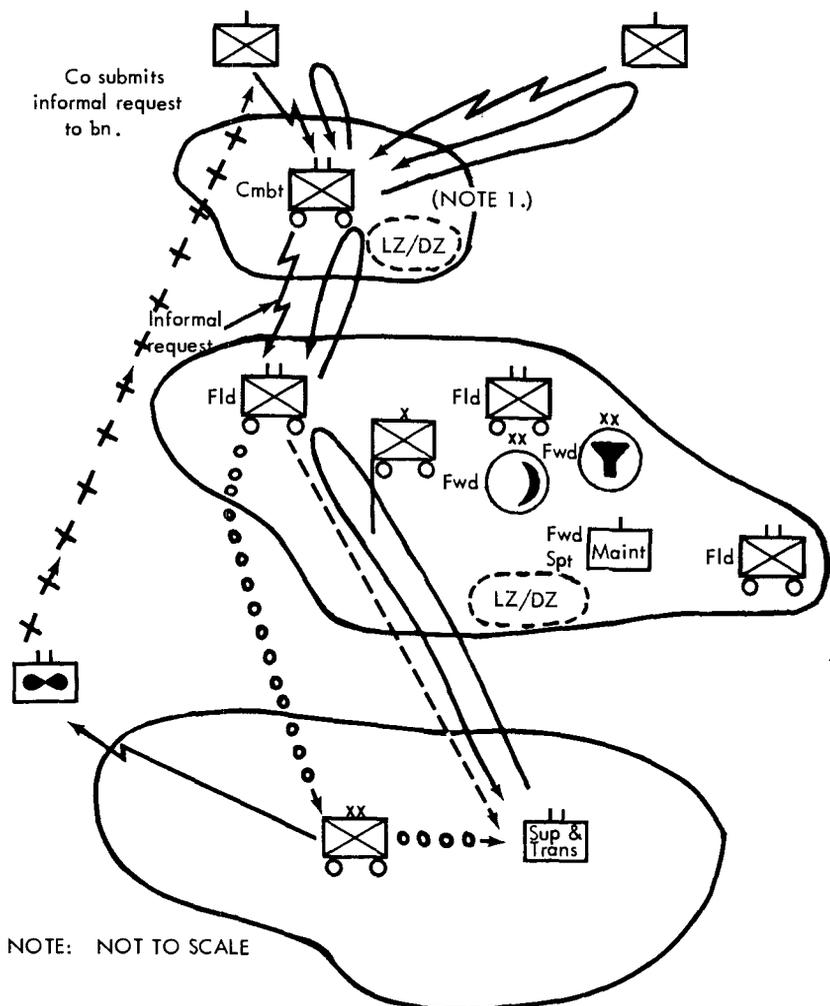
sion using supply point or unit distribution; however, unit distribution of class II supplies is more frequently used. For delivery of medical class II supplies, ambulances or other evacuation vehicles returning from the clearing station will bring back supplies to the battalion aid station.

c. Class III supplies (fig. 8).

- (1) *Requests and requisitions.* No formal requisitioning procedure is established for class III supplies. The support platoon submits periodic forecasts of class III requirements to division indicating any change to the previously experienced supply rates. The estimate is based on the distance the battalion will move, distances to supply points, quantity of POL on hand, and the fuel capacity of transportation involved. The details of the report and deadline time for submission are included in division SOP or administrative orders.
- (2) *Distribution.* In the infantry and airborne infantry battalions, two 1,200-gallon gasoline tankers are used to resupply the battalion with gasoline. In the mechanized infantry battalion, four 1,200-gallon gasoline tankers are used for this purpose. The 1,200-gallon tankers are refilled in the brigade trains area by the 5,000-gallon tankers of the supply and transportation battalion. The 1,200-gallon tankers are normally sent forward to the companies to fill the vehicle gas tanks. The use of 5-gallon gasoline cans is held to a minimum. The 1,200-gallon tankers may be retained with the company trains or with the battalion trains, depending on the requirements of the situation.

d. Class IV supplies (fig. 7).

- (1) *Requests and requisitions.* With two minor differences, a request for class IV supplies is handled essentially in the same manner as that for class II items. One of the primary differences is that requests for class II items are based on an authorized Department of the Army allowance, whereas class IV requests are for items not included in such prescribed allowance tables. The other difference is that class IV supply requests require command authorization.
- (2) *Distribution.* Division delivers class IV items to the brigade trains areas. Here the supplies are broken down into unit lots according to requests submitted by the units. The supplies are delivered to the requesting units



NOTE: NOT TO SCALE

-  Route of transport
-  Route of routine request (Class IV requested through command channels.)
-  Route of emergency request
-  Line of communication
-  Aerial flight delivery route

NOTE 1. This diagram does not apply to medical Class II and IV supplies. Such supplies are processed through medical channels.

Figure 7. Flow of class II and IV supplies.

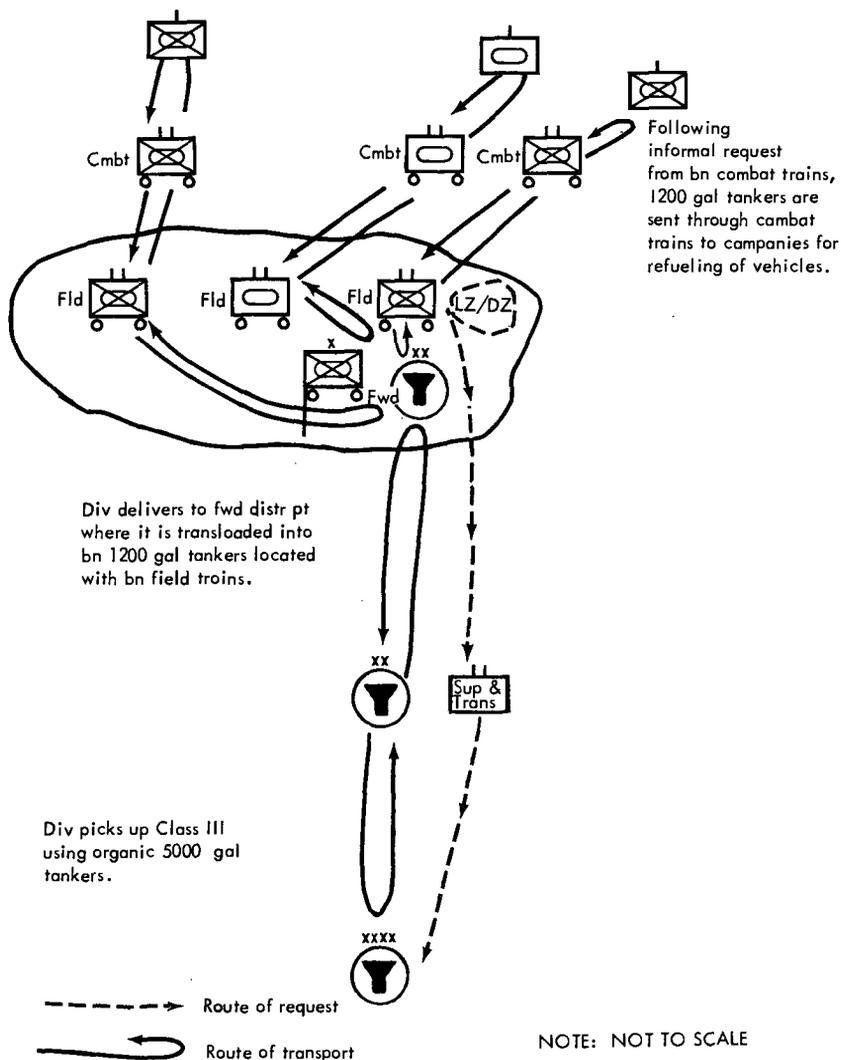


Figure 8. Flow of class III supplies.

on transportation going from the battalion to the units. Bulky items may be delivered directly to companies or construction sites.

e. Class V Supplies.

(1) Definitions.

(a) Basic load.

1. The basic load is that quantity of ammunition authorized by the Department of the Army or the overseas

commander to be carried by individuals or on vehicles of a unit. The basic load gives a unit sufficient ammunition to initiate combat. In addition, it provides a tactical reserve to meet emergencies such as temporary delay in replenishment or unexpected heavy expenditures.

2. Units enter combat with a basic load of ammunition. The basic load is the ammunition carried by individuals and on vehicles of a unit. It includes ammunition carried by the individual soldier, stowed on self-propelled weapons carriers, and carried on prime movers and unit trains. For ammunition items fired from weapons, the basic load is expressed in rounds per weapon; for bulk allotment items such as grenades, mines, and demolitions, it is expressed in units such as "each" or "pound."

(b) *Prescribed nuclear load.* See paragraph 103a(9).

(c) *Required supply rate.*

1. The required supply rate is the estimated amount of ammunition required to sustain the operations of any designated force without restriction for a specified period. For ammunition items fired from weapons, this rate is expressed as rounds per weapon per day; for bulk allotment items, it is expressed in the appropriate unit of measure per individuals, organization, or vehicle per day.
2. The required supply rate is computed on or applied to tactical weapons in combat and combat support units only.

(d) *Available supply rate.* The available supply rate is the rate of consumption of ammunition that can be sustained with available supplies, as announced by each commander and applicable within his command. This rate is flexible in that available supplies need not be distributed equally to subordinate units. Essentially, it is used as a control on the amount of ammunition which may be drawn and expended by a unit. The rate is computed on, and applied to, combat and combat support weapons only; i.e., weapons in divisional and other combat units. Weapons in administrative support units are excluded unless unusual circumstances necessitate their employment in a combat role. The rate is expressed the same as required supply rate; i.e., rounds per weapon per day;

units of measure per organization, individual, or vehicle per day.

- (2) *Requests and requisitions.* Elements of the battalion submit informal requests (telephone, radio or written message) for ammunition by type and amount to the combat trains (fig. 9). Combat trains are resupplied with ammunition from the field trains.
- (3) *Distribution.* Class V supplies are issued to forward units at the battalion combat trains area or delivered to forward units when unit distribution is in effect. When unit requests are received, they are checked and recorded by the ammunition specialist. Ammunition is then issued to the requesting unit. When one or more of the ammunition vehicles in the field trains are unloaded, an ammunition requisition (transportation order) is prepared. Then the vehicles are sent to the army ammunition supply point to draw a resupply. En route the lead driver stops at the division ammunition office (DAO) and presents the ammunition request (transportation order) to the DAO normally located in the support command area. Once the DAO approves and authenticates the ammunition requisition, the drivers proceed to the supply point, draw the ammunition, and return to the battalion field trains area. When security requirements dictate, the brigade S4 may form vehicle convoys for this movement.

f. Repair Parts.

- (1) *Requests and requisitions.* Elements of the battalion normally enter combat with all authorized repair parts. When a repair part is consumed, a replenishment part is requested by the medical platoon (for medical items), the communication platoon (for signal items) or the maintenance platoon (for other items). Fast moving repair parts (except medical) are normally replenished by the forward support company of the maintenance battalion located in the brigade trains area. Repair parts for medical equipment are processed through medical channels. Other repair parts may be requisitioned by the battalion maintenance platoon or communication platoon or furnished directly to the user by mobile repair teams operating in support of the battalion.
- (2) *Distribution.* Repair parts may be delivered to the battalion field trains in the brigade trains area for necessary distribution to the units. A combination of unit and

supply point distribution may be used to further distribute the repair parts.

78. Aerial Resupply

a. *Requests and Requisitions.* Aerial resupply requests and requisitions follow the same procedure as prescribed for routine requests.

b. *Coordination.* Normal aerial resupply is coordinated at the support command. Division support command notifies the support platoon of the time and place aerial delivery can be expected. Brigade also has a limited aerial resupply capability.

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

d. *Delivery to Battalion.* If aerial resupply to the battalion is to be made, the support platoon leader must establish a drop zone or aerial resupply point. He must furnish terminal guidance and insure that the supplies are recovered. It may be necessary for him to request assistance from the requesting unit or from the battalion reserve element for the recovery operation.

e. *Air Force Aircraft.* A prearranged code letter is placed on the drop zone at the desired impact point. This location will be given to the delivery aircraft using the Military Grid Reference System.

f. *Army Aircraft.* A prearranged code letter is used to identify the drop zone to the aircraft. In addition to the code letter, a T is laid out with panels (or lights) on the drop zone. The T is normally aligned with the stem of the T parallel to the long axis of the DZ or on a prearranged azimuth. See FM 57-38 and 1-100.

Section IX. MESS MANAGEMENT

79. Mess Management

a. *Organization.* The battalion mess section is organized so as to provide one consolidated mess for the entire battalion or teams of cooks and kitchen equipment to support any or all companies of the battalion separately. Usually the mess is located in the battalion field trains and operates under the supervision of the support platoon leader. His principal assistant is the battalion mess steward.

b. Feeding Plans.

- (1) The S4 announces the battalion feeding plan to the unit commanders as early as possible to allow mess personnel maximum time to prepare meals. The feeding plan includes all or part of the following instructions:
 - (a) Time and place of meals issue and methods for cleaning of mess gear.
 - (b) Vehicles to be employed for delivery.
 - (c) Additional items of supply that are to be sent forward.
 - (d) Time vehicles will leave kitchen location.
 - (e) Designation of release point.
 - (f) Time vehicles are released to the unit and the time they return to battalion.
 - (g) Any restrictions on movement.
- (2) The unit feeding plan is based on the battalion plan; however, the unit commander may request changes as necessary. He (or Co XO) prepares unit feeding plan and forwards to battalion field trains. The plan includes—
 - (a) Type of ration to be fed.
 - (b) Selection of unit feeding area.
 - (c) Arrangements for vehicles, guides, and carrying parties.
 - (d) Release and return of vehicles.
 - (e) Supervision of vehicles while under unit control.
 - (f) Arrangements for feeding attached personnel.

c. Receipt and Preparation of Rations. When rations arrive at the kitchen, the mess steward separates them into meals. The mess personnel, with the feeding plan as a guide, then prepare the proper amount of food and place it in hot food containers for serving. (Combat elements are also provided with one-burner cooking units which are designed for individual or small group use when it is not otherwise practicable to deliver hot food.)

d. Delivery of Rations.

- (1) The situation dictates whether food and water can be delivered to forward positions from the kitchen during daylight or darkness. Food and water are usually transported to unit mess locations by 2½-ton cargo trucks or by ¼-ton trucks with trailers. In rough terrain the use of pack animals or hand-carrying parties may be necessary. Civilian porters may be used for hand carry in order to maintain combat strength of the units concerned.
- (2) Any combination of methods of food delivery may be

used. Food may come part of the way forward on 2½-ton trucks and then be transferred to ¼-ton trucks and trailers. It may also be delivered to unit mess locations using the 2½-ton trucks for the entire trip. In addition, ¼-ton trucks and trailers of the units may be sent back to the battalion field trains to pick up the food.

- (3) Often the combat situation does not permit one or more of the forward combat platoons to come back to the unit mess location; these platoons then are fed by delivering the food in ¼-ton trucks if practicable, or by carrying parties.
- (4) The unit commander selects the mess location. It should be convenient to the troops, accessible to vehicles carrying food, large enough to permit the dispersion of troops being fed, provide for concealment from hostile observation, and offer protection from flat trajectory fire.
- (5) Food and water is normally delivered to attached elements with the rations for units to which attached. Elements of units employed in support of a rifle company are usually fed by their parent units, but difficult terrain or distance from the parent kitchen may require feeding by the supported unit.
- (6) Arrangements must be made for individual cleaning of mess gear in the company area or for return of the mess gear to the battalion trains where it is cleaned by personnel under the supervision of the battalion mess steward.

e. Delivery of Water.

- (1) Water, although a miscellaneous item of supply, is generally delivered with food. The battalion draws its water in 5-gallon cans and water trailers which are sent to the water point to effect resupply for the unit. If possible, a water purification bag is set up at the mess location and filled from the 5-gallon cans so that several men can fill their canteens at one time. This practice prevents waste that would result if the water purification bag were not used. Some 5-gallon cans of water may be left in forward areas.
- (2) If water is not readily available from engineer water points, several expedients are available to purify water before it is used for cooking and drinking. Such methods include use of calcium hypochlorite, individual water purification tablets, and boiling. For details concerning water purification, refer to FM 21-10.

Section X. THE MAINTENANCE PLATOON AND UNIT MAINTENANCE

80. General

a. *Maintenance* is all action taken to keep materiel in a serviceable condition or to restore it to serviceability. It includes inspecting, testing, servicing, repairing, rebuilding, and evacuation.

b. *The battalion maintenance platoon* has primary responsibility for the 2d echelon maintenance (except signal and medical) of the battalion. The 2d echelon maintenance of signal equipment is performed by the radio mechanics of the battalion communication platoon. The 2d echelon maintenance of medical equipment is accomplished by the division medical battalion.

c. *The maintenance warrant officer* is the platoon leader of the maintenance platoon. He works directly under the supervision of the battalion motor officer. He directs the timely requisitioning of 2d echelon repair parts and directs the 2d echelon repair and maintenance of all battalion equipment except signal and medical. He coordinates with forward support maintenance units for the accomplishment of higher echelon maintenance and repair. He coordinates platoon activity to support battalion plans.

81. Vehicle Maintenance

a. *Organizational maintenance* is that maintenance authorized for, performed by, and the responsibility of a using organization on its own equipment. This maintenance normally consists of inspecting, cleaning, servicing, preserving, lubricating, and adjusting as required and may also include minor parts replacement not requiring highly technical skills, or expensive, complicated, or bulky test equipment or tools. Organizational maintenance usually incorporates the first and second echelons as follows:

- (1) First echelon maintenance will be performed by drivers (and crews) and includes the proper care, use, operation, cleaning, preservation, lubrication, and such adjustment, minor repair, testing, and parts replacement prescribed by pertinent technical publications and tool and parts lists.
- (2) Second echelon maintenance will be performed by the battalion maintenance platoon or company maintenance section (mech. rifle co) and is that maintenance performed by specially trained personnel provided for that purpose in the using organization. Appropriate publications authorize additional tools and the necessary parts,

supplies, test equipment, and skilled personnel to perform maintenance beyond the capabilities and facilities of the first echelon.

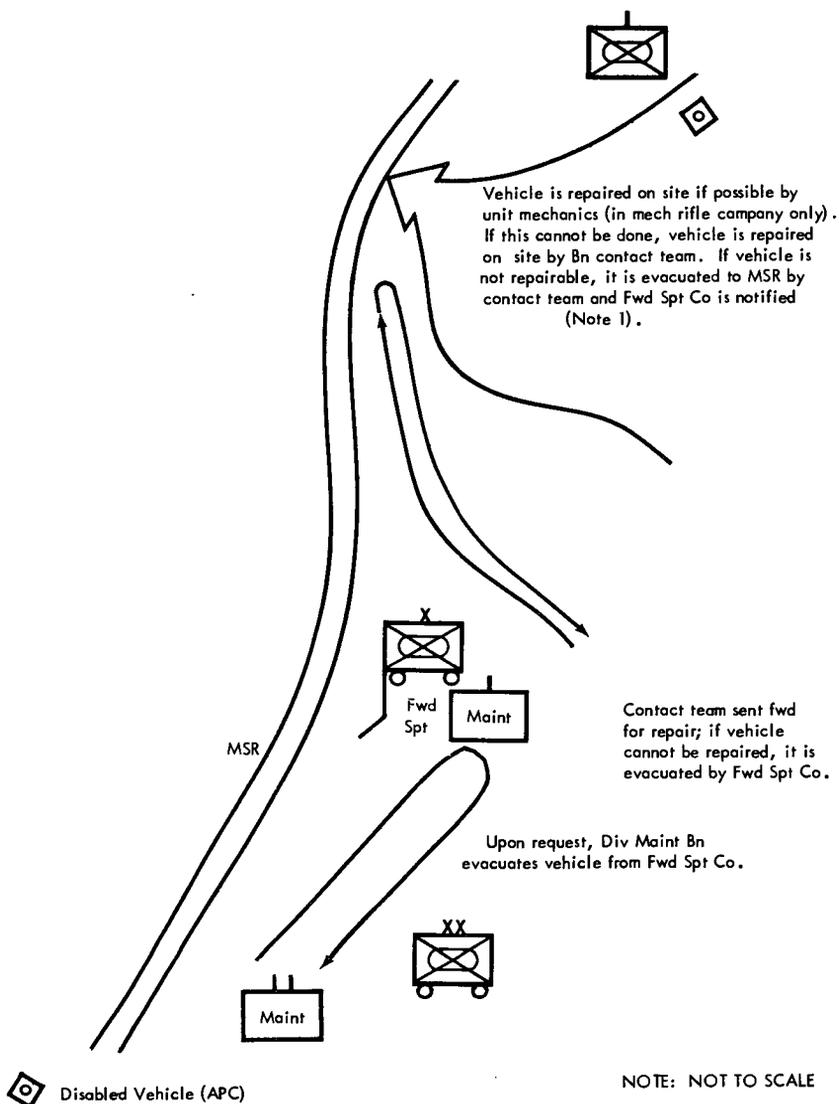
b. Unit commanders are responsible for insuring that drivers or crews perform 1st echelon maintenance and that it is recorded on the vehicle and equipment operation record (DD form 110). Any maintenance defect which cannot be corrected by the drivers or crews is noted on this form so that corrective action can be taken at the appropriate maintenance level. In the mechanized rifle company, which has an organic maintenance section, the unit commander is also responsible for insuring that second echelon maintenance is performed.

c. When a vehicle requires maintenance which cannot be accomplished by the drivers or crews, the maintenance is performed by the company maintenance section (available in the mechanized rifle company only) or the battalion maintenance platoon. The most desirable method is to have company mechanics repair the vehicle on site. If this cannot be done, mechanics of the battalion maintenance platoon go to the vehicle and repair it on site. The mechanics used under this system are referred to as contact teams. If the extent of repair is such that it cannot be performed on site, the vehicle is evacuated to the battalion field trains area by the battalion maintenance platoon (fig. 10).

d. Another means of obtaining maintenance service which cannot be accomplished by the drivers or crews (or mechanics in the mechanized rifle company) is for the unit to bring the vehicle to the battalion maintenance platoon. This means is normally not as desirable as the use of contact teams. The important principle followed is that vehicles are repaired as far forward as possible.

e. The bulk of 2d echelon maintenance is performed in the battalion field trains area although there will be some 2d echelon maintenance performed in the combat trains area. This will consist primarily of the contact teams previously described. The amount of 2d echelon maintenance performed in any area will vary with the situation and will be determined by the maintenance platoon leader. For example, in the mechanized infantry battalion, additional maintenance personnel may be provided in the combat trains.

f. In addition to the repairs made on vehicles, unit mechanics also perform the quarterly or 3,000-mile preventive maintenance service on all organic wheeled vehicles and the quarterly or 750-



Note 1 - If vehicle is repairable, the assigned driver will remain with it.
 If not repairable, vehicle will be abandoned adjacent to the MSR.

Figure 10. Evacuation of vehicles in the attack.

mile preventive maintenance service on all organic tracked vehicles.

g. In cases where the required repairs are beyond the capability of the maintenance platoon, the vehicle is turned over to the forward support company of the maintenance battalion. This company normally operates in the brigade trains area, i.e., the same as the battalion field trains. The forward support company performs field maintenance on all types of equipment except medical and signal cryptographic equipment.

82. Other Maintenance

a. Radio-telephone operators perform 1st echelon maintenance on signal equipment organic to the companies. This includes cleaning, inspecting, tightening, drying, lubricating, and preserving equipment. This maintenance must be performed daily; before, during, and after use. Unit commanders are responsible to insure that this maintenance is performed and that no repairs are attempted by the user which require a radio mechanic.

b. When a piece of signal equipment requires 2d echelon repair work, the radio mechanics assigned to the communication platoon go to the site of the equipment in order to repair it. If the deficiency is such that it requires field maintenance, the equipment is evacuated by the communication platoon to the forward support company of the maintenance battalion. If the deficiency is such that it can be corrected by the mechanics in the communication platoon but not on site, it is evacuated to the communication platoon headquarters for repair.

c. Organizational (2d echelon) maintenance of other types of equipment except ordnance, signal and medical is performed by maintenance personnel organic to each unit within restrictions imposed by technical services. As an example, if an engineer item of equipment becomes inoperative and is beyond the 2d echelon capability of organic maintenance personnel, a request for a contact team is made by the maintenance platoon leader to the forward support company operating in the brigade trains area. If the equipment cannot be repaired by the contact team, it is evacuated by the team to the forward support company.

d. Medical equipment requiring maintenance above the 1st echelon level is evacuated through medical channels to the medical battalion. Medical and signal cryptographic equipment are the only types of equipment which are not maintained by the division maintenance battalion. Signal cryptographic equipment is processed through signal channels.

Section XI. OTHER ADMINISTRATIVE SUPPORT MATTERS

83. Captured Materiel

a. Captured enemy materiel is tagged and is collected and evacuated in the same manner as salvage. The battalion commander controls the distribution and use of captured supplies. Captured enemy material is always reported to the next higher headquarters, where it may be a source of enemy information. Weapons and equipment that appear to be of new or unusual design are evacuated through intelligence channels.

b. Enemy weapons are used only in emergencies. When they are used, friendly troops are notified. This prevents the characteristic sound of such weapons from attracting our own fire.

84. Graves Registration

Graves registration is provided the division by attachment of a graves registration platoon to the supply and transport battalion, division support command. Collecting and evacuation sections of this platoon establishes collecting points in the brigade trains area to receive dead from tactical units, identify remains, and evacuate the remains from the collecting point to the division collecting point. The infantry battalion is responsible for evacuation of the dead from forward areas to the brigade collecting point. The graves registration platoon from the supply and transportation battalion may provide technical advice to battalions in evacuating the dead. Should the division or the battalion suffer heavy casualties, additional support could be expected from nondivisional graves registration units.

85. Destruction of Supplies and Equipment

When necessary, nonmedical supplies and equipment are destroyed to deny their use to the enemy. The decision to destroy equipment is made only on authority delegated by the division or corps commander. Plans for destruction are prepared in the event of imminent capture. Under the provisions of the Geneva Convention, medical material and stores shall not be intentionally destroyed. See paragraph 234, FM 27-10.

86. Decontamination

The support platoon and maintenance platoon must be prepared to perform limited chemical, biological, and radiological decontamination of personnel, supplies, and equipment. They should make provisions to procure necessary decontamination supplies. Personnel should be familiar with field methods of decontamination as outlined in FM 21-40 and TM 3-220.

Section XII. CIVIL AFFAIRS

87. General

a. The battalion controls the civilian population in its area to the extent required to clear tactical areas, prevent congestion of roads, and maintain security. Measures taken may include the complete evacuation of forward areas, restriction of civilian movement in certain localities and to certain roads, and selective evacuation of suspected hostiles. In some areas movement may be restricted to certain periods of time. In certain circumstances, higher headquarters may direct a "standfast" policy restricting movement. Whenever practicable, maximum assistance should be obtained from civil affairs units, civilian police, paramilitary units, and other appropriate agencies to assist in movement control of refugees.

b. Support for the combat mission may be secured from the local population within the provisions of the Geneva Convention and policies of higher headquarters. Civilian support may include intelligence, counterintelligence, antiguerrilla operations, labor, other services, and supplies. Staff supervision of civil affairs is normally under the S3; however, it may be assigned to another staff officer at the discretion of the battalion commander.

CHAPTER 4

COMBAT UNITS, COMBAT SUPPORT UNITS, AND FIRE SUPPORT

Section I. GENERAL

88. Introduction

Combat units, combat support units and fire support are provided the battalion to assist in the accomplishment of its missions. These means may be organic, attached, in direct support, in general support or under operational control of the battalion. The battalion commander employs these means as the situation allows to best accomplish his mission.

a. Combat Units. Organic combat units are the three rifle companies, reconnaissance platoon, antitank platoon, and the mortar and Davy Crockett platoon. Nonorganic combat units which may be available to the battalion include infantry, tank and armored cavalry units.

b. Combat Support Units. Organic combat support units are the communication platoon and the ground surveillance section. Nonorganic units which may be available to the battalion in a combat support role include Army aviation, chemical, engineer, ground transportation, and artillery units.

c. Fire Support. The two principal elements of combat power are fire power and maneuver forces. Fire power is either direct, as delivered by rifle or tank units, or indirect, as delivered by mortars or artillery. Fire power is composed of supporting fires directly controlled by the commander as well as those supporting fires that are available and responsive to him. Maneuver is movement to increase the effects of fire and/or to close with the enemy. The commander is responsible for the coordination of all available supporting fires—with each other and with the maneuver of his command—and makes basic decisions concerning the coordination of fire support.

Section II. COMBAT AND COMBAT SUPPORT UNITS, ORGANIC

89. Rifle Company

a. The rifle companies are the basic maneuver elements of the battalion. Their mission is to close with the enemy by means of fire

and maneuver in order to capture or destroy him or to repel his assault by fire, close combat, and counterattack. The battalion commander allocates additional combat power to rifle companies, as required, to accomplish specific mission(s) in either offensive or defensive operations. These missions may include destroying enemy personnel, seizing and/or holding ground or a combination thereof. Occasionally, companies may be employed on independent missions under control of the division or brigade commander.

b. For additional details of employment in offense and defense, see chapters 5 and 6.

90. Reconnaissance Platoon (Armored Cavalry Platoon)

a. The reconnaissance platoon performs reconnaissance and provides limited security for the battalion. It should be employed as a unit because of the complementary nature of platoon elements. Under certain conditions, however, the platoon or elements thereof may be attached to another unit or task force organized within the battalion for a specific operation. It has a limited capability for offensive, defensive, and retrograde actions. The platoon will normally operate under battalion control.

b. In the attack, the platoon may—

- (1) Patrol or screen a flank.
- (2) Maintain contact between elements of the battalion or with adjacent units.
- (3) Reconnoiter zones, areas, or routes, to include checking for CBR contamination.
- (4) Maintain contact with a withdrawing enemy force.
- (5) Establish OP's.
- (6) Conduct CBR monitoring and survey operations.
- (7) Act as a reconnaissance and security element in the movement to contact.

c. In the defense, the platoon may—

- (1) Operate with the outpost forces either under battalion control or by attachment to these security forces.
- (2) Be employed in an economy of force role to protect an exposed flank or cover a less dangerous portion of the battalion area.
- (3) Operate in the area between the combat outpost and the forward edge of the battle area when the general outpost withdraws and the enemy makes contact with the combat outpost. In this role the platoon provides ad-

ditional security for the battalion and may assist the withdrawal of combat outpost elements.

- (4) Make and maintain contact with flank units, establish and man observation posts, or perform reconnaissance and security missions in the rear of the battalion sector.
- (5) Operate forward of outpost forces, maintaining contact with either security forces of higher headquarters or the enemy, if no other security forces are forward of the COP.
- (6) Perform damage control operations including the restoration of control and assistance to units or activities following a nuclear attack.

d. In the retrograde the platoon may perform the missions outlined in *c*, above, and may be assigned a mission as the reserve of the battalion detachments left in contact when appropriate. It may also act as a rear guard for the battalion in the retrograde.

e. For detailed organization and employment of the reconnaissance platoon, see appendix IV.

91. Antitank Platoon

a. The primary mission of the platoon is to provide antitank support for the battalion. Its secondary mission is to provide fire support for the rifle companies of the battalion.

b. The platoon is capable of providing antitank support and fire support for the battalion in a wide variety of tactical roles. Depending on the operation plan, the elements of the platoon may be employed in general support, direct support or in an attached role. The platoon's mobility and communication enable it or elements thereof to respond rapidly to tank threats throughout the battalion area.

c. The platoon's primary target is enemy armor. Lacking such targets, it may engage bunkers, observation posts, vehicles, crew-served weapons, and other similar targets, provided this does not interfere with its antitank role.

d. The antitank platoon is the commander's primary organic antitank means and is employed as indicated below :

- (1) In the attack antitank weapons may be employed well forward and/or in depth to add to the battalion antitank capability. The battalion commander considers the factors of METT in determining where and how the weapons will be employed. He may attack one or more squads to the unit(s) making the main attack and remaining

squad(s) may be attached to (or placed in direct support of) unit(s) making the supporting attack, or he may hold them in general support so they will be readily available for use where armor threats develop.

- (2) In movements to contact or when the enemy situation is vague, the commander retains the major portion of the platoon in general support for flexibility in employment.
- (3) Security elements, such as flank or rear guards or screening forces, may have one or more squads attached.

e. In the defense and retrograde, squads of the antitank platoon are generally located where they can destroy enemy armor forward of the battle area and provide antitank defense in depth. When practicable, squads are mutually supporting; however, it may be necessary to employ squads singly in company defense areas. When antitank weapons are employed in the area of a forward rifle company to cover a tank approach of primary concern to that company, they are usually attached. The employment of other antitank weapons is integrated to provide the best possible antitank defense.

f. For detailed organization and employment of the antitank platoon, see appendix II.

92. Battalion Mortar and Davy Crockett Platoon

a. General.

- (1) The mortar and Davy Crockett platoon provides nuclear fires and close and continuous indirect nonnuclear fire support for the battalion.
- (2) The platoon is capable of delivering a heavy volume of accurate and sustained fire. It may be employed to neutralize or destroy area targets and located point targets, to screen large areas with smoke for sustained periods, to provide illumination, and to attack targets with toxic chemical agents. It can fire from concealed and covered positions and engage targets in defilade. Davy Crockett fires are used primarily to destroy personnel targets and are considered as complementing or supplementing the nonnuclear fires available to the battalion, rather than as a substitute for nonnuclear fires.

b. Heavy Mortar Section.

- (1) The heavy mortar section (four squads) is normally employed in general support and positioned where its squads can best support the main attack (in the offense) or

cover the most dangerous enemy avenue of approach (in the defense). The mortar section may be employed in general support with two squads, accompanied by a portion of the fire direction center, widely separated from the other two squads when the mission so dictates; examples of this are when defending on wide frontages or when two mortar squads are required to be positioned forward of the FEBA to support the COP. The lack of control personnel and communications prohibits the splitting of the mortars so that one squad is operating alone. For this reason, two mortar squads are considered as a basic unit of fire. Direct support or attachment are the least desirable methods of employing the heavy mortar section and are used infrequently in defensive operations. During airborne operations, control of the mortar section may be decentralized during the early stages of the assault. Centralized control is regained as soon as possible (par. 325f).

- (2) Priority of fires is usually given to the main attack or to the company positioned on the most dangerous avenue of approach. Heavy mortar fires are planned and integrated with those of the supporting artillery and the FDC of both units is tied in by both wire and radio. FO teams will be allocated to forward companies as required. In the defense they normally accompany combat outpost (COP) forces along with the artillery FO teams.
- (3) In the mechanized infantry battalion the mortars may be fired from carriers or from dismounted ground position. Cross-country mobility and on-carrier firing permit rapid displacement and minimum reaction time in moving situations. In the infantry and airborne infantry battalion, displacement and reaction time is restricted in moving situations since the mortars must be fired from ground positions and cross-country mobility is limited.

c. Davy Crockett Section.

- (1) Davy Crockett weapons provide the commander with a nuclear capability of destroying enemy forces which are in contact or approaching contact with friendly elements. The battalion commander selects the method of employment for these weapons which best assists the accomplishment of the battalion mission.
- (2) The Davy Crockett section or its individual squads may be employed using two basic methods: general support or direct support. The battalion commander decides

which method or combination of methods best supports his scheme of maneuver. In determining the method of employment for the section or its squads, the battalion commander consider aspects of the following: desirability and capability of centralized control and coordination of fires, and the desirability of increasing the combat power of specific units. Control of Davy Crockett will not extend below battalion level. Squads normally will be retained in general support of the battalion or in direct support of one or more of its companies. During airborne operations, control of the Davy Crockett section may be decentralized during the early stages of the assault. Centralized control is regained as soon as possible (par. 325f).

- (3) The fire support coordinator (FSC) coordinates the fires of Davy Crockett weapons. These fires are coordinated with the fires of the heavy mortar section and supporting artillery and are integrated into the battalion fire support plan. Preliminary discussion of probable targets will be conducted over established fire direction nets. Adjustment of fire will be effected using the platoon fire direction net or other nets as available. Requests for authority to fire and orders to fire Davy Crockett weapons are transmitted through command channels.

d. For detailed organization and employment of the platoon, see appendix III.

93. Communication Platoon

a. The communication platoon (assisted by other communication personnel in headquarters company) installs, operates, and maintains communication facilities within the battalion headquarters. In addition, it establishes and maintains communication to the rifle companies, elements of the headquarters company and attached units. It provides continuous communication for the battalion headquarters by using all means of communication. It provides second echelon maintenance support for the signal equipment of the battalion headquarters and rifle companies.

b. For a detailed discussion of the battalion communication system and operations of the communication officer and communication platoon, see appendix V.

94. Ground Surveillance Section

a. The primary mission of the ground surveillance section is to provide ground radar surveillance for the battalion. The section

is capable of performing a wide variety of general tactical functions including the following:

- (1) Searching enemy defensive positions, avenues of approach, possible enemy attack positions, assembly areas, or other sectors or areas on a time schedule, at random times, or continuously to report location, size, composition, and nature of enemy activity.
- (2) Monitoring point targets such as bridges, defiles or road junctions and reporting quantity, type of target, and direction of movement through the point.
- (3) Assisting in the adjustment of artillery and mortar fire.
- (4) Surveying final protective fire areas or barrage locations to permit timely firing.
- (5) Surveying areas of nuclear and nonnuclear fires to detect enemy activity immediately after firing as an indication of firing effect. By surveying the periphery of nuclear effects and comparing this with previous surveillance, it may be possible to ascertain the extent and types of damage (e.g., tree blowdown) and thereby determine whether further neutralization by nuclear or nonnuclear means is required.
- (6) Extending the observation capabilities of patrols by enabling them to survey distant points or areas of interest.
- (7) Assisting the visual observation of units during daylight hours by making initial detection of partially obscured (haze) targets at long ranges.
- (8) Assisting in the control of units during a night attack.
- (9) Vectoring patrols or other units through barriers.
- (10) Communicating with adjacent units or patrols when radio silence is imposed. The use of surveillance radar in this task as well as those outlined in (8) and (9) above may be accomplished when positive means of identification have been established and appropriate signals have been established in advance. Since the radar detects motion of an object and presents it as a sound, identification must be either by a prearranged motion or by a characteristic sound. By using a corner reflector, which produces an easily recognizable signal, coded signals may be sent to the radar operator.
- (11) Determining the range to distant terrain features.
- (12) Increasing the effectiveness of fire support. When targets have been detected with reasonable certainty by

radar, the fire support means may immediately take the target under fire. However, in the event that the type of target cannot be definitely established, the radar team can furnish range and azimuth information concerning the target so that illumination may then be accurately employed to establish which type of fire can best be used. Since radar equipment can accurately detect the density of enemy activity in a given area as well as the rate of enemy advance or withdrawal, this equipment may be used in determining the optimum time for employment of explosives, atomic demolition munitions, chemicals, or destructive fires.

b. In both the attack and defense the ground surveillance section is normally employed in general support of the battalion; however, in certain situations all or part of the section may be attached or in direct support of a unit. Radar equipment is normally employed well forward to take full advantage of its range capability and to complement the use of short range radars in the rifle companies.

c. For detailed organization and employment of the section, see appendix VI.

Section III. COMBAT AND COMBAT SUPPORT, NONORGANIC UNITS

95. Armor

a. One or more tank companies may be attached to an infantry battalion. This attachment provides the battalion with an additional maneuver element(s) possessing cross-country mobility, armor-protected fire power, shock action, and excellent control facilities. The battalion commander may employ the attached tank company(ies) as a pure (all elements from a single arm) or cross-attached unit.

b. In the offense, tank units may be employed with infantry units as an enveloping or penetrating force or as all or part of the battalion reserve. The majority of tanks may be attached to the main attack force, while using the tank company minus (with or without attached rifle platoon(s)) as an element of the reserve. In other situations, tank platoons may be attached to rifle companies of the attack echelon while the tank company (—) is retained under battalion control to use the tank companies command and control facilities. Certain situations may favor the formation of a tank-heavy reserve to exploit success or enemy weaknesses uncovered by attacking infantry. Tank units are best employed in trafficable areas free of antitank obstacles and

antitank weapons, and where great shock action and speed are desired. When flamethrower tanks are attached to the battalion, they may be further attached as required to assist rifle companies in the assault, particularly against fortifications and buildings. Normally, these tanks are employed in pairs.

c. Employment of the tank company in the defense is as follows:

- (1) When a tank company is attached to a battalion in defense, all or a major portion of the tank company is usually retained in reserve in order to capitalize on its offensive capabilities while at the same time providing the battalion with antitank defense in depth. One or more tank platoons may be attached to forward rifle companies when the number of tank approaches, nature of terrain, and/or the enemy armor threat precludes adequate defense by organic antitank weapons.
- (2) Tanks may be employed in the battalion security echelon. When they are employed in the security echelon, it may be by section. Desirably, these tanks should come from the battalion reserve; if so, they revert to the reserve when the security echelon withdraws.
- (3) Flame tanks, when available, may be employed on the FEBA to supplement final protective fires or in reserve to accompany the maneuver elements in the counterattack.

d. Tank units may be employed with the battalion in retrograde operations. Tank units are well-suited for the delaying action. They may perform as part of the forward forces, detachments left in contact, or covering forces.

e. For additional guidance on the tactical employment of tank elements organic to the division, see FM 17-1 and FM 17-15.

96. Reconnaissance Units

a. A cavalry troop may be attached to the battalion for reconnaissance security, or economy of force missions. It may be employed as a unit or by platoons.

b. Reconnaissance elements are seldom attached to companies, but instead are used to support the entire battalion by—

- (1) Providing security forces.
- (2) Making zone, route, or area reconnaissance.
- (3) Maintaining contact with adjacent units.

- (4) Conducting feints and demonstrations.
 - (5) Sweeping areas to eliminate disorganized resistance.
- c. For details of employment, see FM 17-35.

17. Artillery

a. *Field Artillery.*

- (1) Normally, a divisional field artillery battalion is employed in direct support of each committed brigade. This artillery battalion obtains, as required and available, fires from higher and adjacent artillery units. The infantry battalion may have field artillery attached when effective control of the artillery by a higher headquarters is not practical.
- (2) The fires of the battalion mortar platoon are usually integrated with those of the artillery firing in support of the battalion.
- (3) For details concerning fire support, see section IV.

b. *Air Defense Artillery.* Air defense is usually furnished by Army units under division or corps control. Air defense units with a surface-to-surface capability may be deployed throughout the division zone. Their missions include defense against helicopter-borne attack. Frequently, this mission permits the air defense unit to take under fire airborne or airdropped troops in or near their landing zones or areas. This part of the air defense missions should be carefully tied in with the battalion plans for countering these enemy forces. When the battalion is operating far from other forces or when the enemy air threat is not a primary consideration, air defense units with a surface-to-surface capability may be attached. In the latter case, air defense units may be employed in a ground support role.

98. Chemical Corps Units

Chemical Corps units are furnished by army and may operate under division control. The Chemical unit normally attached to division is one platoon from Chemical Company, Combat Support, TOE 3-7D. Elements of this platoon may be deployed in the battalion area.

a. Each platoon can provide the following support on a continuing basis:

- (1) Operation of a division chemical supply point.
- (2) Third echelon maintenance of organic Chemical Corps equipment.
- (3) Chemical technical intelligence.

b. Each platoon can provide the following support when augmented with additional equipment:

- (1) Mixing napalm and servicing flame weapons.
- (2) Operating a limited number of smoke generators.
- (3) CBR monitoring, survey, and reconnaissance to include radiological surveys.
- (4) Limited decontamination.

99. Engineers

a. *General.* Engineer support is normally provided for each infantry battalion, when committed, by a platoon from the engineer company in support of the brigade. These units, when supplemented by additional equipment and technical supervision from combat engineer battalion headquarters, are capable of performing extensive engineering tasks. In addition, the division engineer battalion provides water. Normally, a water point is located within each brigade area. All division engineer units are 100 percent mobile. They may be placed in direct support of or attached to the battalion depending upon the tactical situation, terrain, distances, and amount of control and assistance desired.

- (1) *Direct support.* The engineer unit placed in direct support of the battalion renders technical and tactical assistance by performing engineer tasks for the battalion. Control of the supporting engineer unit is retained by the parent unit commander. Requests of the battalion commander are complied with so far as practicable.
- (2) *Attached.* Engineers are attached to the battalion when the mission requires the battalion commander to have complete control of the forces or when the distance precludes the parent engineer unit commander from exercising proper supervision.

b. *Employment.*

- (1) In the defense, engineers are used to assist in impeding the progress of the enemy by supervising combat units in preparing obstacles, executing demolitions, supervising and assisting in constructing of minefields, and carrying out other engineering tasks. Care must be exercised in planning the barrier system to avoid interfering with the rapid shifting of units. In the offense, the engineers have the additional mission of facilitating the forward movement of the battalion by clearing minefields, breaching obstacles, and clearing road blocks. Infantry units

must perform much of the labor for these tasks, with the engineers acting in an advisory role. The engineers furnish technical assistance and engineer training and equipment.

- (2) Engineers are trained to fight as infantry in emergencies in either offense or defense; however, to perform the mission effectively they must be given additional weapons support and time to reorganize.

c. Control. The senior engineer unit commander supporting the battalion acts as the unit engineer and is a special staff advisor to the battalion commander on all engineer matters. He is responsible for coordinating the activities of all engineer units in direct support of or attached to the battalion.

d. For details of engineer capabilities and tasks, see FM 5-135 and 5-136.

100. Ground Transportation

a. When it is necessary to motorize or mechanize the infantry and airborne infantry battalions, truck and/or armored personnel carriers are usually allocated by the battalion on the basis of the current unit strength. Whenever possible, one APC is also allocated for each company command group and two APCs are allocated for the battalion command group.

b. The battalion commander normally uses available APC to mechanize complete units rather than partially mechanizing several units. This allows the battalion commander to use his mobility capability to the fullest extent. When the battalion commander can mechanize fewer than two complete companies, he may mechanize only the company making the main attack, or he may mechanize reserve elements to exploit successful attacks of dismounted companies. In defense, the reserve is mechanized to permit maximum flexibility in participating in offensive action or moving to occupy alternate or supplementary blocking positions.

c. Trucks have limited value for transporting personnel in the attacking echelon because of their vulnerability and limited cross-country mobility. They may be used effectively, however, for movement to forward assembly areas or attack positions, for motorizing reserves, for resupply and evacuation, and for transportation in pursuit and certain movement to contact operations.

d. The battalion commander insures that an adequate proportion of attached transportation is allocated for logistical support of the battalion's operation.

101. Army Aviation

a. Army aviation support for the battalion is provided by any one or combination of the following:

- (1) Aviation platoon, brigade.
- (2) Aviation battalion, division.
- (3) Air cavalry troop, division reconnaissance squadron.
- (4) Aviation section, division artillery.
- (5) Nondivisional aviation units.

b. Army aviation elements indicated above are capable of providing support to all units, agencies, and individuals of the battalion. Examples of the types of typical support include, but are not limited to, the following: Command control; reconnaissance; movement of personnel, equipment, and supplies; security; illumination; adjustment of fire; radio relay; wire laying; supplemental medical evacuation; smoke screening; radiological survey; fire support; propaganda dissemination; target acquisition; surveillance; photography; courier; and damage assessment.

c. *Employment.* The brigade commander will normally make at least one observation helicopter available to the battalion from the brigade aviation platoon. Additional aviation support for the battalion will normally be available when committed to action and will come from other sources as listed in *a* above.

d. *Details of Employment.* For details concerning the employment of Army aviation consult the following:

- (1) Chapter 10.
- (2) FM 1-5, Army Aviation; Organizations and Employment.
- (3) FM 1-100, Army Aviation.
- (4) FM 1-60, Army Aviation Air Traffic Operations, Tactical.
- (5) FM 21-60, Visual Signals.
- (6) FM 57-35, Airmobile Operations.
- (7) FM 57-38, Pathfinder Guidance for Army Aircraft.
- (8) TM 57-210, Air Movement of Troops and Equipment.

102. Close Air Support

The flexibility and long-range striking power of tactical air make it an important means of destroying the enemy. Advance planning and reconnaissance are necessary to obtain maximum and timely effects from the use of air power. Air control teams

operate to control strikes in the immediate battle area and on targets which can interfere with the battalion mission (par. 106g).

Section IV. FIRE SUPPORT

103. General

a. Definitions.

- (1) *Fire support (supporting fires)*. Fires delivered by supporting units or weapons to assist or protect a unit in combat.
- (2) *Fire support coordinator (FSC)*. The officer who coordinates the fire support of any particular echelon. A liaison officer from the artillery battalion in direct support of the brigade is normally the battalion fire support coordinator. In those instances when no artillery officer is available to the battalion, the mortar platoon leader is designated battalion FSC.
- (3) *Fire support plan*. The coordinated and integrated plan for the employment of all fire support available to the commander.
- (4) *Fire plan*. A detailed plan for the employment of specific weapons or type weapons in support of a unit; e.g., artillery fire plan, nuclear fire plan, CB fire plan. See FM's 6-20-1 and 6-20-2.
- (5) *Scheduled fires*. Planned nuclear and nonnuclear fires for which the fire data are prepared in advance and which are delivered on a time schedule during the course of a combat operation.
- (6) *On-Call fires*. Unscheduled nuclear and nonnuclear fires planned for delivery, if requested, on designated locations. Complete data for on-call fires, including required target analysis, are prepared in advance and kept current.
- (7) *Fires on targets of opportunity*. Fires delivered on targets which appear unexpectedly in locations for which fires have not been planned.
- (8) *Nuclear allocation*. An allocation of nuclear weapons is that number of weapons by type, delivery system and yield which a commander is authorized to expend during a specified period of time or operation. This allocation need not be confined to those weapons for which the commander controls a delivery means. An allocation may be subdivided by the commander into a reserve,

those to be fired under his control, and allocation(s) to subordinate units.

- (9) *Special ammunition load (SAL)*. A specific number of weapons authorized to be carried by a delivery unit. Replenishment of these weapons is not automatic. The prescribed nuclear load of a delivery element organic to, attached to, or in support of a maneuver unit does not mean the maneuver unit may order its use beyond the weapons allocated.

b. Relationship of plans. The battalion fire support plan contains the details required for the necessary initial coordination and employment of all fire support available to the battalion. This fire support plan is an annex to the operation order. Detailed fire plans (such as artillery fire plan, air fire plan, naval gunfire plan) are a part of or appended to the fire support plan.

c. Responsibilities. The coordination of all available fires is a command responsibility. The S3 has unit staff responsibility for coordination of the plan of fire support with the scheme of maneuver. The fire support coordinator has special staff responsibility for coordination of fire support.

d. Influence of fire support.

- (1) The fire support available to the battalion materially influences the formulation of the operation plan. The greater the firepower available, the greater the influence becomes, especially when nuclear support is available.
- (2) The ability of the battalion to successfully perform various combat missions depends to a considerable extent on the amount and type of fire support made available from higher headquarters.

104. Employment

a. Nonnuclear Fires. The maximum effective employment of all available fires is essential to the successful accomplishment of the battalion's mission. The battalion commander normally plans to employ to the fullest extent the fires of his organic and attached supporting weapons before requesting additional fires from higher headquarters. He employs allocated artillery fires, naval gunfire, and close air support for missions that are beyond the capabilities of his organic and attached weapons.

b. Nuclear Fires.

- (1) In active nuclear warfare, the battalion is given an allocation of nuclear weapons or informed of nuclear fire support available. Any restrictions on the use of nuclear

fires are announced by the division or brigade commander.

- (2) In the absence of a nuclear allocation, or other information of available nuclear support, the battalion commander initiates recommendations and requests for employment of nuclear fires within his area of responsibility.
- (3) When the battalion commander receives an allocation of nuclear weapons or fires, he has the responsibility for insuring that their employment most effectively supports his operations. He bases his decision as to their employment on the consideration discussed in paragraph 107*a* and *b*.
- (4) Subkiloton yield nuclear weapons and delivery systems give the battalion commander an immediately available nuclear capability which can be used with minimum restrictions. The use of these weapons reduces the extent of detailed target analysis. The commander's responsibilities for employing these weapons and displacing their delivery systems are like those for any other fire support delivery system available to him. However, the decision to employ nuclear weapons remains with the battalion commander.
- (5) Commanders having authority to fire nuclear weapons must consider the tactical advantages that may result from the use of radioactive fallout from surface or subsurface bursts. The decision to employ fallout must consider the inaccuracies of current prediction methods and allow adequate buffer distances to account for wind shifts.
- (6) In addition to nuclear fires, Atomic Demolition Munitions (ADM) may be made available to the brigade and employed in the battalion area.

c. CB Fires.

- (1) Authority to fire toxic chemical and biological weapons is delegated to that level having the capability of coordinating the troop safety precautions and controlling the contamination hazards. However, regardless of the echelon delegated fire authority, battalion initiates appropriate planning and recommendations for the integration of these fires with nonnuclear and nuclear fires and with maneuver.
- (2) Because of their area coverage effects, toxic chemical and biological agents are particularly suitable both against

hard, dug-in targets, and against ill-defined targets. In both the offense and the defense, toxic chemical agents are employed to produce casualties quickly from nonpersistent chemical attacks. In the defense, toxic chemical agents may also be used in conjunction with minefields and barriers, as well as alone, to contaminate and restrict enemy use of important terrain features such as crossroads, bridges and defiles. Biological agents may be used when delayed casualty effects are acceptable.

d. Integration of Nuclear and Nonnuclear Fires.

- (1) The battalion commander must insure that his nonnuclear fires are completely integrated with the nuclear fires used to assist his operations. He does this whether the nuclear fires are specifically controlled or requested by him or are planned and directed by higher headquarters.
- (2) The capabilities of both nuclear and nonnuclear fires must be carefully considered to insure their most effective use. The determination of whether to use nuclear or nonnuclear fires, or both, must take into consideration the mission, characteristics of weapons and the target, and availability of munitions. Nuclear and nonnuclear fires are most effective when employed to complement each other. In addition to other types of nonnuclear fires, the use of quick-acting chemical agents should be considered for nonpersistent chemical attack of selected targets and those in the buffer zone of a nuclear weapon attack. Toxic chemical agents should be considered for persistent chemical attack on terrain or targets that are not in the path of friendly attack and that the commander wants to bypass, and on which he wants to restrict enemy activity.
- (3) Nonnuclear fires may be used to attack close-in targets which escape nuclear fire damage. They may be used in areas of great nuclear fire damage to prevent or delay reorganization, or in areas of lesser damage to increase the damage and prevent or delay reorganization. They may be placed to interdict enemy routes of reinforcement and withdrawal. They may also be the sole means employed against a target area. Quick acting toxic chemical agents are particularly useful for a nonpersistent chemical attack to increase the level of casualties and the area of effectiveness of HE and nuclear fires.
- (4) When the battalion commander has the responsibility for planning or recommending the employment of nuclear

weapons, his latitude in deciding how to integrate them with nonnuclear fires is extended materially. He may shift or relocate the planned nuclear as well as nonnuclear fires to insure their complete integration and maximum effective use.

- (5) In planning the integration of fires, the battalion commander must consider the possibility that the planned nuclear fires may not achieve the expected results, or that they may suddenly be withdrawn or become unavailable because of operational or technical conditions. So far as possible, he should plan other courses of action for these eventualities. If the success of the overall operation plan is based on the availability and employment of certain nuclear fires, the battalion commander will have to alter, revise, or perhaps discard the plan entirely if the nuclear fires are not employed. He must be prepared to make these changes rapidly or to make specific recommendations to higher headquarters concerning alternate courses of action.

105. Fire Control Measures

a. Boundaries. In addition to their use in delineating areas of responsibility, boundaries control maneuver and also serve as a measure for coordinating fire support. When fires employed by one force will have casualty or damage producing effects in the zone of an adjacent unit, these fires must be coordinated with and approved by the adjacent force. Units may engage targets outside their boundaries without coordination with the adjacent force when the effects of fires placed on the target will be beyond the adjacent unit's no-fire line.

b. Bomb Line (BL). The bomb line is a line designated by ground forces beyond which air attacks may be executed without clearance from the ground forces, provided that no more than negligible weapons effects occur short of the line. The bomb line should be easily identifiable from the air and should follow well defined geographical features.

c. Nuclear Safety Line (NSL). Nuclear safety lines are lines selected if possible to follow well-defined geographical features and used as troop safety measures in conjunction with the employment of friendly nuclear weapons. They may be used to establish areas in which friendly troops must observe certain protective measures; to designate limits of advance of friendly troops before specified unacceptable effects from planned nuclear fires are encountered; or to prescribe limits to which certain effects of

friendly weapons may be permitted to extend in the direction of friendly troops. The use of the nuclear safety line should be a matter of SOP. If any changes in use of the NSL are planned, they are explained in paragraph 3, "Coordinating Instructions," of the operation order.

d. Fire Coordination Line (FCL). The fire coordination line is a line established to coordinate fires between airborne forces and linkup forces or between two converging forces. It is used to regulate flat-trajectory and high-angle fires as well as airstrikes. Units will not fire beyond this line without first coordinating with the unit on the other side. The FCL should be easily identifiable on the ground and on the map.

e. No-Fire Line (NFL). The no-fire line is a line beyond which artillery units may fire without prior clearance from the artillery unit in direct support of the battalion/brigade. Artillery fire short of the no-fire line must be cleared by the direct support artillery unit or by the headquarters which established the line.

106. Planning and Coordination

a. Purpose. A fire support plan is formulated to insure that all available supporting fires are utilized in the most effective manner to assist in accomplishing the assigned mission. It is coordinated and integrated with plans for the employment of other combat means and becomes part of the commander's plan of operation. An effective fire support plan requires continuous, detailed, concurrent planning and coordination at all echelons. Channels for requesting fire support are shown in figure 11.

b. Personnel Involved in Fire Support Planning.

(1) *Fire support coordinator (FSC).* See paragraph 36.

(2) *S3.* See paragraph 29.

(3) *Others.* Personnel who participate in fire support coordination are determined by the type of operation and fire support means available. They may include—

(a) Representatives of other Army support agencies to include commanders of attached armor unit(s).

(b) The S3 Air.

(c) A forward air controller (FAC).

(d) A naval gunfire liaison officer (NGFLO).

(e) Others, as required, including intelligence personnel.

c. Fire Support Portion of the Commander's Concept.

(1) The commander includes a statement in his concept of his desires as to the employment of supporting fires. He points out general target areas which he feels will be of

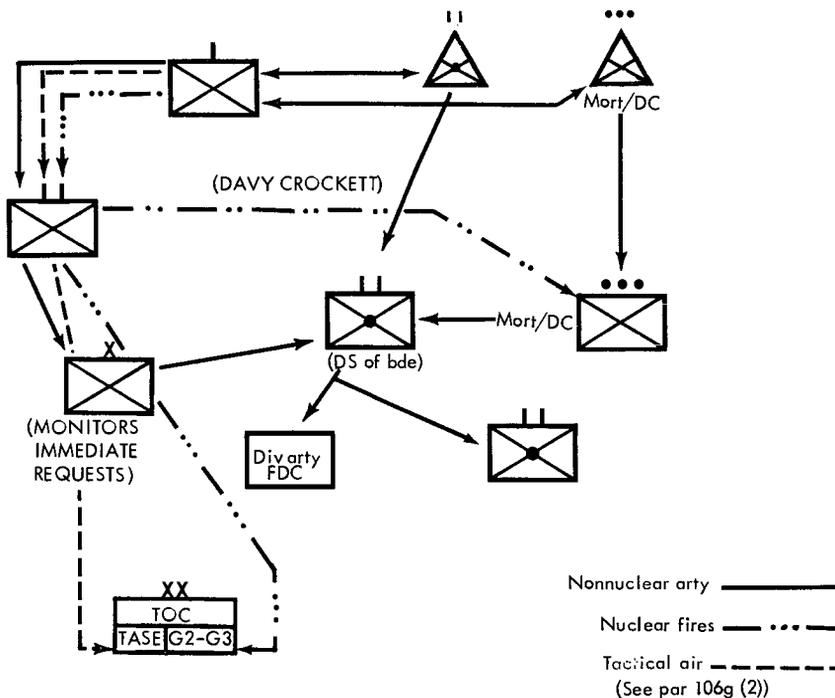


Figure 11. Fire support request channels.

primary concern to his battalion. He indicates the results he wishes to obtain from fire support and may prescribe a schedule for employment.

- (2) As part of his concept the commander indicates which unit will receive the priority of fires.

d. Production of the Fire Support Plan.

- (1) After the commander issues his concept, his staff and company commanders immediately start developing the plans of operation, including fire support. Each unit commander and his forward observer(s) plan the employment of fires as required to support the other elements of the unit's plan of operation. Targets suitable for attack by the unit's organic weapons are so designated so far as weapons and ammunition availability permit. Additional fires for the attack of targets are then requested by the forward observer(s) from the fire direction center of the artillery battalion in direct support of the brigade and/or the mortar and Davy Crockett

platoon of the battalion. The fire support coordinator integrates into the battalion fire support plan the requirements established by:

- (a) The battalion commander and his staff.
 - (b) The company commanders.
 - (c) Higher headquarters; e.g., a requirement to support the attack of another battalion.
- (2) To meet the fire support needs established, the fire support coordinator first applies the fire support means under battalion control. He informally requests additional fires from the brigade fire support coordinator. When approved by the battalion commander, the completed fire support plan is disseminated to all concerned. Portions of the plan dealing with requests for artillery fires, nuclear and naval fires, and preplanned air strikes, all previously approved informally by the brigade FSC, are forwarded to brigade headquarters for final coordination and allocation of the required means. The fire support plan is added to and modified continuously as required by the situation.
- (3) The completed fire support plan is designed to provide detailed coverage of all critical areas within range of organic, attached, and other fire support means available to the battalion. In offensive operations, plans are prepared for fires on critical areas initially beyond the range of these means, but which will come within range when the weapons displace as the attack progresses. Such areas normally extend at least through the first objective assigned by the brigade. Supporting fires can then be shifted rapidly to targets or areas not specifically included in the fire support plan.
- (4) Concentrations are referred to in the fire support plan by a common numbering system that is usually specified in the division SOP. Groups of concentrations may be designated by a code to facilitate the simultaneous delivery of heavy volumes of fire in certain areas.
- (5) Ideally, the fire support plan is produced as a completed plan prior to dissemination. This may be impractical because of time limitations. In this case, the operation order is frequently issued initially without the fire support plan annex and its detailed appendices. The initial order will contain the fire support portion of the commander's concept, as well as information of direct support and reinforcing or attached fire support units

available. Details of the fire support plan and approval of these details are sent piecemeal between the battalion and subordinate units. Ultimately, the completed fire support plan becomes an annex to the operation order and the detailed fire plans such as artillery, air and naval fire plans become appendices to this annex.

e. Special Considerations.

- (1) Tanks, weapons of the antitank platoon, and other direct fire means are normally assigned missions which preclude their integration into the battalion fire support plan. If these weapons are employed as fire support and are included in the battalion fire support plan, it must be understood by all concerned that their fires may be withdrawn any time they are needed for their primary mission. On occasion, the battalion or higher commander may assign specific direct fire weapons a primary mission of providing fire support for prescribed periods. If so, these fires become a part of the battalion or higher echelon fire support plan.
- (2) Preplanned air strikes should be incorporated into the fire support plan. Alternate plans should be made to cover the targets in case air strikes cannot be delivered. Safety measures are planned if strikes are to be delivered within the bomb line. Troops whose positions may become endangered by bombs delivered from high speed aircraft are warned, and appropriate markers are employed.
- (3) At times, air defense units with a surface-to-surface capability may be placed in support of or attached to the battalion for use in a ground support role. Appropriate information concerning their fires is included in the fire support plan. If portions of these units are further attached to subordinate units of the battalion, integration of their fires is based upon the same considerations as indicated in (1) above. The use of these units in the air defense role is covered in paragraph 97b.

f. Methods of Requesting and Controlling Fire Support Other Than Artillery.

- (1) *Naval gunfire.* Naval gunfire is planned by the naval gunfire liaison officer and integrated in the fire support plan by the battalion FSC. The request for this fire is forwarded to the brigade FSC at the same time the request for other fire support is made. For targets of opportunity, gunfire from direct or general support ships

is requested and adjusted by attached shore fire control parties, or by any observer through naval gunfire communication channels.

(2) *Tactical air support.*

- (a) Tactical air support includes close air support and tactical air reconnaissance. Battalion requirements for close air support are coordinated with the battalion FSC and submitted by the battalion S3 Air. Preplanned and immediate requests are sent through the air request net.
- (b) Requirements for preplanned close air support are incorporated into the battalion fire support plan and are forwarded by battalion S3 Air to brigade S3 Air. Requirements for preplanned tactical air reconnaissance are forwarded by the battalion S2 to brigade S2 Air through the Army air request net.
- (c) Immediate tactical air reconnaissance requests are coordinated with the battalion S3 Air to insure the requests are forwarded by the most expeditious means of communications. Immediate requests for close air support and tactical air reconnaissance are monitored by brigade. If brigade approves, they remain silent. If they disapprove the request, they notify division and inform the requesting unit of the fire support or reconnaissance means to be employed, as appropriate.
- (d) The division provides an Air Force forward air controller (FAC), as required, to the battalion as the chief advisor to the battalion commander on tactical air support matters. He is also responsible for directing air strikes on targets located in the vicinity of supported ground forces. Upon attachment to a battalion, the FAC becomes a member of the air control team (ACT) which is organic to the battalion communication platoon and provides communication and transportation necessary to direct air strikes.

107. Special Nuclear Considerations

a. *Importance of Nuclear Fires.*

- (1) A sizable portion of the potential combat power of the infantry battalion lies in its organic nuclear support capability and in the additional nuclear support available from higher headquarters. A portion of this combat power will often be available to the battalion and must be carefully considered in reaching tactical decisions. When retained in reserve, nuclear weapons permit the

commander greater flexibility in the rapid application of combat power at the proper time and place.

- (2) In stating his command guidance concerning the employment of nuclear weapons, the commander normally gives necessary guidance concerning any of the following which are not adequately provided for in existing SOP—
 - (a) General scheme for the integration of nuclear fires with other weapons and maneuver.
 - (b) Desired results of the nuclear attack.
 - (c) Troop safety.
 - (d) Limiting requirements (i.e., probability of fallout, tree blowdown, destruction of towns, etc.).

b. Integration of Plan of Nuclear Fires With the Plan of Operation.

- (1) The plan for nuclear weapons employment both supports and influences all other elements of the plan of operations. The scheme of maneuver and the plan for nuclear and nonnuclear fire support are inseparable and must be prepared concurrently. The availability of nuclear fires may favor the adoption of a scheme of maneuver which may otherwise be impracticable. The battalion commander may find that his scheme of maneuver will be based upon or significantly influenced by the fire support plan of a higher headquarters.
- (2) Nuclear fires are most effective when exploited by ground action. Therefore, where practicable, provisions should be made for their timely exploitation in all types of tactical action, including defense. However, the inability to fully exploit the effects of a nuclear weapon does not necessarily preclude its employment. Nuclear fires may also be exploited by nonnuclear fires which can prevent or delay enemy reorganization, reinforcement and evacuation of casualties.
- (3) The disadvantages of employing nuclear weapons must be considered. The obstacles and debris created by nuclear fires may slow an attacking force more than the action by the enemy. They may also be a hinderance or an aid to a defending force. Residual radiation produced by neutron-induced gamma activity and from fallout can seriously interfere with friendly operations.

c. Nuclear Fire Planning.

- (1) The target analysis and weapon delivery data, exclusive of employment time, are calculated for on-call fires and

included in the nuclear fire plan. On-call fires may be planned for areas where the suitable targets are likely to develop. To the degree possible, plans are made to use all available types of delivery means against on-call targets. Selected on-call targets are assigned relative priorities for the preparation of employment data. It is often possible to obtain on-call nuclear fires within a very short time after they have been requested and approved. Minor changes in distance and direction can usually be made with little loss in time, provided the same planned delivery means are used. A change of delivery means and major changes of distance or direction usually cause a considerable delay. Targets engaged under these circumstances should be considered as targets of opportunity.

- (2) Targets of opportunity are analyzed and the employment data calculated as rapidly as possible consistent with the need for accuracy and the time available. In planning nuclear fires on targets of opportunity, the fastest means of delivery consistent with troop safety and the maximum contribution to the accomplishment of the mission should be utilized. Nonnuclear fires may be used to fix fleeting targets until nuclear fires can be employed.

d. Selection of Weapons.

- (1) When a preliminary determination has been made to use a nuclear weapon, the commander should furnish guidance to the target analyst as described in paragraph 107a(2). The target analyst will select a delivery system and a weapon from those allocated to the commander. When none of the weapons available can be employed within the limits prescribed by the commander, the target analyst so notifies the commander, advising him as to what weapons most nearly meet his guidance. The commander then decides whether to fire one of the weapons available to him or request allocation of additional weapons.
- (2) The number and type of weapons available to the battalion are determined by higher echelons of command. This should not preclude requests for specific weapons not included in such allocations. From the weapons allocated to him, the battalion commander must make maximum use of available weapons by proper target analysis, selectivity in the choice of targets, and maximum exploitation of the effects of the strikes.

- (3) The extent of damage desired is determined by the commander who plans or requests the fire. To establish the amount of damage desired, he considers his mission, the enemy situation (to include state of combat training and defenses against nuclear weapons), the terrain and weather, and the safety of his troops. His decision constitutes the basis for weapons planning.
- (4) Troop safety is a prime consideration in planning the employment of nuclear weapons. Commanders must determine the safety criteria desired for each nuclear strike and inform nuclear weapons employment officers and other operational planners during the planning stage.
- (5) The fleeting nature of a target may be the overriding consideration in determining whether or not a nuclear weapon will be employed against it. Intelligence processing and confirmation reports concerning the target must be expedited to the maximum.

e. Type of Burst.

- (1) Normally, the height of burst is selected that will cause maximum casualties or damage to the target consistent with troop safety and limiting requirements.
- (2) When fallout producing bursts are authorized and it is desired to deny the enemy an area that will not be used by friendly forces, a surface or subsurface burst may be used to contaminate the area with residual radiation and to form a crater. This may be particularly useful in areas where routes for movement are few or pass through defiles. Wind velocity and direction with respect to the location of friendly forces are critical to a decision to employ a surface or subsurface burst.

f. Troop Safety Procedures.

- (1) A nuclear safety line for each nuclear weapon or group of nuclear weapons employed is established in advance of the time of employment. A succession of nuclear safety lines is planned for offensive or retrograde operations.
- (2) In an attack, nuclear safety lines may be planned in conjunction with either on-call or scheduled fires.
- (3) Troops must be warned of a nuclear attack in time to take necessary protective measures as directed by the commander. The warning to units must be at the latest practicable time, and the protective measures taken must

be concealed from enemy observation to insure minimum reaction time for the enemy. See chapter 5, DA Pam 39-1.

- (4) In conjunction with plans for nuclear fires, CBR plans must provide for radiological monitoring and survey and for actions to be taken in the event of radiological contamination.
- (5) Commanders must personally approve any deviation from the safety criteria.

CHAPTER 5

THE OFFENSE

Section I. GENERAL

108. Mission

The mission of the battalion in offensive action is to close with and destroy or capture the enemy. The battalion accomplishes this mission by a combination of fire, maneuver, and close combat.

109. Employment of the Battalion

a. The maneuver units of the division are the infantry battalions, the tank battalions, and the armored cavalry squadron. Infantry and tank units normally are employed by the three brigades. The infantry battalion may be employed as part of a brigade making the division main attack, secondary attack, or as part of the reserve. Rifle companies from an infantry battalion may be attached to a tank battalion, to the armored cavalry squadron, or, exceptionally, to another infantry battalion. Similarly, tank companies (and, exceptionally, cavalry troops) may be attached to an infantry battalion, thereby forming a task force. On occasion, battalions may operate directly under division or companies under brigade control. If the battalion is to execute an independent mission, normally a task force is organized using the battalion as a nucleus. For administrative support elements normally accompanying attached or detached units, see paragraph 194*b*.

b. The method of employment of the battalion will vary with the organization and mission of the brigade to which attached or its parent division. As an example, a mechanized infantry battalion in an armored division is normally employed to support the advance of tank elements. In the infantry and mechanized divisions, the reverse is true; armored elements are used primarily to support the advance of infantry elements. This may vary even within divisions where brigades may be tailored for a specific mission. For example, in a tank-heavy mechanized brigade in the exploitation, the mechanized infantry battalions would normally support the advance of tanks. In an infantry-heavy armored brigade seizing a large town or wooded area, the tank battalions would support the advance of mechanized infantry battalions.

c. Because of the variation in employment, battalion commanders must remain flexible and gear their actions to their organization and the organization and actions of the higher headquarters. An infantry battalion, regardless of type, must retain its versatility to the extent that it is not limited to a single type of offensive operation or a particular form of mobility. Infantry units must be capable of fighting with or without vehicles, with minimum adjustment in personnel and equipment, whenever dismounted, mechanized, motorized, amphibious airmobile, or joint airborne operations are required.

110. Principles of War

In each offensive action, the battalion commander must apply certain of the principles of war in the accomplishment of his mission. These principles, which are outlined below, are not inflexible rules, but are applied as required by each situation.

a. *Objective.* The maximum available maneuver strength and fire power of the battalion is directed toward the seizure of the final objective. Each task assigned to a subordinate unit must contribute to the seizure of this objective.

b. *Mass.* When information is lacking or the enemy's weaknesses cannot be determined, the battalion commander employs the smallest practicable force initially. He withholds reserves from the action so that he can employ them at a decisive time and place. The commander must also control his fire support so that he can shift and mass it rapidly at a critical point. When the opportunity for decisive action presents itself, the commander unhesitatingly commits his total resources to accomplish his mission.

c. *Offensive.* After the attack is launched, every effort is made to maintain its momentum until the objective is seized. Retention of the initiative is vital to successful offensive operations.

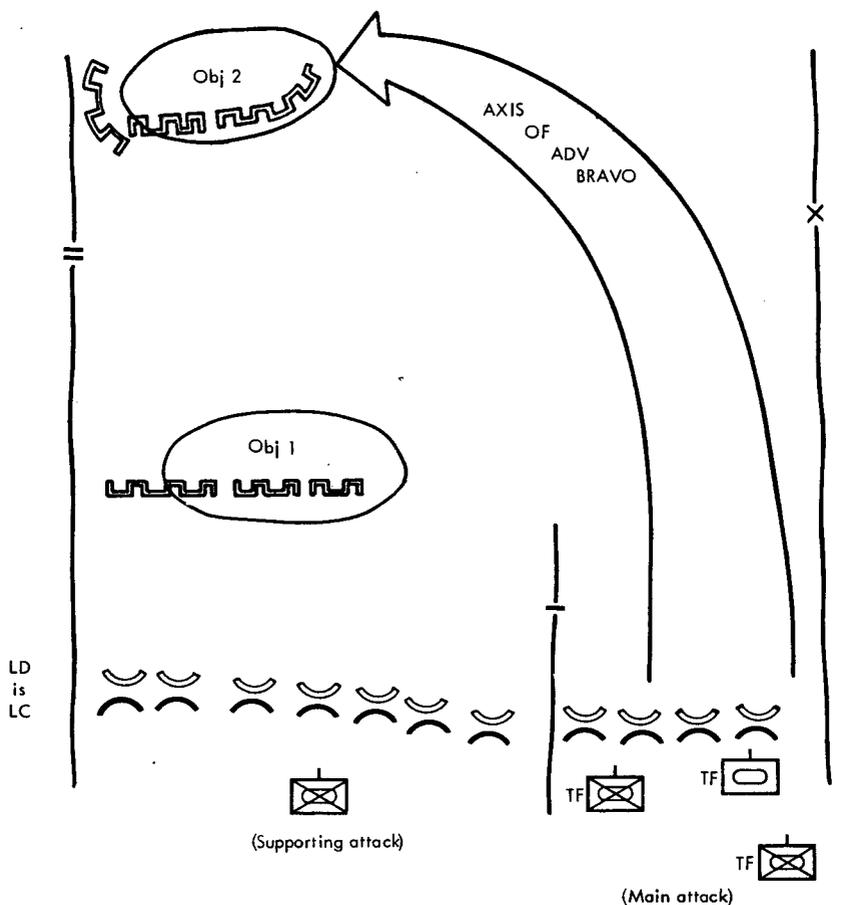
d. *Maneuver.* In the conduct of the attack, the commander maneuvers his forces so as to place the enemy at a relative disadvantage. He does this by avoiding enemy strength, engaging the enemy on terrain of the commander's choice, and exploiting located enemy weakness.

e. *Surprise.* The commander may achieve surprise by attacking the enemy at a time, place, and in a manner which the enemy has not anticipated. Attacking habitually at a certain hour or in a certain pattern should be avoided.

f. *Security.* In each offensive action, measures must be taken to prevent surprise, preserve freedom of action, and deny the enemy information of friendly forces.

g. Simplicity. Uncomplicated plans and clear, concise orders promote common understanding and intelligent execution. If other factors are equal, the simplest plan is preferred, since it can be more readily altered to exploit opportunities and meet unforeseen conditions.

h. Unity of Command. Although the commander allows maximum freedom of action in carrying out his orders, he insures that there is a unity of effort and an effective integration of all elements of combat power.



NOTE: NOT TO SCALE

Figure 12. Battalion conducting an envelopment (schematic).

i. Economy of Force. The commander allocates only those forces necessary for supporting attacks in order to insure maximum combat power at the point of decision.

111. Forms of Maneuver

The battalion may conduct or participate in either of the two basic forms of offensive maneuver: the envelopment or the penetration.

a. In an envelopment, the main attack passes around or over the enemy's main defensive force to seize objectives which facilitate his destruction in position (fig. 12). In the turning movement, a variation of the envelopment, the attacking force passes around or over the enemy's main force to seize an objective deep in the enemy's rear which will cause him to abandon his position or to divert major forces to meet the threat of the turning force and thus fight on the ground chosen by the attacker. Secondary attacks engage the enemy in position during the movement of the enveloping force. The battalion may be all or part of the engaging or the enveloping force of the brigade. It can also conduct envelopments of limited scale within its own means. Supporting airlift and/or availability of armored personnel carriers facilitate conduct of the envelopment.

b. In a penetration, the main attack passes through and ruptures the enemy's principal defensive position to destroy the continuity of his defense (fig. 13). The penetration normally consists of three phases: rupture of the enemy's forward defensive position; widening the gap; and seizing objectives which destroy the continuity of his defensive position. These phases may not be separate but may overlap as part of a continuous operation. A penetration is required when the enemy has no assailable flank, or when time or other reasons do not permit execution of an envelopment. Infiltration is a technique of accomplishing the penetration (par. 168).

c. The choice of a specific form of maneuver is influenced by the mission, enemy situation, terrain and weather, and troops available.

- (1) *Ground envelopment* requires that the enemy have an assailable flank, i.e., one which can be circumvented without fighting a major engagement. *Aerial envelopment* requires suppression of enemy air defense fires, or that enemy dispositions and capabilities be unable to interfere materially with the flight of the airlifted force.
- (2) *A penetration* is favored under the following conditions: when the enemy is overextended; weak spot(s) are de-

tected in the enemy position; and strong fire support, particularly nuclear fires, is available.

Section II. PLANNING THE ATTACK

112. General

Upon receipt of an attack order, the battalion commander and staff follow the sequence of actions outlined in paragraph 53. As part of the normal planning process, the commander formulates a plan of attack. This plan consists of a scheme of maneuver and a plan of fire support. Both are developed concurrently and must be closely integrated. The plan of attack also covers the essential details of security, administrative support, and the establishment of the communication system necessary for control.

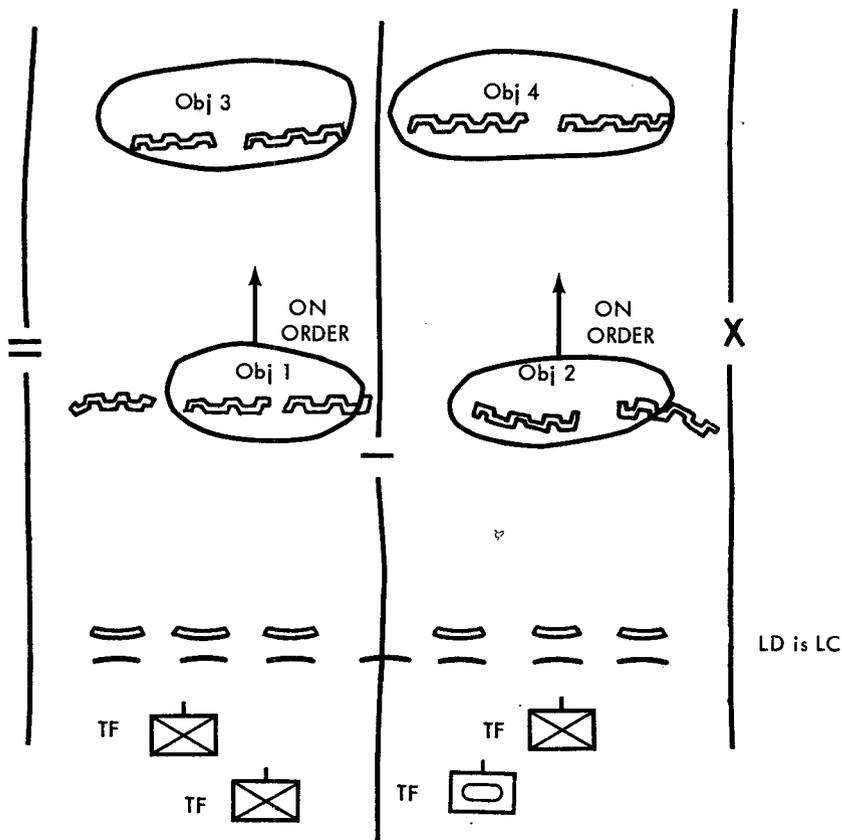
113. Development of Scheme of Maneuver

a. General. The organic maneuver elements of the battalion are the rifle companies and the reconnaissance platoon. The scheme of maneuver is the plan for the placement and movement of these and attached maneuver units to accomplish the mission. Throughout the development of the scheme of maneuver, the commander and staff consider the mission, enemy, terrain and weather, and troops available and their effect on the plan of attack.

b. Sequence. In developing the scheme of maneuver, the battalion commander and staff normally follow a logical planning sequence similar to that outlined below:

- (1) Analyzes mission and all available information.
- (2) Selects company objectives.
- (3) Determines forces necessary to seize objectives.
- (4) Determines main and supporting attack and probable use of reserve.
- (5) Selects approaches to objectives.
- (6) Determines organization for combat and formations.
- (7) Establishes control measures required.
- (8) Establishes security measures required.
- (9) Determines administrative support requirements.
- (10) Considers actions following seizure of objective and alternate plans for foreseeable contingencies.

The sequence outlined above is flexible and may be adjusted to the situation, type of operation or the personality of the commander. Some of the steps may be considered concurrently and some may be revised as the planning is carried out. In appropriate



NOTE: Leading company task forces seize Obj 1 & 2; on order continue attack to seize Obj 3 & 4. Reserve TF are prepared to assume missions of leading TF.

NOTE: NOT TO SCALE

Figure 13. Battalion conducting a penetration (schematic).

steps in this sequence, the plan of fire support is also considered and developed. This sequence complements the command and staff actions outlined in paragraph 53.

114. Analysis of Offensive Mission

The first step in developing a scheme of maneuver is a thorough analysis of the battalion mission and consideration of all available information of weather, terrain, and friendly and enemy forces. The commander must study his order to insure that he understands

all tasks, stated and implied, which the battalion must accomplish. Frequently these tasks are stated in terms of objectives which must be seized.

115. Selection of Objectives

a. A battalion objective(s) is normally designated by the brigade commander. It is usually one or more key terrain features which provide observation, block avenues of approach, and facilitate the deployment of forces to their rear and continuation of the attack.

b. The area designated as an objective must be seized and controlled; physical occupation of the entire area is not necessary. When the area is large, the battalion frequently seizes only the dominant terrain within it and controls the rest of the area by fire and other means.

c. To insure seizure of the battalion objective, the battalion commander will designate company objective(s). These may coincide, collectively, with the battalion objective. In other circumstances, company objective(s) may consist of key terrain features (on or near the battalion objective) the seizure of which will insure control of the battalion objective. In either case the objective(s) must be clearly defined.

d. Objectives should have the following characteristics:

- (1) Contribute significantly to the accomplishment of the battalion mission and aid future operations.
- (2) Be easily identified.
- (3) Be capable of seizure by units within the time and space limits imposed.

e. For considerations in selecting intermediate objectives, see paragraph 124.

116. Forces Necessary to Seize Objectives

As the commander is determining the location and size of company objectives, he considers the amount of force which will be required to seize and control these objectives. He analyzes the friendly and enemy capabilities and the terrain and tentatively establishes whether one or more companies is required for seizure of the battalion's final objective. He evaluates his total combat capability to include fire support and maneuver elements. Concurrently he considers the possible need for attaching fire support or maneuver elements to units which will seize objectives.

117. Main and Supporting Attacks

After determining the force required to seize the final objective, the commander normally designates a main and secondary attack.

a. *Main Attack.* The main attack is directed against the objective which best facilitates the accomplishment of the battalion mission. First priority in allocation of combat power is given to the main attack. The main attack force may be weighted by the personal presence of the battalion commander, placement of attached and supporting units, by the allocation of fires, and by positioning of the reserve to facilitate its employment in the area of the main attack.

b. *Supporting Attack.* When a supporting attack is used, it is planned to assist the main attack. The commander allocates the minimum necessary combat power to the supporting attack. It may deceive the enemy as to the location of the main attack, seize terrain which facilitates the maneuver of the main attack, contain the enemy in an area, or induce the enemy to dissipate his combat power outside the decisive area. If the supporting attack becomes more successful than the main attack, it may become the main attack. Under these conditions the commander shifts available combat power to weight the new main attack. Due to terrain conditions and enemy defenses, a commander may plan to have a unit make the main attack initially until a certain condition is created or a certain area is reached, then convert a supporting attack to the main attack.

c. *Unweighted Attack.* When two approaches offer equal opportunities, the commander may not designate main and supporting attacks, but may plan means for weighting either attack according to the situation that develops.

118. Reserve

a. Concurrent with a determination of the size of the main and supporting attacks, the commander considers the size and probable use of the reserve. It consists of all uncommitted maneuver elements and is constituted to provide flexibility, security, and a means to influence the action. On occasion the reserve may include nuclear fires.

b. The reserve is used primarily to facilitate accomplishment of the battalion mission, to deal with unforeseen contingencies, and/or to exploit success. Its missions include—

- (1) An attack to exploit an enemy weakness.
- (2) An attack from a new direction on an enemy position which, because of its strength, has halted or threatens to halt the advance of the attacking echelon.
- (3) An operation against the hostile rear area to extend an envelopment or exploit a successful envelopment.

- (4) The assumption of the mission of an attacking element that has become disorganized, depleted, or for any reason has been rendered ineffective.
- (5) The reduction of enemy resistance that may have been bypassed by the attacking echelon or that may subsequently develop to the rear of the attacking echelon.
- (6) The protection of the battalion's flanks and rear.
- (7) Providing the final blow necessary to capture a final objective.
- (8) The assistance of adjacent units when such action favors the accomplishment of the battalion mission.
- (9) Exceptionally, part of the reserve may be employed to maintain contact with adjacent units.

c. In the offense, the reserve remains dispersed but is located to facilitate its rapid movement to points of probable employment. It is normally positioned to favor the main attack, provide security to the command, and/or provide protection against hostile observation and fire.

119. Selection of Approaches to Objectives

a. In selecting approaches to objectives, consideration is given to adequate maneuver space, ease of movement, fields of fire, concealment and cover, and minimum vulnerability. An approach preferably includes dominating terrain that affords good observation. It is essential that terrain dominating the zone be either seized or neutralized. Consideration is given to the obstacles which may be created in forested areas and cities through blowdown from nuclear fires.

b. The requirements for speed of movement and seizure of commanding ground are often in conflict. The battalion commander may plan to bypass high terrain, neutralizing it with nuclear or other weapons. If terrain is so dominating that its occupation by the enemy will endanger the mission, and if other measures will not counteract the threat, the terrain may be designated as an intermediate objective.

c. Although the commander will normally choose the best approaches, he should not discount the feasibility of selecting less desirable approaches to achieve surprise and thwart the main enemy defenses which are usually astride the best approaches.

d. As the battalion commander examines the approaches, he must mentally war-game how he intends to conduct the operation. With the objectives and the size of the force tentatively determined, he may find that the approaches to the objective dictate

a possible change in the scheme of maneuver. The approaches may also dictate that the operation be phased, with the main effort shifting from one force to another.

120. Organization for Combat

a. The commander designates command relationships and tailors his units to establish an organization for combat. The battalion is tailored by the brigade to fit the mission and the situation. This may include attachment of one or more tank companies and/or detachment of one or more rifle companies to form a battalion task force.

b. The battalion commander tailors organic or attached companies by employing them as pure (all elements from a single arm) or cross-attached units. If tank units are made available to the battalion, he may organize companies as infantry-heavy, tank-heavy or unweighted (equal number of tank and rifle platoons) company task forces (fig. 14).

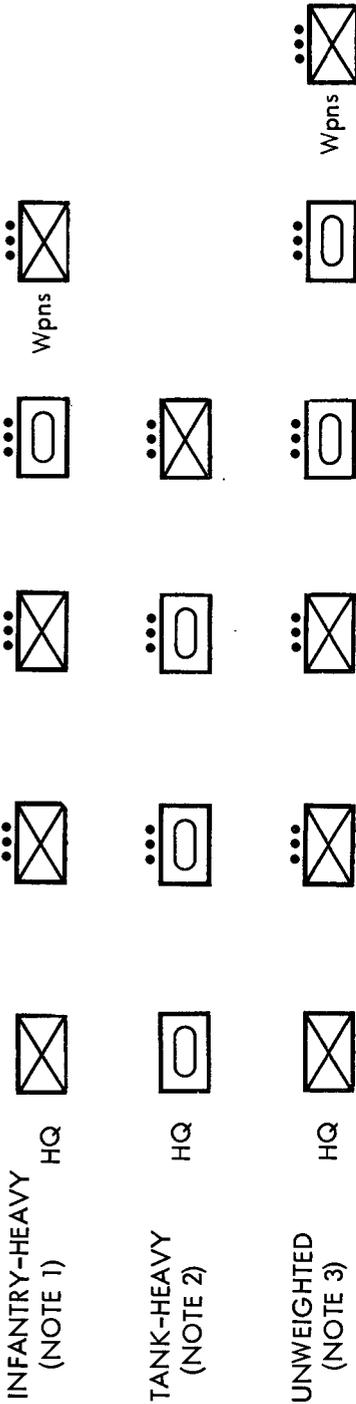
c. The battalion commander may attach a tank platoon(s) to a rifle company(ies) and a rifle platoon(s) to the tank company(ies) to maximize the capabilities of tanks and infantry. A rifle or tank platoon is usually the smallest unit attached to a company in offensive operations. A task force organized around a rifle company headquarters is normally infantry-heavy (contains more rifle platoons than tank platoons), while a task force organized around a tank company headquarters is normally tank-heavy.

d. A tank-heavy company task force is best used where terrain is suitable for tank employment, the enemy is strong in armor, and great shock action and speed are desired.

e. A dismounted infantry-heavy company task force is best used where an obstacle must be breached, antitank defenses are strong, a built-up area must be seized, or terrain is unfavorable for employment of a substantial number of armored vehicles.

f. A mechanized infantry-heavy company task force is best used where an obstacle must be breached, antitank defenses are strong, a built-up area must be seized, and terrain allows employment of mechanized forces.

g. The organization for combat is determined after a consideration of the battalion mission, missions assigned to subordinate units, the terrain and enemy strength in each company area, and the amount of combat power, including maneuver and fire support units, available to the battalion commander.



- NOTES:
- (1) A task force organized around a rifle company headquarters is normally infantry heavy.
 - (2) A task force organized around a tank company headquarters is normally tank heavy.
 - (3) An unweighted task force may be organized around a rifle company or tank company headquarters, as appropriate.

Figure 14. Types of company task forces.

h. For the attack, the battalion commander usually establishes a command group as described in paragraph 47, and he may include the commanders of attached, supporting, and reserve units. The commander may direct the executive officer to accompany a portion of the attacking elements. The executive officer must maintain communication with the battalion commander and be prepared to assume direction of the operation if, for any reason, the commander cannot retain control.

121. Formation for the Attack

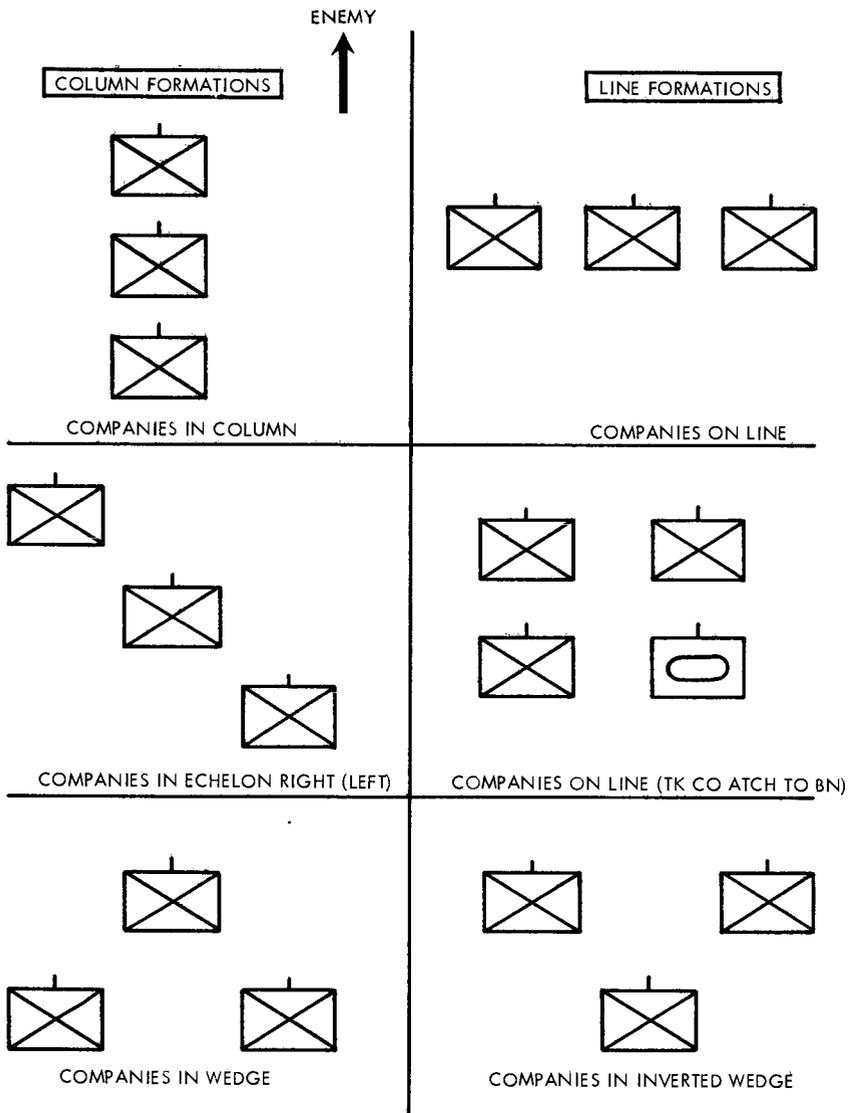
a. General. A formation for an attack is selected to provide the necessary degree of security, flexibility, control, dispersion and combat power over the enemy where required. The battalion uses two basic formations, the column or line, or some variation thereof. The column formation for the battalion has one company in the attack; the line formation has two or more companies in the attacking echelon.

b. Column Formation. A column formation maximizes flank security and flexibility (due to strong reserves), and facilitates control. The flexibility of the column formation for the dismounted battalion is, however, reduced considerably due to the time required for reserve companies to move against enemy encountered to the front. The following factors favor a column formation:

- (1) Deep objectives.
- (2) Vague enemy information.
- (3) Strong flank security requirement.
- (4) Restrictive terrain or poor visibility.
- (5) A need to concentrate supporting fires in one area.
- (6) Initial enemy resistance can be eliminated by one company.
- (7) A high degree of vehicular mobility.
- (8) Nuclear fire support allows use of a one-company attack.

c. Line Formation. A line formation maximizes combat power to the front and flexibility in commitment of reserve units. The following factors favor a line formation:

- (1) Shallow objectives strongly held by the enemy.
- (2) Planks are secure.
- (3) Multiple approaches.
- (4) Fire support adequate to support all attacking companies.
- (5) Lack of a requirement for a strong reserve.
- (6) A mission of clearing a zone.



NOTE: NOT TO SCALE

Figure 15. Battalion attack formations.

- (7) Need to close rapidly with the enemy with the bulk of the battalion.
- (8) Dismounted operation.
- (9) Major enemy strong points and troop concentrations are known.

d. Variations of the Line and Column Formations. The two basic formations may be varied when the situation does not allow use of a pure line or column formation. These variations include the echelon right or left, the wedge, and the inverted wedge (fig. 15).

122. Use of Control Measures

The battalion commander employs those control measures necessary to control the attack. He employs the minimum control measures required to insure that the operation progresses according to his concept.

123. Objectives

See paragraph 115.

124. Intermediate Objectives

The battalion commander may assign intermediate objectives to companies. Only the minimum number necessary are designated since their seizure may slow the attack, restrict maneuver, and cause excessive massing. A terrain feature may be designated as an intermediate objective under the following conditions:

a. Its occupation by the enemy will interfere with the progress of the attack.

b. It is anticipated that prolonged and difficult combat on or about it will be necessary before the battalion can proceed to its final objective.

c. Seizing it would facilitate control of subordinate units where observation is limited or where, for any other reason, difficulty in control can be anticipated.

d. It is needed for positioning subordinate units and weapons to insure close coordination of an attack by more than one company against a strong enemy position.

125. Zone of Action

a. A zone of action is an area bounded by the line of departure, final objective, and boundaries on one or both flanks. Boundaries on unexposed flanks are specified while the boundary on an exposed flank may not be specifically designated. Each unit has complete

freedom of maneuver and fire within its assigned zone. When the commander of a unit desires to enter or fire into the zone of an adjacent unit, he coordinates the matter with the adjacent unit commander and notifies the next higher commander of the action.

b. A zone denotes responsibility for a given area and is used to control the fires and maneuver of adjacent attacking companies, and to denote responsibility when an area is to be cleared of enemy forces. When clearance of a zone is required the order must so direct. If clearance of the zone is not required, bypassed resistance is reported to the next higher commander.

c. Zones are often used when two or more companies are attacking abreast in close proximity to each other and/or for coordinated attacks against strong resistance.

d. Boundaries defining a zone of action extend only as far as the particular situation requires. They are usually drawn along easily recognizable terrain features in such a manner that division of responsibility for key terrain features is avoided. The zone should include desirable approaches to the objective(s) and allow for necessary dispersion and freedom of action. Boundaries should extend beyond the final objective to the depth necessary for coordination of fire support and for the seizure and consolidation of the objective. Regardless of other control measures used, the commander should designate boundaries between attacking companies in an objective area where two or more companies are to converge.

e. The frontage of a battalion or company in the attack may refer to the width of an assigned zone or to the lateral dispersion of the battalion or company at a particular phase of an operation. The width of the zone or area of operation depends on METT. Generally, it is desirable that the entire frontage be within range of weapons controlled by or available to the battalion. The frontage must provide sufficient maneuver space for subordinate units, yet not be so extended as to jeopardize control and mutual support. When zone clearance is ordered, frontages are normally less than when clearance is not necessary. Attacks in close terrain may have relatively narrow frontages.

126. Axis of Advance

a. An axis of advance indicates the general direction of movement of a unit. The axis may follow a well-defined terrain feature, such as a road or ridgeline. A unit advancing on an axis is not required to clear the area along the axis, and may bypass enemy forces which do not threaten the accomplishment of its mission. The higher commander is informed of such bypassing. A unit can

deviate from the axis, however, major deviation must be reported. Commanders must insure that deviation from the assigned axis of advance does not interfere with the maneuver or fires of adjacent units.

b. An axis of advance is used when conditions favor the use of a certain approach facilitating rapid seizure of a deep objective, and/or when no requirement exists for restriction of fires and lateral movement. Weak or disorganized enemy resistance favors the use of an axis of advance. The assignment of an axis gives general guidance to a subordinate, but allows him considerable latitude in accomplishing his mission.

c. When a company is assigned an axis of advance, it adopts the formation best suited to the situation. When two axes are used by the battalion, they should be far enough apart to insure freedom of maneuver on each, but close enough to permit the units on each axis of advance to maneuver in support of each other.

127. Direction of Attack

A direction of attack is more restrictive than an axis of advance. It designates the specific direction or route which the center of mass of the unit will follow. Because of its restrictive nature, it is used only when the battalion commander must maintain close control over the maneuver of a subordinate element along a specific route to insure the accomplishment of a closely coordinated scheme of maneuver.

128. Line of Departure

a. The line of departure (LD) is designated to coordinate the departure of attack elements. It should be easy to recognize on the ground and on the map, should be generally perpendicular to the direction of the attack, and should have covered and concealed approaches and afford protection from enemy observation and direct fire weapons. It should be under control of friendly forces and, if nuclear weapons are used, should conform to the commander's guidance on troop safety. When the line of departure cannot be fixed on terrain as in a counterattack, the anticipated line of contact may be designated as the line of departure (LD is LC).

b. The battalion commander may select a line of departure different from that specified by brigade, providing his leading elements cross the brigade line of departure at the time specified by brigade. When attacking units are widely separated, the battalion commander may designate separate lines of departure and times of attack.

129. Time of Attack

a. The time when leading elements cross the line of departure is the time of attack. It may be at a precise time, on a prescribed signal, on order or following the execution of a specified tactical action. Considerations in selecting a time of attack include: requirements imposed by higher headquarters; time required for subordinate units to reconnoiter, prepare and coordinate plans, issue orders, organize units and move to LD; and the need for surprising the enemy and taking advantage of his weakness before he can correct it.

b. The attack of subordinate elements may be echeloned in time to deceive the enemy and allow shifting of friendly supporting fires to successive attacks; however, a simultaneous attack usually prevents the enemy from concentrating all of his fires on a single attacking element.

c. When nuclear weapons are employed prior to an attack, their delivery is closely coordinated with the time of the attack. The time of attack should follow detonation of nuclear weapons as closely as possible to allow early exploitation of their effects; however, time may be required for tactical damage assessment and modification of the plan of attack.

130. Company Attack Positions

(fig. 16)

a. Company attack positions are used to facilitate deployment and last-minute coordination prior to crossing the LD. They should be located close to the LD and in defilade. Company commanders normally select and designate their own attack positions. The battalion commander may designate the company attack positions when he must maintain extremely close control in operations such as night attacks and river crossings.

b. Only assault units use attack positions. To preclude presenting a vulnerable target, units should be in attack positions for a minimum amount of time. Ideally, attacking companies should move through attack positions without stopping. When they have cleared the attack position, they should be deployed so that they will cross the LD in a suitable combat formation.

131. Assembly Areas

(fig. 16)

An assembly area is an area in which a command assembles preparatory to further action. The brigade will normally prescribe an assembly area(s) for the battalion. Within this area(s)

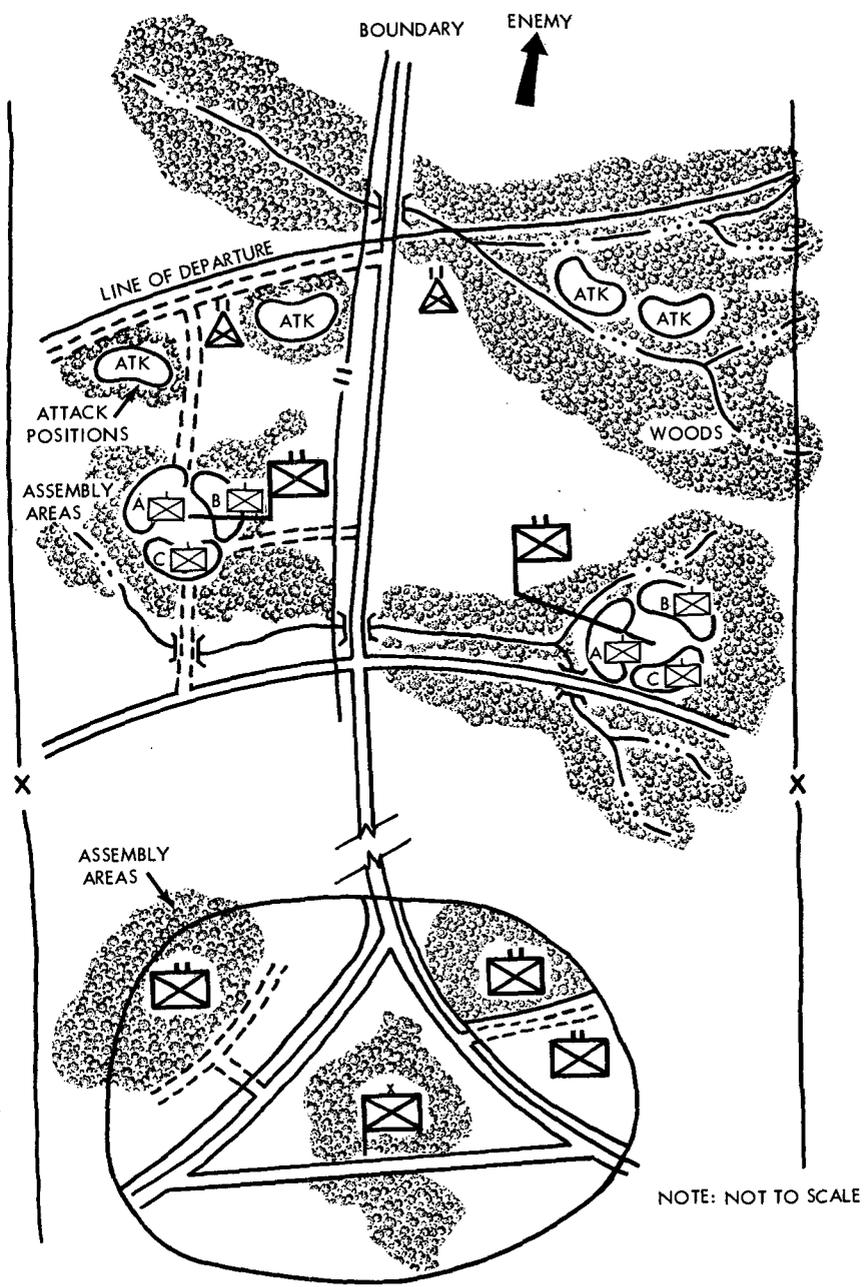


Figure 16. Assembly areas and attack positions.

the battalion commander designates dispersed company assembly areas where orders are issued, maintenance and supply are accomplished, and the organization for combat is completed. Assembly areas should provide concealment, dispersion, suitable routes forward, and security from ground or air attack. When possible they should be beyond the effective range of the bulk of enemy artillery.

132. Phase Lines

A phase line extends completely across the zone or likely area of action. It is located on an easily recognizable terrain feature such as a ridgeline, stream, or road. The phase line is used to control the forward movement of units which report arrival at (and sometimes clearance of) phase lines but do not halt unless so ordered. A phase line may be used to limit the advance of attacking elements or as a nuclear safety line.

133. Infiltration Lanes

Within the area of infiltration, lanes are designated to provide sufficient space for infiltrating groups to move by stealth. To facilitate the control and coordination of fires for an infiltration movement, the commander may use infiltration lanes in conjunction with the coded designation of the infiltrating groups, their established sequence of movement, checkpoints, and phase lines. Rallying points or areas are designated at appropriate locations along the infiltration lane(s) and in the objective area. Other control measures used in an attack by infiltration are attack positions and objectives (par. 168).

134. Check Points

Check points are reference points used to facilitate control. Check points may be selected throughout the zone of action or along an axis of advance or direction of attack. By reference to them, a subordinate commander may rapidly and accurately report his successive locations, and a higher commander may designate objectives, lines of departure, assembly areas, or other localities to subordinate commanders. For security, random numbering of check points is desirable. Check points are particularly useful in fast moving mechanized operations.

135. Contact Points

Contact points are designated between units or axes where the commander desires the units to make physical contact. Contact points may also be used to delineate areas of responsibility in

specific localities when boundaries are obviously unsuitable, e.g., between elements of a flank guard.

136. Other Control Measures

The commander may designate other control measures including a nuclear safety line (par. 105c), initial points (par. 419) and release points (par. 420).

137. Fire Support

a. Throughout the development of the scheme of maneuver, the commander considers the plan of fire support. A well-coordinated fire support plan encompasses all supporting fires, including those of organic and attached weapons, tanks, supporting artillery, tactical air, and nuclear weapons to include the use of radioactive fallout. The plan must be flexible and include preparatory fires, supporting fires during the attack, and fires to support the consolidation and/or the continuation of the attack. Nuclear and non-nuclear (including chemical) fires are coordinated to give the greatest possible support to attacking companies. The capability of rapidly massing fires is sought at each echelon. Plans provide for additional nuclear and/or nonnuclear fires and modifications in the scheme of maneuver to take care of failure of nuclear weapons to produce the predicted effects. Fire planning at all echelons is concurrent.

b. The effects of nuclear fires may strongly influence the scheme of maneuver, and the scheme of maneuver may be designed solely to exploit nuclear weapons or to cause the enemy to form into remunerative targets. The availability of nuclear weapons may make the penetration the more acceptable form of maneuver.

c. Troop safety is considered in planning and delivering nuclear and chemical fires. The commander announces in his planning guidance the maximum acceptable risk to which friendly forces may be exposed. To avoid unacceptable losses, nuclear fires may be employed to break through strong enemy positions. If the employment of nuclear weapons exceeds the announced risk, the commander may redispense his forces, use lower yield weapon(s), change location of the desired ground zero (DGZ), have protection for friendly troops increased, accept a higher degree of risk, use more accurate delivery means, change the weapon's height of burst, accept less target coverage, or use smoke for thermal shielding. If he cannot take these actions, he may place nuclear fires on enemy reserves and supporting units while he attacks the enemy defenses not affected by the nuclear strikes using non-nuclear fires and/or quick-acting chemical agents. When employing toxic chemical agents, downwind effects, troop masking re-

quirements, and traversal of impact areas are essential troop safety considerations.

d. Blowdown from nuclear fires creates obstacles in forested areas and cities. This tends to force attacking troops to slow down and/or mass. If the attack must pass through these areas, it may be desirable to reduce or eliminate nuclear fires. Toxic chemical agents can be employed for nonpersistent casualty effect in target areas where the creation of obstacles from nuclear weapons would place undesirable restrictions on maneuver. The possibility of danger from induced radiation, radioactive fallout, and fires ignited by thermal radiation is also considered when the scheme of maneuver is developed. Supporting engineers move well forward with the attack echelon to assist in either clearing located obstacles or to assist the attacking force in bypassing them.

e. To obtain the greatest advantage from nuclear weapons, their initial effects must be exploited. Any hesitancy may permit the enemy to regroup, reorganize, or send reinforcements into the area. The scheme of maneuver and plans for the placement of nuclear fires are designed to favor rapid exploitation. Exploitation is conducted with due regard to information gained from damage assessment.

f. To take full advantage of nuclear weapons, it is desirable that the yield of the weapon be commensurate with the size and type target. Nevertheless, a nuclear weapon may be employed on a target of any size and type which may jeopardize or unduly delay the accomplishment of the attack mission, even if it overkills or expends some of its effects on unoccupied areas.

g. The use of nuclear weapons for scheduled or on-call fires is determined when planning the attack. Known enemy positions that will be encountered early by attacking forces and enemy reserves that may be able to reinforce forward enemy positions are usually targets for scheduled nuclear fires. Enemy positions that are not fully occupied and other areas that may become appropriate for attack with nuclear fires are planned as targets for on-call fires. Enemy reserves and nuclear delivery means that can adversely influence the accomplishment of the mission are included as scheduled nuclear fire targets. Enemy positions deep in the rear which warrant nuclear attack are generally either included in the battalion plan as targets for on-call fires or are engaged by brigade or division with scheduled or on-call fires. Some of the available nuclear weapons should be held in reserve for targets of opportunity.

h. For details of fire support planning, see chapter 4.

138. Security

a. General. Throughout the preparation of the scheme of maneuver the commander considers the requirements for preserving secrecy, maintaining freedom of action, and avoiding unexpected interference by the enemy. Security in the attack is provided by the timely collection of information, dissemination of information and intelligence, counterintelligence measures, the use of security forces, the selection of proper formations, and the use of speed, dispersion, and deception. In planning the attack, probable enemy courses of action are considered and appropriate security measures decided upon to counter them. Army aircraft are used extensively for frontal, flank, and rear security. Security forces are located where they can provide warning in time for the battalion to react effectively to the threat.

b. Frontal Security. A reconnaissance unit of higher headquarters may precede the battalion. This does not relieve the battalion commander for security to his front. The battalion commander maintains contact with the forward security element by radio, organic reconnaissance units, or attached or supporting Army aircraft. Organic frontal security in an attack against known enemy is provided by attacking companies.

c. Flank Security.

- (1) The flanks of attacking battalions and subordinate companies are frequently exposed, and flank security is needed to give adequate warning of enemy approach. Measures which may be taken for flank security include: increasing the combat power of the flank company, positioning the reserve toward the exposed flank, or using organic or attached elements with the specific mission of securing the flank. Among the means used for flank security are the reconnaissance platoon and other organic units, attached ground reconnaissance elements, and air reconnaissance. Protection of an interior flank is usually provided by the presence of an adjacent unit, if that unit remains generally abreast. Rifle companies attacking on an interior flank are required to maintain contact with elements of the adjacent battalion. When this cannot be done or when contact is lost or the location of the adjacent unit would permit a hostile counterattack to strike the flank of the battalion, the battalion commander is so informed. He may then detail a flank security element to regain and maintain contact with the adjacent unit. When two or more companies are attacking on

line and gaps exist, visual, physical or radio contact is maintained between them.

- (2) Attacking companies normally secure their own flanks. When the flank of the battalion is exposed, and brigade has not assumed responsibility, a flank guard is designated and assigned an area of responsibility. In certain situations, the area may be designated as a series of terrain features. The flank guard operates within supporting distance of the battalion.
- (3) The battalion or flank guard commander selects a series of blocking positions on the flank and parallel to the direction of advance. The flank guard (motorized, mechanized or airmobile) regulates its movement with the battalion's rate of advance and, ordinarily, moves by bounds from one blocking position to the next. If the flank guard consists of two or more elements strong enough to operate semiindependently, they may leapfrog to successive blocking positions.
- (4) A dismounted flank guard is less effective than a mobile one. Usually it must march continuously or have its elements occupy a blocking position.
- (5) Where lateral movement is easier than parallel movement, elements of the flank guard may be dispatched laterally from the head of the column to designated terrain features and remain on them until the battalion passes, then rejoin their unit. Helicopters may be made available to move elements of the flank guard.

d. Rear Security. Rear security must be provided; however, the security force is kept to a minimum size consistent with the threat.

e. Control of Flank and Rear Security Elements. The battalion commander may employ flank and rear security forces under his control or he may have them operate under control of companies in proximity to them.

139. Administrative Support

In evolving the plan of attack, the battalion commander considers the impact of administrative support on the operation. Although the details in planning will be accomplished by staff members, the commander insures that adequate supplies are available and that supply, evacuation, and medical service support plans are complete. In a mechanized infantry battalion or when tanks are attached, particular concern must be given to the problems of class III supply and vehicular maintenance.

140. Communications

a. To control the attack, the commander must plan for and insure adequate communication with higher, lower, adjacent, attached and supporting units. A constant flow of information to and from these units enables a commander to make changes in the plan of attack and issue timely orders.

b. In a daylight and a mechanized attack, radio is a principal means of communication. However, within the means and time available, wire is installed to facilitate communications. Wire may be installed prior to the attack for use during periods of radio silence, in assembly areas and in the early stages of an attack.

c. Although radio is used as much as possible, for secrecy and surprise, its use may be restricted until a prescribed time. Radio listening silence is not carried to the point of making it a handicap rather than a protection. When it is probable that the enemy knows the location or anticipates the movements of friendly units, or after contact is made, little can be gained by continuing radio listening silence.

d. For detailed considerations of communication during the attack and actions of the communication officer, see Appendix V.

141. Actions in the Objective Area

The commander makes tentative plans for consolidation, reorganization, dispersion, and employment following seizure of the objective. Rapid dispersal is required. Dispersed positions must provide for defense of the objectives and facilitate resumption of the attack. Brigade guidance regarding actions in the objective area may be in the form of a defense order, a phase line which limits the advance, or a contingency mission.

142. Alternate Plans

The battalion commander prepares plans for all foreseeable contingencies. He considers what action the enemy might take to counter his attack and plans alternate actions to accomplish the mission if the primary plan fails.

Section III. ACTIONS PRIOR TO THE ATTACK

143. General

a. While the commander and staff are preparing the plan of attack as outlined in paragraphs 112 through 142, concurrent actions are being taken within the battalion to prepare the unit for its offensive mission. Normally, when the brigade order is re-

ceived, a warning order is issued to subordinate units to alert them for the pending operation. Detailed planning and preparation for the attack begins at the time of issuance of the warning order. Arrangements are also made for coordination with other units participating in the attack, movement of the battalion as required, and designation of time and place of issuance of the battalion order and personnel to be present.

b. After the attack order is issued to subordinate units, company commanders follow the same general sequence as outlined in paragraphs 112 through 142 in preparing their plan of attack. Adequate time must be allowed for all unit commanders to conduct a reconnaissance and plan and prepare for the attack.

144. Actions in Assembly Areas

Companies complete attack preparations and attached units are normally integrated into the attacking force in the assembly areas. Arrangements are made with attached units to have proper channels set on radios and to receive the current SOI. In mechanized operations, particular emphasis is placed on the refueling operation.

145. Refueling Areas

Assembly areas may be so far rearward as to require refueling prior to crossing the LD. In this case, forward refueling areas are designated and time is allowed for such refueling. Final coordination may be conducted concurrently with the refueling operation.

146. Coordination With Units in Contact

When the attack is preceded by a relief in place or passage of lines, time must be allowed for liaison with units to be passed through or relieved. Frequently, information of the enemy obtained from friendly forces in contact is the best source of combat intelligence (ch. 8).

Section IV. MOVEMENT TO CONTACT

147. General

a. A movement to contact may be required to place the battalion in position to close with the enemy. It may take place during the period between the loss of enemy contact and the time it is regained (as in a pursuit or exploitation) or when a unit in a rear area moves to engage the enemy. During this movement to contact the battalion commander distributes his troops to provide maximum speed and control consistent with adequate security.

b. The commander determines the probability of contact and directs the conditions of combat readiness accordingly. When contact is remote or improbable, the battalion may conduct an administrative move as outlined in chapter 12. When enemy contact is probable or imminent, a tactical move is conducted. The remainder of this section is concerned only with tactical moves.

148. Covering Force

a. It is desirable that a covering force precede the brigade or division in the advance to contact. This force may be assigned a mission of developing the situation, destroying enemy resistance, seizing key terrain, or delaying, deceiving and disorganizing the enemy until the main force can prepare for action.

b. A mobile unit such as the armored cavalry squadron or a mechanized infantry battalion provides the basic element of the covering force which normally operates under brigade or higher control. The battalion or squadron is appropriately reinforced to make it tactically self-contained. When the mechanized infantry battalion is assigned a covering force mission, it normally advances in a line formation. When terrain permits, tank elements usually lead the covering force and engineers (and artillery, if available) are kept well forward.

c. Covering force actions are characterized by speed and aggressiveness and by unhesitating attacks to eliminate enemy resistance. Every effort is made to insure the uninterrupted advance of the main body or to insure sufficient time and space for deployment of the main body.

149. Organization for Movement to Contact

Organization of a battalion for a movement to contact is essentially the same whether the battalion is the advance guard of a larger force or is operating independently. When a battalion is the leading element (exclusive of the covering force) of a larger force, it may be designated as the advance guard with the mission of insuring the uninterrupted advance of the main body (fig. 18). When it marches alone, the battalion commander usually designates a reinforced rifle company as the advance guard of the battalion (fig. 18). The advance guard is normally responsible for its own flank security.

150. Single Column Formation—Mechanized Infantry Battalion (fig. 18).

a. When contact is imminent but exact enemy dispositions have not been ascertained, the battalion commander may desire, for

greater security, to retain the bulk of his force in reserve and use only a single column in the movement to contact. In such a case the formation of the battalion will be essentially as outlined below.

b. The reconnaissance platoon will normally be employed forward of the battalion in the movement to contact. The platoon will be used to locate enemy dispositions and reconnoiter routes or zones over which the battalion will advance. If a covering force is employed forward of the battalion, the reconnaissance platoon will maintain contact with that force, if practicable. Once the strength and location of enemy positions have been determined with a reasonable degree of validity, the battalion deploys for combat. The reconnaissance platoon then may be moved to a flank to provide flank security for the battalion.

c. In the movement to contact, the lead company in the column is designated as the advance guard and is normally assigned the mission of insuring the uninterrupted advance of the main force. This company, in conjunction with the reconnaissance platoon, facilitates the advance by removing obstacles, repairing roads and bridges, and covering the deployment of the main body when it is committed to action. The lead company, in turn, designates the lead platoon (reinforced) as the advance party. The lead squad (reinforced) is designated as the point.

d. When sufficient trafficable routes are available and the battalion commander desires a wider band of security to the front, he may direct that two reinforced platoons comprise the advance party and move on parallel routes. Then, if one route is blocked by the enemy or is otherwise unsuitable for movement, the remainder of the battalion which is in a single column may shift to the other route. Movement is made on roads or cross country as required by the situation.

e. Although the organization of the battalion column in movement to contact will vary with the situation, there are several general rules which are normally followed as indicated below:

- (1) Tank and mechanized infantry units are cross-attached whenever possible. Tanks normally lead the point unless there is a requirement for dismounted security.
- (2) The command group is placed well forward in the column.
- (3) Supporting engineers usually accompany the lead company to determine route conditions and assist in the passage of obstacles. Some of the engineers follow behind the lead company and go forward as required to accomplish engineer tasks.

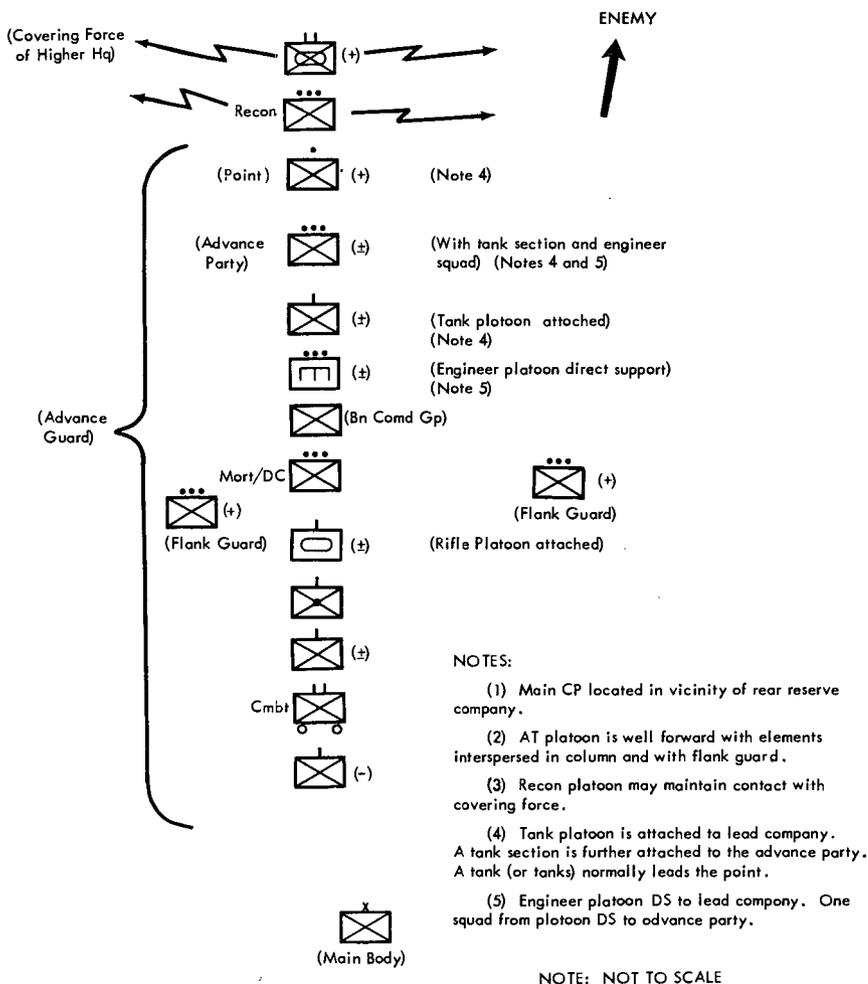


Figure 17. A type formation for a dismounted battalion in a movement to contact when marching as the advance guard of a larger force.

- (4) The heavy mortar section is usually well forward in the column to provide support for lead elements.
- (5) The Davy Crockett section will normally travel with the mortar platoon and be employed in general support.
- (6) The antitank platoon is usually employed well forward with elements interspersed in the column. Squad(s) may be attached to the lead company and to flank and rear security elements.

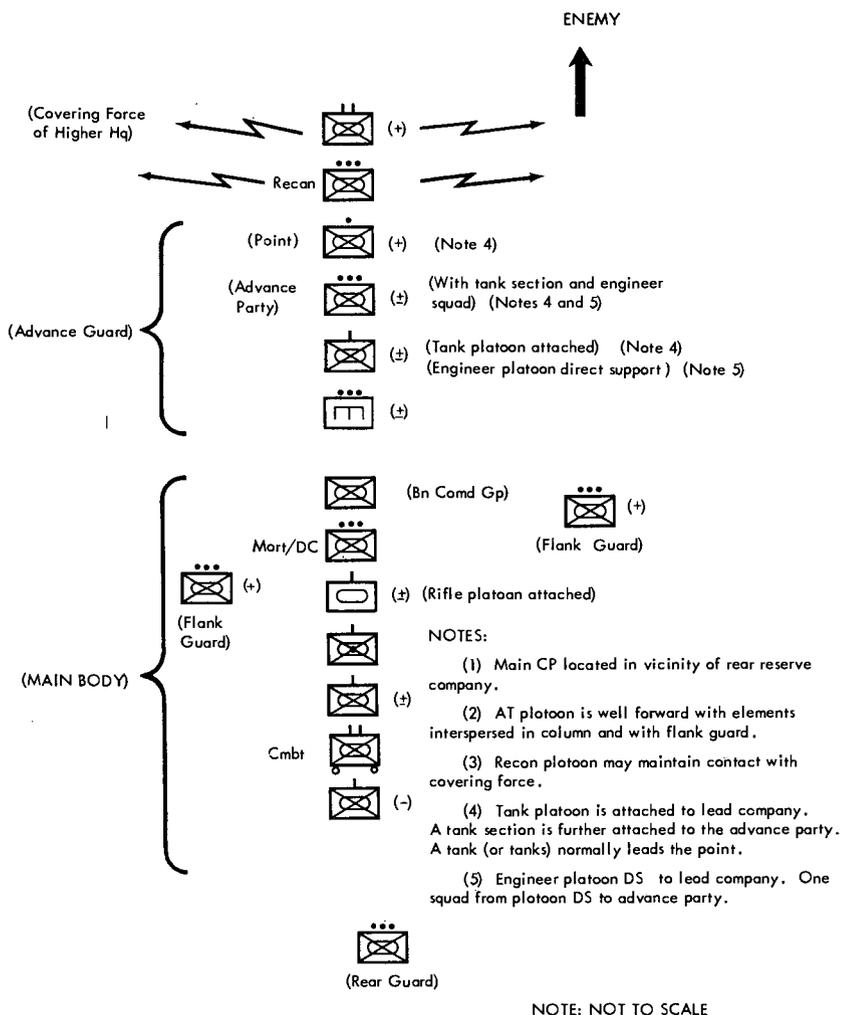
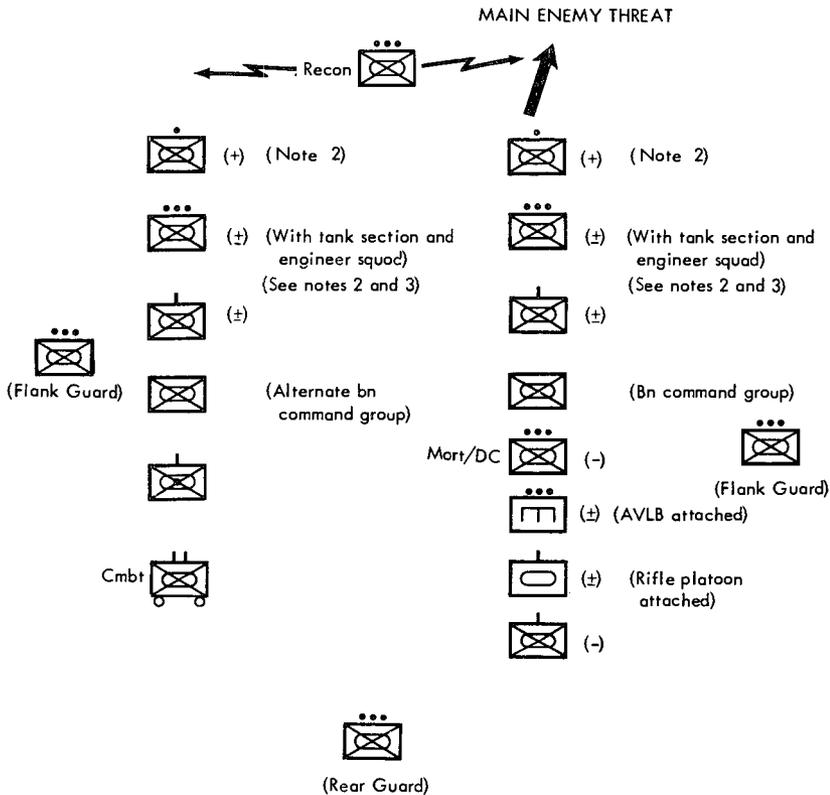


Figure 18. Type formation for mechanized infantry battalion (reinforced) in movement to contact (single column).

- (7) Any attachments which would be made later in the event of a meeting engagement should be accomplished prior to beginning the movement to contact. The column should be formed for the optimum organization for combat.
- (8) A portion of the available artillery is located well forward to provide fire support, while the remainder may be centrally located in the column.



- NOTE: 1. Antitank squads and Davy Crockett squads in each column.
2. Tank platoon attached to each of the leading companies. These companies further attach a tank section to their lead platoons. A tank (or tanks) normally leads the point in each column.
3. Engineer platoon attached to battalion. One engineer squad is in direct support of lead company on left axis and travels with advance party on that axis. On right axis one squad is in direct support of lead company and travels with advance party.

Figure 19. Type formation for mechanized infantry battalion (reinforced) in the movement to contact (parallel columns).

151. Parallel Column Formation—Mechanized Infantry Battalion (fig. 19)

a. When the movement to contact requires greater speed than afforded in a single column formation, or a wider deployment is desired, the mechanized infantry battalion commander may organize the battalion in parallel columns. In such a case the formation outlined in paragraph 150 would be modified as follows:

- (1) The command group moves in the column where enemy action is most expected. An alternate command group under the executive officer may move with the other column.
- (2) Davy Crockett squads normally move well forward in each column. The heavy mortars normally move in the main column. When artillery is not available, mortar squads with DC squads will march in each column.
- (3) Engineer elements and antitank support are provided for each column.
- (4) Artillery elements normally march in each column. When only one artillery battery is available, it will march in the column not containing the mortar platoon.

b. Parallel columns normally move within supporting distance of each other and contact is maintained between columns.

152. Single or Parallel Columns—Dismounted Infantry Battalion

The organization of the column or parallel columns is generally as outlined in paragraphs 150 and 151; however, the units are less dispersed. Because of the greater time it may take to deploy dismounted units for combat, the commander may consider it necessary to send out additional reconnaissance and security forces to the front and flanks. Whenever possible, security forces should be motorized.

153. Conduct of Movement to Contact

a. Every effort is made to sustain a rapid and uninterrupted movement. All-round security is essential and the bulk of combat power is retained in an uncommitted status during movement to permit its rapid employment upon contact.

b. Advance guard actions at all echelon are characterized by aggressive offensive action. Reconnaissance by fire techniques may be employed to develop the situation. Regardless of whether the battalion is the advance guard of a larger force or the battalion is marching alone, its actions will be characterized by frequent attack from march column. The primary difference between an attack from march column and a coordinated and planned attack is that the requirement for immediate offensive action precludes detailed reconnaissance and deliberate planning.

c. In mechanized operations, if the movement is delayed by enemy forces, it may be desirable to shorten the march column in order to reduce the time required to bring additional combat power forward for possible employment. In this case subordinate units

select, or have designated for them, areas astride the main axis where they may displace to facilitate movement in the direction of expected action.

d. Once enemy contact is made, the advance guard destroys small enemy delaying forces with fires and assault. Nuclear weapons may be employed to destroy enemy forces to the front or those that threaten the flanks. If sufficient combat power is not available to eliminate the enemy threat, the advance guard may be required to contain the enemy force while the remainder of the force bypasses and continues the advance. Movement to contact ends when enemy action forces deployment of the main body from a march column (s).

Section V. CONDUCT OF THE ATTACK

154. Assembly Area to Line of Departure

Prior to the attack units occupy dispersed locations well to the rear of the line of departure. Movement to the LD is planned so that units move continuously and cross the LD at the designated time, halting only if necessary to assume combat formations in the attack position. Movement to the LD from the attack position may be covered by a nonnuclear preparation, or fires may be withheld to gain surprise. If a nuclear preparation precedes the attack, units may remain behind or in the attack position until a tactical damage assessment has been completed to determine the results of the nuclear strike. Following the preparation of nuclear, non-nuclear, or chemical fires, when used, the assault echelon crosses the line of departure.

155. Line of Departure to Objective

a. Preparatory fires may continue as the assault elements advance toward the enemy positions. As enemy targets appear, on-call supporting fires are called for by mortar or artillery forward observers moving with assault elements. The entire attack is characterized by a series of rapid advances and assaults, closely supported by fire, with tank and infantry elements operating as combined arms task forces to complement the capabilities and limitations of each force. When enemy resistance is not encountered, attacking elements remain in deployed formations with tank, infantry, or combined arms forces leading, depending upon the anticipated enemy situation and the terrain. During this phase of the attack, if practicable, reconnaissance by fire techniques may be used by tanks or APC to develop the enemy position.

b. As enemy resistance is encountered, attacking elements converge as necessary to destroy the enemy. Companies remain dis-

persed until required to mass to overcome enemy resistance. As soon as the requirement for concentration ceases, units again disperse.

c. Attacking companies move toward their objectives by use of fire and maneuver. They do not stop or delay their attack to preserve a general alinement or to adhere rigidly to a plan of attack. When an attacking company is exposed to an enemy counterattack from the flank, the battalion commander may shift his reserve to render prompt support if required.

d. Lengthy halting on intermediate objectives is avoided as it greatly increases vulnerability and slows the attack. Enemy resistance of insufficient strength to jeopardize the accomplishment of the mission is bypassed or contained with minimum forces and its location reported to brigade.

e. Throughout the entire attack, units closely follow supporting fires. Supporting weapons may displace by echelon to provide continuous support or, particularly in mobile operations, move on-carrier until needed. Radiation detection teams with attacking companies report dangerous areas. These areas are bypassed or crossed rapidly in vehicles to reduce radiation exposure.

f. As the attack progresses, the commander may shift the weight of the attack to take advantage of tactical success, to avoid known or suspected enemy strength, or to take advantage of more favorable routes of approach. He may accomplish this by shifting his supporting fires or by use of the reserve.

g. Throughout the course of the attack the commander remains alert to changing conditions which may require him to modify his organization for combat, scheme of maneuver, or fire support plan. He maintains constant communication with attacking elements and normally positions himself near or with the main attack force.

156. The Assault

a. If attacking elements are mounted in APC, they advance as far as practicable before dismounting for the assault. Full use is made of the limited protection of APC during the attack; however, a dismounted assault is required to complete the destruction of the enemy. Accordingly, dismount areas should be preselected for use to avoid excessive APC losses and personnel casualties.

b. The commander prepares for the assault by concentrating supporting fires to neutralize and weaken the enemy prior to launching the assault. Assault units, moving continuously, closely follow their supporting fires, deploy, cross the final coordination

line as supporting fires shift, usually on order of company commanders. The firepower of the assaulting units must continue to neutralize the enemy.

c. The assault is a short, well coordinated effort which overruns the objective. Therefore, any hesitation by assaulting troops may be disastrous. The action is characterized by aggressive employment of fire and movement to close with and kill or capture the enemy. Gaps in enemy defenses are exploited and small strong points are attacked from the flanks and rear, if practicable. Massing of forces to seize the objective is restricted to the minimum. A detailed discussion of assault techniques employed by tank and mechanized infantry units is contained in paragraph 401.

157. Use of Reserve During the Attack

a. The reserve should be employed against the flank or rear of the enemy or against any other point of known or suspected weakness. Passing the reserve through units that have been stopped by enemy action is avoided whenever possible; rather, the reserve should be committed from a new direction to achieve surprise and avoid massing. The reserve is used to exploit success, not to redeem failure.

b. The reserve should be located in a position from which it can move rapidly to points of probable employment. As the attack progresses, it is kept close enough to the attacking echelon to either continue the momentum of the attack or intervene before the attacking echelon can be overwhelmed by a counterattack.

c. The battalion commander commits that portion of the reserve required to accomplish a specific task. When, in his judgment, the situation warrants employment of the entire reserve, he commits it without hesitation. He notifies the brigade commander when he commits any portion of the reserve.

d. Occasions may arise when all companies will be committed in the attack. A reserve must be reconstituted as soon as possible. Personnel from headquarters company and attached units may be used. If this temporary reserve is inadequate, the battalion commander may place restrictions on committing the reserve platoons of one or more of the rifle companies. He may also make plans for moving elements of the least heavily engaged companies to assist those more heavily engaged. One or more companies revert to reserve as soon as the situation permits.

158. Action When Enemy Uses Nuclear Weapons

a. If the enemy employs nuclear weapons against the attacking

force and destroys a company or a major portion of it, the battalion commander maintains the momentum of the attack with all means at his disposal. If the company affected is an attacking company, a reserve company should be committed to take over its mission, while survivors of the affected company continue their mission to the extent possible until relieved. Upon relief, the company may be placed in reserve or, if it is no longer effective as a unit, its survivors may be attached to the company that takes over its mission. If more than one company is affected, brigade may have to change the battalion mission, and brigade reserves may be employed to influence the action.

b. It may be anticipated that the enemy will exploit the effects of his nuclear weapons by counterattacking. Therefore, consideration should be given to shifting forces toward the threatened area to provide maximum protection, while still continuing the attack.

159. Action Against Counterattacks

a. If the enemy counterattacks with a force which is insufficient in combat power to constitute a threat to the accomplishment of the mission, the battalion reports intention to bypass it and assigns the mission of blocking or destroying it to the reserve or to a company making a secondary attack.

b. If the counterattack force is large enough to prevent accomplishment of the mission, the battalion commander destroys or neutralizes it with nuclear and nonnuclear fires so that he may continue the attack toward the objective. If fires are not available or do not eliminate the enemy threat, the commander shifts his attack to destroy the counterattacking force before continuing toward the objective.

c. When the counterattacking force is too strong for the battalion to eliminate, the battalion commander takes action to contain the counterattack force, reports the situation to brigade, and requests assistance.

160. Reorganization

Reorganization is continuous. Specific halts to reorganize are avoided because of the danger inherent in stopping or slowing the operation. Companies that must be halted to reorganize should be halted in areas providing cover until reorganization is completed, if the situation permits. Reorganization includes redistribution of personnel, evacuation, resupply, and restoration of control and communication.

161. Consolidation and Dispersion

Consolidation includes establishing security, taking reconnaissance measures, establishing or reestablishing contact with adjacent units, displacing weapons and installations, requesting fire support, and positioning units. Once an objective has been seized, units disperse as soon as possible consistent with the mission and the capacity of defending the objective area. The formation used to seize an objective generally determines the initial disposition of units employed in its defense. Even when ordered to defend an objective, the battalion commander must maintain his command in a state of readiness to continue the attack. To aid in accomplishing this, he sends elements of his command beyond the objective to maintain contact with the enemy and, if practicable, to seize key terrain features which will facilitate resumption of the attack.

Section VI. EXPLOITATION AND PURSUIT

162. Exploitation

a. The exploitation is a phase of an offensive operation designed to destroy the enemy's ability to reconstitute an organized defense or to engage in an orderly retrograde movement. The battalion may exploit its own success, may be the exploiting force of a higher echelon (when mechanized) or may follow and support another exploiting force.

b. Since the exploitation is normally characterized by rapid movement, motorized or mechanized infantry units with tanks are best suited for this type of operation. The mechanized infantry battalion, armored division, can expect to participate frequently in exploitation-type operations. Dismounted infantry units may also exploit within their capabilities. Attached tanks may be used to provide transportation for dismounted infantry when practicable.

c. Airmobile forces may be profitably used during the exploitation to seize key terrain blocking enemy withdrawal routes.

163. Planning for the Exploitation

In the offense, all units should be prepared to move into the exploitation when required or when the opportunity presents itself. Planning for an exploitation is therefore conducted before and during an attack. Considerations for planning an exploitation are essentially the same as outlined in paragraphs 112 through 142; however, particular emphasis is placed on the organization for combat, administrative support, and security re-

quired for such an operation. This is necessary since the exploitation, particularly with a mechanized force, normally entails seizure of deep objectives, high class III consumption rates, and operating behind bypassed enemy forces.

164. Conduct of Exploitation

a. The exploitation is characterized by decentralized execution of orders and aggressive offensive action. Mission type orders may be used and minimum control measures (axes of advance, phase lines, checkpoints, etc.) are employed to facilitate a rapid advance. Forces in the exploitation normally advance on a wide front, depending upon the mobility of the force, road net, and other aspects of the terrain. A minimum reserve is normally retained. Frequently, the mechanized infantry battalion will exploit in parallel columns as in the movement to contact (pars. 147-153).

b. In the exploitation, the enemy resistance will mainly consist of delaying actions by small units, defense of scattered strong points, and great use of obstacles. The exploiting commander must therefore insure that such minor resistance does not deter him from his primary mission. Enemy forces which cannot seriously interfere with the accomplishment of the unit mission are bypassed and reported for following units to capture or destroy. Attack is frequently made from march column as in the movement to contact.

c. The entire action is characterized by boldness, maximum and prompt use of available firepower, and rapid and unhesitating employment of uncommitted units. Frequent use of nuclear weapons may be required to maintain the momentum of the attack.

165. The Battalion in a Follow and Support Role

When the battalion is designated to follow and support an exploiting force, it is normally furnished sufficient transportation, if not otherwise available, to enable it to keep up with the exploiting force. In such a role the battalion may be required to accomplish the following:

- a.* Destroy bypassed pockets of resistance.
- b.* Block the movement of enemy reinforcements into the area.
- c.* Expand the area of exploitation.
- d.* Relieve elements of the exploiting force which have been left to block enemy forces or protect key areas or installations.

166. Administrative Support

Battalion combat trains are usually located near the rear of

the attack formation where provision can be made for their security during the attack. Normally, stress will be required on the provision of fuel, evacuation of casualties, and emergency repair and evacuation of vehicles. Aerial resupply may also be required during the exploitation.

167. Pursuit

The pursuit differs from the exploitation in that its primary purpose is the destruction of the enemy force which is in the process of disengagement, rather than the seizure of a terrain objective. In the pursuit the battalion may operate as all or part of the direct pressure force or of the enveloping force. The conduct of the pursuit at battalion level is essentially as in the exploitation.

Section VII. INFILTRATION

168. General

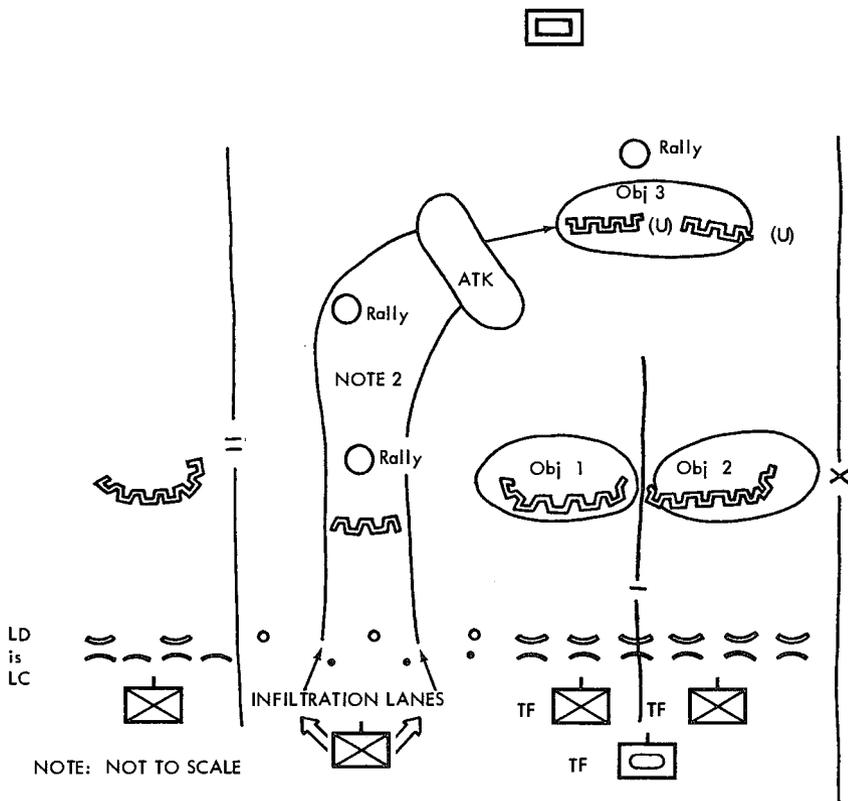
a. Tactical infiltration, which is a technique of accomplishing the penetration, may be used by the battalion in the offense. In the infiltration, the attacking force moves by stealth through the enemy defensive position without rupturing the position. Engagement with enemy forces in their forward defensive positions is avoided. Infiltration may be accomplished by dismounted units, airmobile units, and, exceptionally, by motorized or mechanized units.

b. The purpose of infiltration is to deploy strong forces in the enemy rear for decisive tasks while exposing only small forces to enemy fires during the passage through the enemy defenses. Normally, infiltrating forces will remain dispersed and concealed in the enemy's rear until concentration at a prearranged time and place is required for accomplishment of their mission. Main or supporting attacks by infiltration may be conducted by elements of the battalion or the entire battalion may conduct an infiltration as part of an attack by a larger force.

c. Because of the dispersion and intermingling characteristics of infiltration operations, use of this technique will considerably reduce the enemy's ability to employ nuclear weapons against an attacking force.

169. Planning the Attack

Although planning techniques follow those of other offensive operations, certain areas require additional emphasis in planning an infiltration. Control measures discussed below are defined in paragraphs 122 through 136.



NOTES:

- (1) Concurrently with attack by two companies from LD to seize Obj 1 & 2, infiltrating company attacks to seize Objective 3. Seizure of this objective, which is on key terrain, will block movement of reserves and facilitate destruction of enemy forces on Objectives 1 & 2. After seizure of Obj 1 & 2, attacking companies link up with force on objective 3.
- (2) When infiltration lanes are drawn on an overlay, their width will be specified to facilitate control of friendly fires adjacent to the lane.

Figure 20. Use of infiltration in a battalion attack (schematic).

a. Objectives which are selected may be key terrain features in the enemy rear area which restrict movement of the reserves or isolate defensive positions (fig. 20). They may also be reserves, fire support means, or command, control, or logistical installations. The battalion commander may also employ small infiltrating groups on intelligence or target acquisition missions which support the battalion attack.

b. Attack positions and rallying points or areas are selected to assist in controlling the attack. Such areas should be recon-

noitered by ground or air prior to the attack to insure that they are free of enemy activity. Infiltration *lanes* are designated to permit infiltrating groups to move by stealth to attack positions. In selecting infiltration lanes, the battalion commander chooses areas in which gaps are known to exist in enemy defenses. Frequently, lanes may be located in the less desirable terrain such as swamps and heavily forested areas. When air infiltration is used, the flight routes are similarly chosen where enemy forces are least likely to be located.

c. Time of infiltration is selected so as to take advantage of conditions of reduced visibility. Desirably, darkness, rain, snow, fog or similar conditions are used to facilitate the movement through the enemy lines. The *time of attack* on the infiltration objective is selected so as to best support the battalion plan of attack.

d. Fire support is planned to support the passage through enemy positions, if required, and the attack on the infiltration objective. Since units normally will be limited to hand carried weapons, additional fire support will usually be required.

e. Coordination of the planned infiltration must be effected with all appropriate agencies including higher, lower and adjacent units, fire support agencies, Air Force elements, and the linkup force. Unity of command requirements normally dictate that, at the time of linkup control of the infiltrating unit pass to the unit linking up.

170. Conduct of the Infiltration

a. Infiltrating units move in small groups through or over enemy defensive positions using stealth and dispersion to escape detection. If possible, multiple lanes are used for passage through the enemy position. If units are detected, they avoid engagement by withdrawing or moving around enemy resistance. If enemy forces are discovered in an infiltration lane, the infiltrating unit reports their location to the appropriate headquarters and the lane is closed for further movement until it is cleared. Groups which lose direction or are unable to reach the attack position proceed to rallying points or areas and take appropriate action as required by contingency plans. Such groups may be assigned contingency missions, e.g., target acquisition, or they may return to friendly lines by foot or air exfiltration.

b. After units assemble in attack positions, they complete preparations for the attack. At the designated time the infiltrating force attacks to accomplish its mission. Subsequently, linkup or exfiltration is accomplished. If linkup is planned, recognition

signals, both visual and sound, are used to prevent fire fights between friendly elements.

c. In the event that linkup is delayed, it may be necessary to resupply the infiltration force, to evacuate it, or to order exfiltration. Contingency plans should be prepared for such action.

Section VIII. NIGHT ATTACK

171. General

a. The success of a command may well depend on its ability to fight at night. Offensive actions which are carried out at night or under conditions of limited visibility may often achieve success where a daylight attack would be impracticable. Although darkness increases problems of control and movement, commanders may use the conditions of limited visibility to surprise the enemy and avoid heavy losses which might be incurred by daylight attack over open terrain. Night attacks may also be used to exploit a successful daylight attack or to gain important terrain for future operations.

b. This section deals with the planning and conduct of a night attack without use of artificial illumination, except in emergencies or on-call basis. When illuminating means are available to provide light approximating that of daylight, and their employment is contemplated throughout the attack, the techniques involved are generally the same as for a daylight attack. Surprise may be obtained by withholding illumination until the critical phases of the attack. Used at such time illumination serves to blind the enemy, and expedite success of the attack.

172. Planning the Night Attack

The techniques for planning a night attack are similar to those of a daylight attack; however, night operations may require emphasis in certain areas as indicated below:

a. Silent movement permits attacking forces to achieve surprise. The attacker gains a psychological advantage in that the doubts, apprehensions, and fears of the waiting defender are magnified at night. While dispersion remains important, a greater concentration of troops can be accepted than in daylight, since the possibility of enemy use of nuclear weapons is decreased if secrecy is maintained.

b. Night combat is characterized by a decrease in the ability of the attacker and defender to place aimed fire on each other; by a corresponding increase in the importance of close combat; and by

the employment of fires from weapons laid on definite target areas by daylight. The use of night vision devices may facilitate operations.

c. Time patterns are avoided so that the enemy cannot predict the time of attack. Often, an attack is made late at night so that initial objectives can be seized by daylight and the attack continued at that time. If the objective is relatively deep, or if the battalion mission requires immediate continuation of the attack, the attack may begin early at night and continue to the final objective during darkness. If the objective is to be seized and held, it may also begin early at night.

d. The decision to employ nuclear fires in a night attack depends on the ability of the unit to achieve surprise; the effect that blow-down, radiation, dazzle and loss of night vision may have on attacking forces; the relative strength of opposing forces; and the actions to be taken after the objective has been seized. When nuclear fires are employed, the opportunity for surprise is usually lost and preplanned illumination may then be employed. In such a case, subsequent operations may be similar to those in a daylight attack, although additional control measures may have to be used.

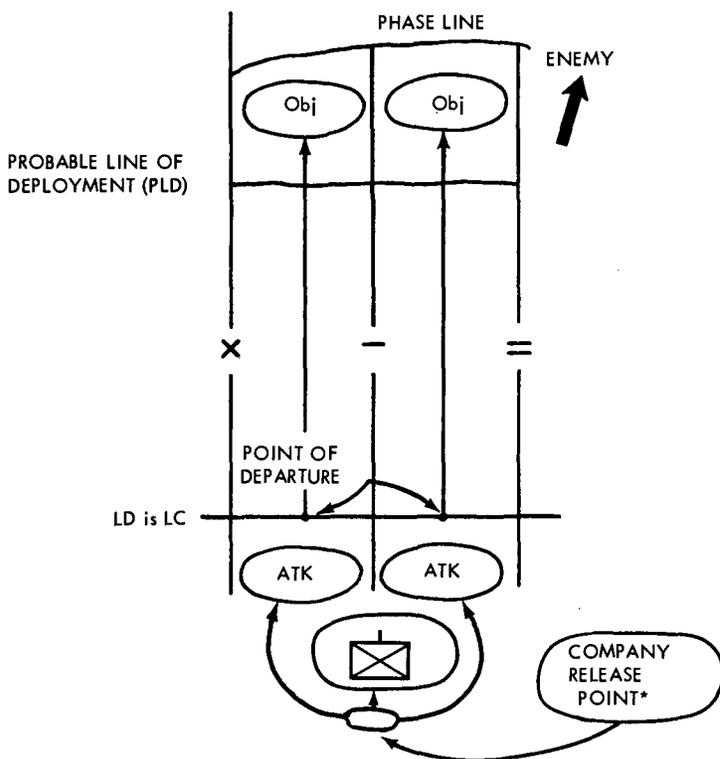
e. The following are of added importance for a night attack:

- (1) Time for detailed planning and preparation.
- (2) Detailed information of terrain, enemy, and expected weather conditions.
- (3) Secrecy and surprise.
- (4) Detailed orders and simple schemes of maneuver.
- (5) Easily identifiable objectives.
- (6) Well trained troops and capable small unit leaders.
- (7) Requirement for close control.
- (8) Time required for logistical support.

f. Successful night attacks may be made on an impromptu basis; however, the risk of failure is greater. Normally, detailed planning is required. Therefore, when units are conducting a daylight attack, they plan to continue the attack through the night unless otherwise ordered. Attacks in progress are not halted merely because of nightfall.

g. Noise and light must be carefully controlled. Deception measures may include artillery fires to cover the movement of vehicles.

h. Whenever practicable, a rehearsal of the attack is conducted over similar terrain and under similar conditions of light.



*Control is released to company commanders at this point.

NOTE: NOT TO SCALE

Figure 21. Night attack with two companies attacking (schematic).

i. Infiltrators may be used in conjunction with the main attack to attack enemy reserves, command posts, communications, and fire support means. Such actions will reduce the enemy's ability to react to the main attack.

173. Scheme of Maneuver

a. Attack Echelon.

- (1) The battalion commander employs enough combat power forward to enable assaulting units to clear assigned objectives in the initial assault. Complicated maneuvers are avoided. Company objectives are clearly delineated so as to be easily recognizable at night.
- (2) A zone of action is designated for each attacking com-

pany. A direction of attack may be established along a recognizable terrain feature or on an azimuth, or both (fig. 17).

b. Reserve. A rifle company may be retained as the battalion reserve. The reserve is prepared to assume the mission of an attacking company at any time before it crosses the LD, protect the flanks and rear of the battalion, and occupy a defensive position during consolidation. Normally, the reserve is not committed in an area where it will become involved with other attacking companies unless illumination is used.

c. Use of Tanks.

- (1) When secrecy is desired, vehicles seldom accompany the attack echelon. The mass movement of tanks forward from rear areas prior to a night attack may compromise secrecy; however, they may be infiltrated to the forward areas over an extended period with a good chance of preserving secrecy. If the terrain and light conditions permit, and if the need for tank support during the assault and consolidation outweighs the desire for secrecy, tanks may be attached to the attack echelon. Usually, tanks remain in position behind the LD and fire at designated targets on call. They may join the attacking elements in the objective area as soon as practicable.
- (2) The use of night vision devices (tank-mounted searchlights and infrared devices) will enhance the effectiveness of tank fire and maneuver. Tank-mounted searchlights may be used to illuminate the objective area and/or enemy positions and to mark the flanks for attacking elements. For details concerning employment of tank-mounted searchlights, see FM 17-1.

d. Antitank Platoon. Antitank squads remain in the vicinity of the line of departure in preselected areas, prepared to fire or displace forward on order. Illumination is required for use of the antitank missiles. Plans are prepared in advance for the attachment of squads to companies in whose areas enemy armor threats are likely to develop.

e. Heavy Mortar Section. General support is the preferred method of employment. The fires of the mortars are planned for a night attack in essentially the same manner as with a daylight attack. For attacks by stealth, preparatory fires are not used. Normal rates of fires are maintained until the attack is discovered.

f. Davy Crockett Section. The employment of the Davy Crockett section in support of night attacks is similar to its daytime employment. Acquisition of and adjustment on targets is complicated by the reduced visibility. Adjustment on a planned target may be accomplished prior to darkness and the necessary data for firing recorded for later use. Adjustment on targets may also be accomplished in the normal manner by using illumination provided by flares or searchlights (par. 174b(2)).

g. Reconnaissance Platoon (Armored Cavalry Platoon). The platoon may initially be employed in a rear area security role with contingency missions such as flank security being executed on order.

h. The ground surveillance section may be employed well forward to determine the progress of attacking columns or may locate changes in enemy dispositions prior to the assault.

174. Fire Support

a. Fire Support Plan. Fire support plans are similar to those for daylight attacks.

b. Control of Supporting Weapons and Supporting Fires.

- (1) The methods of controlling supporting weapons and their fires when direct illumination is used are identical to those used in a daylight attack. When only partial or no illumination is provided, additional restrictions are placed on the movement of weapons and shifting of fires. Prior to the attack, all available weapons are placed in position to fire, and where practicable, are registered on known targets on the objective. Fires are planned to protect the flanks of maneuver units and to isolate the objective. The pattern of fires existing prior to the attack is maintained, but enemy nuclear delivery means that are located during any phase of the attack are immediately taken under fire. When a night attack is made to achieve surprise, the battalion commander announces conditions under which supporting weapons will be fired.
- (2) After the attack has been discovered and the assault has been launched, supporting fires are placed beyond and on the flanks of the objective as appropriate to protect attacking units during the assault, reorganization, and consolidation phases. Nuclear and nonnuclear fires may be used as soon as surprise is lost. Nuclear fires are placed principally on deep targets, including enemy nuclear delivery means and hostile units which may either

reinforce the enemy in the objective area or counter-attack. When on-call nuclear fires are used, careful consideration must be given to the possible loss of night vision through the dazzle effect.

175. Control Measures

The following control measures are appropriate for a night attack:

a. The *company release point* should be easily recognizable in the dark and may be marked by artificial means. It is to the rear of the line of departure unless the battalion commander elects to cross the line of departure in a column of companies to facilitate control while advancing to a very deep objective.

b. *Attack positions, boundaries, direction of attack and objectives* are discussed in paragraphs 122 through 136.

c. The *point of departure* is that point on the ground where the company or platoons cross the line of departure.

d. The *probable line of deployment* is preferably within 150 meters of known enemy positions and easily recognizable in the dark. It may be marked by artificial means and/or outposts.

e. A *phase line* is designated to provide for troop safety by limiting the forward advance of troops. It should be easily recognizable in the dark (a stream, road, edge of woods, etc.) and far enough beyond the objective to allow security forces space in which to operate. Fire support agencies are free to engage enemy forces beyond this line.

f. *Special Control Measures*. Some additional control measures which may be used are—

- (1) Special means for identifying friendly troops, such as white armbands, white adhesive strips on helmets, and standardized outer uniforms.
- (2) Colored flashlight signals (with the light properly dimmed) used for recognition or other signals.
- (3) Special means for helping to maintain direction, such as infrared devices, vectoring by radar, guides, engineer tape, and the firing of tracers or white phosphorus mortar or artillery rounds.

g. Other control measures discussed in paragraphs 122 through 136 may be used.

176. Illumination

a. Plans are made for employing available illumination even if the attack plan calls for the objective to be seized by stealth.

The type of illumination planned depends on the degrees of secrecy the battalion will try to attain and the amount of light needed to conduct the attack. The battalion commander retains authority for initiating the illumination. Illumination may be direct or indirect. Searchlights in a direct role may be used to dazzle enemy observers and gunners. The use of infrared illumination has a psychological effect on the enemy in that he may not be able to visually detect the light source while receiving casualties from aimed fire.

b. A portion of the battalion zone may be illuminated while other portions are not. An enveloping force may move under cover of darkness while the secondary attack assaults under illumination. Cross country movement may be accelerated during illumination thereby enabling rapid exploitation of nuclear fires. The use of illumination must be carefully coordinated to avoid its detrimental effects in adjacent areas.

c. When secrecy is lost, all forms of illumination are employed if they will assist the attacker. Some of these forms are tank and artillery searchlights and flares and illuminating shells delivered by ground and air means. Indirect illumination may be placed on the objective following the assault to assist in the reorganization and consolidation.

d. See FM 20-60 for detailed information on battlefield illumination.

177. Communication

Normal radio traffic is maintained prior to the attack but no mention of the attack is made in the clear until it has been discovered. After crossing the line of departure, radio listening silence is maintained. In this situation, wire is the best means of communication for dismounted elements. After the attack is disclosed, radio becomes the primary means. If a reserve or new unit(s) is to make a night attack through another unit(s), the reserve or new unit(s) maintains listening silence until its movement is discovered (app. V).

178. Conduct of the Attack

a. *Security Units.* Reconnaissance patrols which gather information before the attack may be used during the attack as members of frontal and flank security detachments; to mark routes forward of the line of departure; to mark the probable line of deployment; and to guide attacking units during their movement from the line of departure to the probable line of deployment.

b. Advance To Probable Line of Deployment. Companies cross the line of departure without halting. During a nonilluminated attack, they advance in columns forward of the line of departure until they are close to the enemy or until enemy action forces them to deploy; a silent, stealthy advance is essential. The previous pattern of night fires is maintained to assist in concealing the noise of movement. At platoon and squad release points, subordinate commanders take over the control of their units. If an enemy outguard or patrol is encountered, leading elements of the column assist security patrols in disposing of it as quickly and quietly as possible. When the rifle squads reach the probable line of deployment, they complete deployment and prepare to advance at the prearranged time or on a given signal. Once a squad line(s) has been formed and the order has been given to advance, the attack echelon continues to move forward silently until discovered by the enemy, then it opens fire. If the attack is discovered prematurely, attacking companies launch the assault on their own initiative.

c. Assault. When the assault begins, all assaulting troops advance as quickly as possible. Flares, searchlights, and other illuminating devices may be used to allow assaulting troops to fire aimed shots and to move at a more rapid rate. Every effort is made to prevent the squad line(s) from breaking up into isolated groups.

179. Action After Capture of Objective

Tanks and direct fire weapons move rapidly to the objective. Weapons are displaced forward and artillery and mortar forward observers check defensive fires as soon as possible. Security elements are posted. Units disperse to defense areas. They disperse to the maximum extent possible to reduce vulnerability to nuclear countermeasures. Planned nuclear fires may be placed forward of the captured position if the necessity arises. The units complete their reorganization and consolidation rapidly and the battalion prepares to continue operations.

Section IX. RAIDS

180. General

A raid is an attack within an enemy position to accomplish a specific mission, with no intention of holding the invaded territory. A raid may be executed within or beyond supporting distance of the parent unit, in daylight or in darkness. When the area to be raided is beyond supporting distance, the raiding force

may be organized and operated as an independent task force. Raids may be accomplished by dismounted, motorized, mechanized, amphibious, and airborne (including airmobile) units. Airborne raids are discussed in paragraphs 344 through 353.

181. Purpose of Raids

a. Raids are designed primarily to capture prisoners, gain specific information of the enemy, or to capture or destroy specific enemy materiel or installations. They may be conducted to seize or destroy an objective, but not to hold it. They are also used frequently to exploit nuclear strikes forward of the friendly battle area. In this operation, the raiding force sweeps into the area and eliminates remaining enemy personnel. Attack planning considerations for raids are similar to those described in section II of this chapter.

b. Raids may be conducted by any size force. It is often desirable for the force to be highly mobile and to be composed of all arms. A task force with the battalion as its nucleus is particularly suitable for a raid. A battalion task force may constitute the raiding force for a brigade or division.

c. Since permanent retention of terrain in the enemy area is not contemplated, a raiding force plan of withdrawal must be made in advance. Easily identifiable rallying points should be designated for use in case unforeseen situations do not permit the original plan of withdrawal to be executed.

Section X. RECONNAISSANCE IN FORCE

182. General

The reconnaissance in force is an attack to discover and ascertain the enemy's position and strength. Although its primary aim is reconnaissance, it may discover weakness in the enemy dispositions which, if promptly exploited, may achieve tactical success. The battalion may conduct the reconnaissance in force for the brigade, or, as a part of the reserve brigade, may be committed to exploit the enemy weaknesses discovered by other reconnaissance elements. Elements of the battalion may also conduct a reconnaissance in force on a limited scale. Mechanized infantry elements supported by tanks are ideally suited to a reconnaissance in force due to their mobility and fire power.

183. Planning

a. The reconnaissance in force is employed to develop enemy information rapidly; however, it is an expensive method of gain-

ing intelligence. In arriving at a decision to reconnoiter in force, the commander considers the following:

- (1) Extent of his present knowledge of the enemy situation and the urgency and importance of the additional information sought.
- (2) Efficiency and speed of other collection agencies.
- (3) Extent to which his plan of action may be divulged by the reconnaissance in force.
- (4) Risk that the reconnoitering force may be defeated and the possibility that the reconnaissance may lead to a general engagement under unfavorable conditions.
- (5) The effect the loss of the reconnaissance force would have on subsequent operations.

b. The reconnaissance in force may be conducted as a limited objective-type attack, or it may be conducted as a phased advance under mission-type orders employing a series of probing attacks.

c. The reconnoitering force must be of sufficient size to cause the enemy to react to the attack thereby disclosing his locations, dispositions, strength, planned fires, and planned use of reserves.

184. Conduct

The reconnaissance in force is conducted in a manner similar to other attacks. Restrictions are normally placed on the commander of the force to avoid decisive battle; however, the commander ordering the reconnaissance must be prepared to exploit success gained by the reconnaissance force. The commander ordering the reconnaissance in force is also prepared to assist in the extrication of the force if it becomes heavily engaged. Use of planned fires will assist the reconnaissance force in breaking contact. On completion of the reconnaissance mission the force may remain in contact with the enemy or it may be ordered to withdraw.

Section XI. TACTICAL DECEPTION, FEINTS, AND DEMONSTRATIONS

185. General

Active and passive means of deception should be used by the battalion to the maximum extent practicable to reduce casualties and achieve surprise. Demonstrations (which involve a show of force but no advance against the enemy), feints (normally limited objective attacks executed by a small proportion of the total force), and supporting attacks can mislead the enemy as to the time and location of the main attack. These maneuvers may force the ex-

posure of enemy positions and fire support. Smoke may be used to draw enemy attention to areas where nothing of importance is occurring or to conceal actual operations. Airmobile attack or demonstrations in enemy rear areas may serve to draw enemy reserves away from areas of planned penetrations. The reconnaissance platoon may be effectively used to simulate a large force. Control of communication and camouflage prior to and during the attack are effective passive deceptive measures. Battalion tactical deception plans must be coordinated with higher headquarters to preclude their possible interference with the plans of higher echelon. See FM 31-40 for detailed information on tactical cover and deception measures and planning.

Section XII. ATTACK TO ASSIST AN ENCIRCLED FORCE

186. General

Whenever troops are surrounded, assistance from outside the encirclement is desirable and should be provided without delay. The urgency of the need for relief depends on the tactical situation and the physical condition of the encircled force. It is usually desirable to combine the attack of a relief force with the breakout attack by the encircled force.

187. Planning

Tactical preparations follow the same principles as those for any other type of attack. The strength needed by the relief force is influenced by the enemy situation and the distance to the objective. In most cases armor and artillery support is necessary. Planning should provide for the possible use of Army aviation to perform such missions as communication, resupply of the encircled force, evacuation of wounded and other personnel, fire support, liaison, reconnaissance, surveillance, transporting the relief force, and evacuating both forces. All relief forces should be under one command. Logistical requirements will exceed those for an ordinary attack since the relief force must anticipate and provide for the needs of the encircled troops. The time and place for launching the relief attack are chosen in coordination with the encircled force. Coordination can usually be carried out only by radio, therefore great care must be taken to maintain secrecy. Aircraft are used for liaison whenever possible.

188. Conduct

If practicable, the relief attack should be launched on a broad front. Its conduct must be marked by a high degree of flexibility.

The joint effort of the two converging elements (relief force—encircled force) must be carefully coordinated and geared to the needs of the encircled unit which will be fighting under less favorable circumstances than the relief force. Depending on the relative size of the two forces, it may be desirable to give overall command of both to the commander of the larger force when linkup is imminent. The linkup is planned and executed as covered in chapter 9.

Section XIII. BREAKOUT FROM ENCIRCLEMENT

189. General

a. A unit is encircled when it is surrounded by an enemy force which has cut all ground routes of evacuation and reinforcement. In a fluid situation when forces are widely dispersed, the battalion may become encircled. Commanders must plan for and accept encirclement in accomplishing their mission; however, when the mission requires, the battalion breaks out of the encirclement either alone or with the assistance of a linkup force. When appropriate, an encircled battalion may be withdrawn by air. See section IX, chapter 10.

b. Unity of command for an encircled force is a basic requirement. Enemy attacks are normally directed against located tactically weak areas in the defender's position; therefore, when encircled forces consist of two or more units, unified command must be established early and the defense coordinated.

c. A high standard of discipline is essential. The commander of an encircled force must apply stern measures to insure control of the force under his command. High standards of discipline must be upheld by the officers and noncommissioned officers. Force of character, as in any critical situation, acquires great significance in sustaining the will to fight and may determine the outcome of the battle. The commander must always appear enthusiastic and confident since the minds of his troops will register his every action and mood.

190. Preparation and Planning for the Breakout

a. A breakout from encirclement is one of the most difficult operations that a force may experience. Unless the encircled force has explicit orders to defend in place or is so weak that it must rely on relief from the outside, the decision is made to breakout and the operation is executed before the enemy is able to establish an organized containment. The need for making a quick decision, however, should not lead the commander to execute a breakout without adequate planning.

b. Timely intelligence is required for development of a sound breakout plan. The plan should include—

- (1) *Area for the attack.* The attack should be launched against enemy weakness in a direction which will insure linkup with friendly forces in the shortest possible time. The direction may be indicated by designating objectives and an axis of advance. Objectives are assigned to insure penetration of the encircling force and preservation of the gap created.
- (2) *Time of attack.* Since deception and secrecy are essential to a successful breakout, the commander may decide to attack during darkness or other periods of limited visibility. The effectiveness of enemy and friendly air must be considered in selecting the time for the breakout. When the enemy can gain and maintain local air superiority it may be necessary to breakout at night or during weather which reduces the effectiveness of enemy air. On the other hand, if friendly air can gain and maintain local air superiority, it may be desirable to conduct the operation when visibility is good. A daylight breakout may also be feasible if smoke can be used to hinder enemy observation.
- (3) *Organization of the breakout* (fig. 22). An encircled force is usually organized into four distinct tactical groups for the breakout; the breakthrough force, supporting units, a reserve, and detachments left in contact.
 - (a) The breakthrough force may vary in size from one-third to two-thirds of the total encircled force. This force is assigned the mission of penetrating the enemy encircling position, widening the gap, and holding the shoulders of the gap until all other encircled forces can move through. After the penetration phase has been completed and all other encircled forces have passed through the penetrated area, the breakthrough force is employed as a rear guard.
 - (b) Supporting units such as artillery and logistical units displace on order.
 - (c) The reserve may be assigned the mission of assisting the breakthrough or of executing counterattacks or diversionary attacks. This force is usually employed to maintain the momentum of the attack once the penetration has been made. When freedom of action is gained, this force may become the advance guard for further movement.

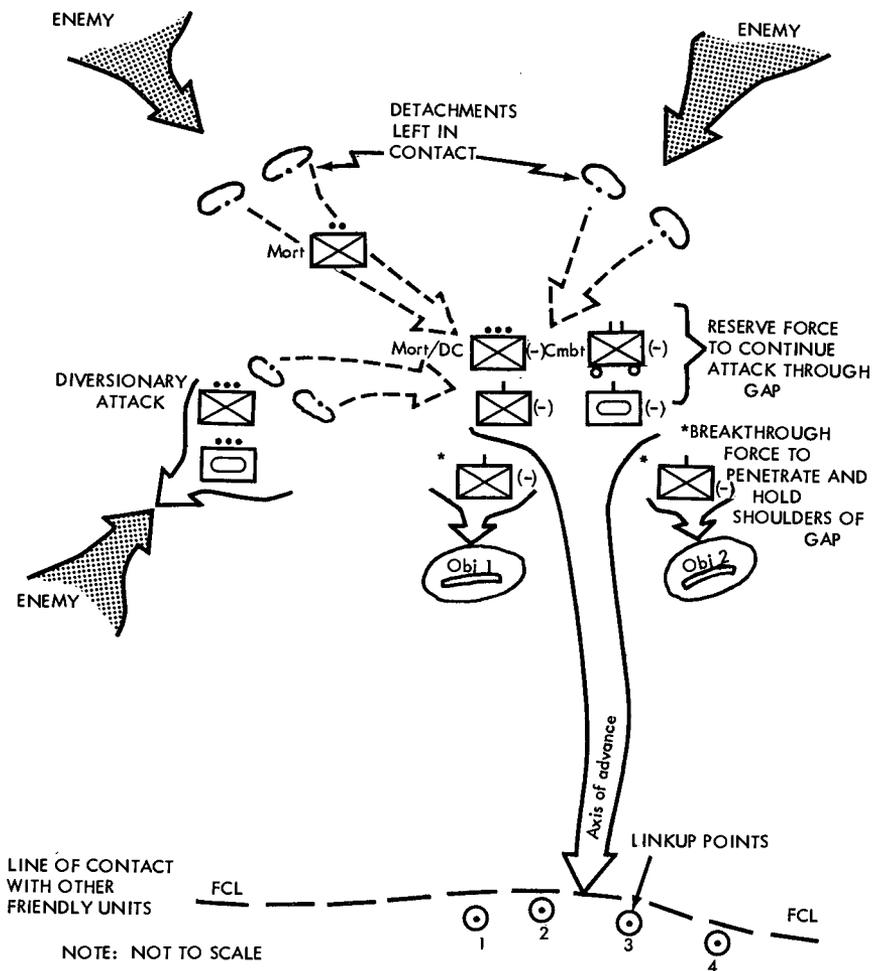


Figure 22. Battalion in breakout attack (schematic).

- (d) The detachments left in contact should be the minimum necessary to cover the withdrawal of other forces from the perimeter. The detachments withdraw on order after all other units have cleared the perimeter. After passing through the penetrated area, they are assigned a reserve mission.
- (4) *Deception.* An effective deception plan is required for a successful breakout. The primary purpose of the deception is to enable the main breakthrough force to gain surprise. Effective deception may be achieved by em-

ploying feints, diversionary attacks, or demonstrations. These deceptive measures are designed to deceive the enemy as to the location of the main attack. Mobile weapons and tanks are ideally suited for these operations. After the bulk of the enemy force has been diverted, mobile weapons and tanks can move rapidly to support the main attack.

- (5) *Concentration of forces.* Prior to the breakout there must be a gradual change of emphasis from the defense of the perimeter to the formation of a strong breakout force. As the situation permits, every soldier and combat unit that can be spared from the perimeter must be assembled for employment in the breakout.
- (6) *Communication.* Since secrecy is essential to the success of this type operation, wire and radio communication must be closely guarded. No mention of the breakout operations should be transmitted in clear text over either of these means of communications. The normal pattern of radio traffic should be maintained until the breakthrough force has started its attack.
- (7) *Logistics.*
 - (a) Plans should be made to relieve personnel of all equipment and supplies not essential for the fighting during the breakout. Weapons that cannot be manned or supplied with ammunition are destroyed. Similar considerations are applicable to vehicles. The number of vehicles that will accompany the breakout depends on the availability of fuel and the requirements for transportation of casualties and indispensable equipment.
 - (b) If the force does not have adequate supplies to support the breakout, plans are made for air resupply of critical items.
 - (c) One of the major logistical problems is that of evacuating casualties. Helicopters and other aircraft are used to the maximum for this purpose. The consideration given to casualties has a profound effect upon the morale of encircled troops. The slightest indication that wounded personnel are to be left behind will immediately reduce the fighting spirit of the troops. Commanders are under the strongest moral obligation to bring casualties out of the encirclement along with the fighting forces if they cannot be evacuated by air.

191. Conduct of the Breakout

- a. Since secrecy and security are primary considerations in con-

ducting a breakout operation, a sequence of events for the operation must be developed and disseminated to participating units. Elements on the perimeter which are to participate in the breakout as a part of the main breakthrough force or as a part of the reserve are released from their defensive mission and assembled with their respective tactical groups at the latest practicable time before the breakout attack starts.

b. A diversionary attack should be carefully planned and vigorously executed to divert the enemy from the breakout area. In the diversionary attack, the deceptive measures taken, the assault power and supporting fires used, and the vigor with which the attack is executed, must convince the enemy that it is a genuine attempt to break out.

c. The main attack crosses the line of departure as soon as the diversionary attack has diverted the bulk of the enemy force. The breakthrough force, supported by all available fire and close air support, makes a penetration, widens the gap, and holds the shoulders of the penetration. The reserve force then passes through the gap and continues the attack. Supporting units displace on order to provide close, continuous support to the attack echelon. The detachments left in contact withdraw on order and follow the reserve force through the gap. When all encircled forces have passed through the gap, the breakthrough force withdraws, prepared to fight a rear guard action. Once outside the encircled area, the attack is continued to linkup with other friendly units. During this phase of the operation the breakout force assumes a formation which insures maximum speed of movement and security to the front, flanks, and rear.

d. In some instances an encircled unit may find it feasible to break out from the encirclement by use of exfiltration. Small groups of personnel may use infiltration techniques (pars. 168-170) and capitalize on stealth and surprise to return to friendly lines. Additionally, an exfiltrating force may move through enemy lines and subsequently attack the enemy encircling force to assist the main body in the breakout.

192. Relief in Conjunction With Breakout

An attack by a relief force enhances the probability of success of the breakout attack by the encircled force (par. 186).

CHAPTER 6 THE DEFENSE

Section I. GENERAL

193. Mission

The mission of the battalion in defense is to repel and destroy the enemy by fire, close combat, and counterattack.

194. Employment of the Battalion

a. The infantry battalion may be employed as a part of a brigade in the security echelon, forward defense echelon, or reserve echelon. On occasion, the battalion may operate directly under division control, e.g., as all or part of the division covering force or as a rear area security force.

b. In the defense, the battalion may receive additional combat power from supporting units and by attachment of rifle, tank, or cavalry units. Additionally subordinate elements of the battalion (normally not less than company size units) may be detached for use with other battalions. When such an attachment or detachment occurs, the company will take with it a proportionate share of certain elements of the battalion trains. As a general rule, for the rifle company, this will consist of the mess element, three company aidmen, forward evacuation team with ambulance, and two cargo trucks from the battalion transportation section with one water trailer and one cargo trailer. The unit portion of the mess and of class V supplies will be carried on these vehicles. In the mechanized infantry battalion, the APC ambulance rather than the truck ambulance will move with detached elements; additionally, mechanized rifle companies will take with them one 1,200-gallon tanker. Tank or armored cavalry units normally will be attached to an infantry battalion with their proportionate share of logistical support similar to that outlined above. Although this arrangement may be modified by the duration of the mission, the unit to which attached, or other variables, the practice within the brigade should be standardized as a matter of SOP.

c. The method of employment of the battalion will vary with the organization and mission of the brigade to which attached or its parent division. As an example, a mechanized infantry battalion

may be employed in the infantry division in the defense as the major part of an infantry-heavy reserve. In this capacity the battalion's actions would necessarily be geared to the capabilities of mechanized infantry. A mechanized infantry battalion employed as part of a tank-heavy reserve in the armored division in the defense would gear its actions to armor capabilities and would therefore operate in a different manner. Similar variations may occur with the infantry or airborne infantry battalions and with their attachment to various type brigades.

d. Because of the variation in operational techniques, battalion commanders must remain flexible and gear their actions to the organization and actions of higher headquarters. They must be prepared to operate in a security, forward defense, or reserve role and they must adjust their thinking to the tactical philosophy of their higher headquarters.

195. Principles of War

The battalion commander may employ the principles of war discussed in paragraph 110 as modified for the defense. Some of these principles which have particular application in the defense are—

a. Offensive. Throughout the planning and conduct of the defense, an aggressive attitude is retained and opportunities to regain the initiative are sought and exploited.

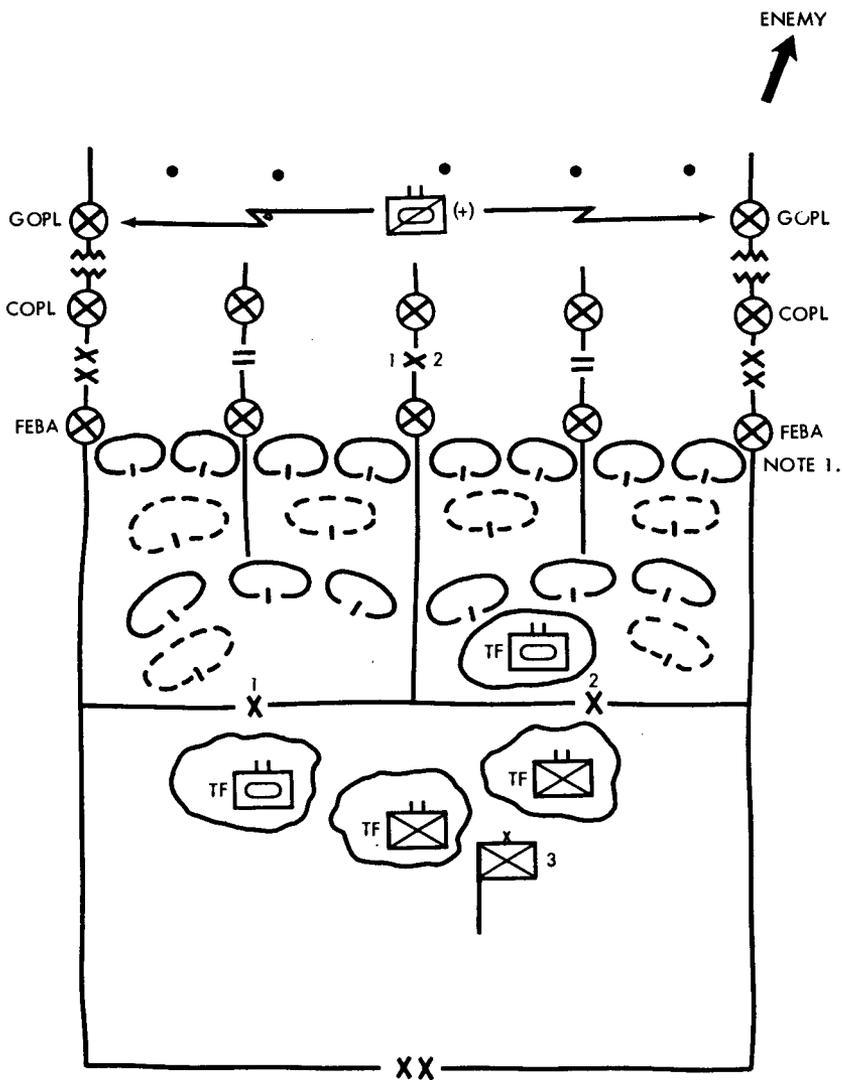
b. Economy of Force. To achieve superior combat power at the point of decision, the commander must necessarily reduce his defensive strength in less critical areas. The arbitrary equal apportionment of defense frontage or use of a set "template" in assigning frontages must be avoided.

c. Surprise. Surprise can decisively shift the balance of combat power. In the defense it may be achieved by deception; effective combat intelligence and counterintelligence; variation in tactics and methods of operation; and appropriate application of the unexpected, particularly in the counterattack.

d. Security. The battalion or its elements should not be presented to the enemy as a fixed, easily located target.

196. Forms of Defense

The two basic forms of defense are the area defense and the mobile defense. These two forms of defense lie at opposite ends of the scale in conducting defensive operations. Often the most suitable form of defense in a given situation will be a variation of either the area or mobile defense, incorporating elements of both.



NOTE: NOT TO SCALE
 NOTE 1: Reserve companies of forward battalions are manning the COPL.

Figure 23. The infantry division in the area defense (schematic).

a. The area defense is oriented toward the retention of specific terrain (fig. 23). In this type of defense, forward positions are strongly held and emphasis is placed upon stopping the enemy forward of the battle area. The bulk of combat power is committed in the forward defense area. If the enemy penetrates the area, he is destroyed or ejected by counterattack with the principal objective of regaining control of the forward defense area.

b. The mobile defense is normally conducted by division and higher echelons (fig. 24). It is based upon skillful use of maneuver and fires to destroy the enemy. Minimum combat power is employed in the forward defense area to warn of impending attack, delay and disorganize the enemy, and to canalize the attacking

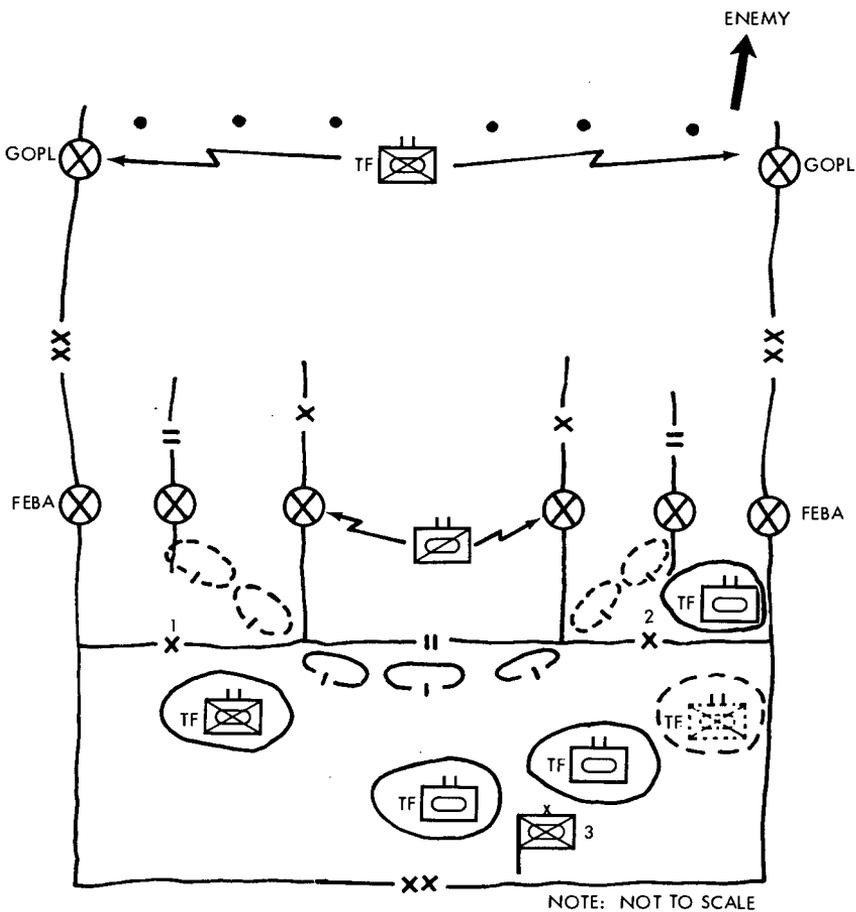


Figure 24. The mechanized division in the mobile defense (schematic).

forces into areas suitable for counterattack by the reserve (striking force). The bulk of combat power is retained in a strong mobile reserve positioned for offensive action, with the principal objective of destroying the enemy.

c. The battalion does not have the capability of conducting a mobile defense; however, it may participate as part of a larger force conducting such a defense. In such an operation, the battalion may be employed as part or all of the security forces, as part of the forward defense forces or as a part of the reserve. When a battalion is employed on the forward edge of the battle area (FEBA), it may accomplish its mission by conducting a delaying action, an area defense, or some variation thereof. The exact method to be employed is established by the higher commander who informs the battalion of the mission he desires accomplished and the concept for the conduct of the mobile defense.

197. Defensive Echelons and the Battalion Battle Area

Defensive echelons include the security area, the forward defense area and the reserve area (fig. 25). *The battalion battle area* is that defensive area organized by a single forward committed battalion and extends from the FEBA rearward to the battalion rear boundary or to the limit of the rearward extension of the lateral battalion boundary. Throughout the manual, when reference is made to the battle area, it is construed to mean battalion battle area unless otherwise indicated.

198. Battalion Security Area

The battalion security area extends from the forward edge of the battle area (FEBA) to whatever distance to the front security elements available to the battalion are employed. Forces in the security area furnish timely information of the enemy; deny him close ground observation of the battle area; and deceive, delay, and disorganize the enemy as much as possible. Security forces in this area may include aerial surveillance, the brigade combat outpost, patrols, and local security elements.

199. Battalion Forward Defense Area

a. The battalion forward defense area extends rearward from the FEBA to include that area organized by the forward committed companies.

b. Forces in the forward defense area in the mobile defense warn of impending attack, delay and disorganize the enemy, and canalize the attacking enemy into area suitable for counterattack by the reserve.

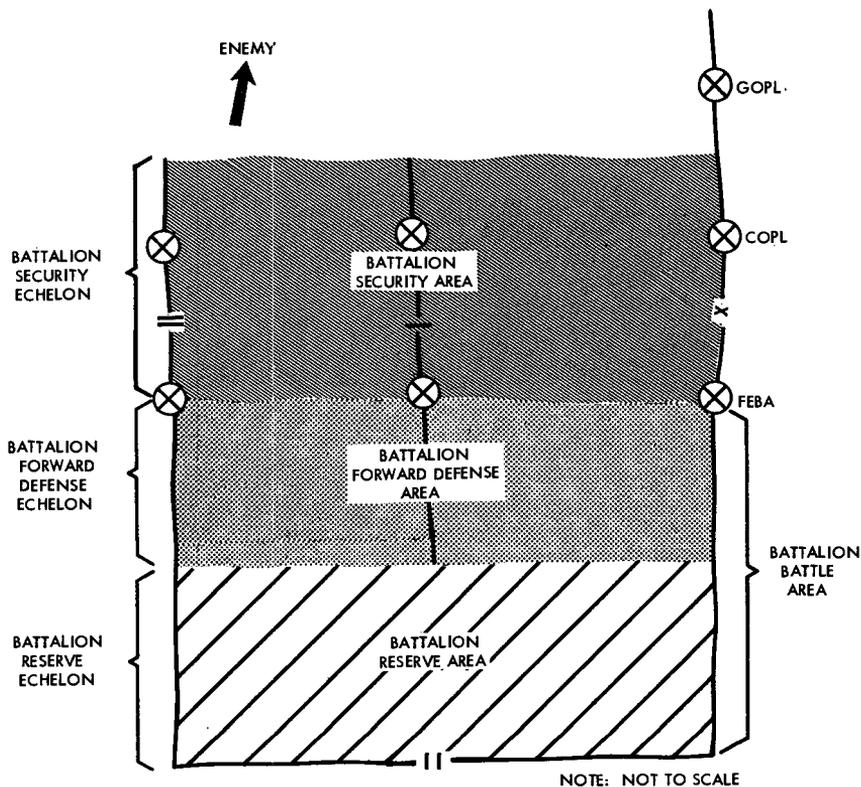


Figure 25. Battalion defensive echelons (schematic).

c. Forward defense forces in the area defense engage the enemy in decisive combat in order to retain specific terrain.

200. Battalion Reserve Area

a. The battalion reserve area extends from the rear of the forward committed companies (from the limit of the rearward extension of the lateral company boundaries) to the battalion rear boundary.

b. Forces in the battalion reserve area eliminate penetrations, block, or reinforce threatened areas. They destroy or eject the enemy by counterattack to regain control of the battalion forward defense area.

Section II. PLANNING THE DEFENSE

201. General

Upon receipt of the defense order the battalion commander and

staff follow the sequence of actions as outlined in paragraph 53. As part of the normal planning process, they formulate a plan of defense. This plan consists of a scheme of maneuver and a plan of fire support. Both are developed concurrently and must be closely integrated. The plan of defense also covers the essential details of counterattack planning, security, administrative support and the establishment of the communication system necessary for control.

202. Development of the Scheme of Maneuver

a. General. The organic maneuver elements of the battalion are the rifle companies and the reconnaissance platoon. The scheme of maneuver is the plan for placement and movement of these and attached maneuver units to accomplish the mission. Throughout the development of the scheme of maneuver the commander considers the mission, enemy, terrain and weather, and troops available, and their effect on the plan of defense.

b. Sequence. In developing the scheme of maneuver, the battalion commander and staff normally follow a logical planning sequence similar to that outlined below:

- (1) Analyzes the mission and all available information.
- (2) Determines key terrain and major avenues of approach into sector.
- (3) Determines forces to be employed on FEBA and in reserve.
- (4) Determines security forces and measures required.
- (5) Determines requirements for obstacles, antitank defense, and other defensive measures.
- (6) Establishes control measures required.
- (7) Finalizes organization for combat.
- (8) Determines administrative support requirements.
- (9) Considers alternate plans for all foreseeable contingencies.

c. Other Considerations. The sequence outlined above is flexible and may be adjusted to the situation, type of operation, or the personality of the commander. Some of the steps may be considered in a different order or concurrently and some be revised as the planning is carried out. In appropriate steps in this sequence, the plan of fire support and the counterattack plan are also considered and developed. This sequence complements the command and staff actions outlined in paragraph 53.

203. Analysis of Defensive Mission

a. The first step in developing a scheme of maneuver is a

thorough analysis of the battalion mission and a consideration of all available information of weather, terrain, and friendly and enemy forces. The commander must study his order to insure that he understands all tasks, stated and implied, which the battalion must accomplish. Normally, these tasks are stated in terms of a specific sector which must be defended.

b. The brigade commander usually designates the trace of the forward edge of the battle area and the initial location of the combat outpost, when used. He designates the responsibility of the battalion along the FEBA (and, if appropriate, along the COPL) by specifying the location of battalion boundaries and coordinating points. In the mobile defense, the brigade commander may also specify that the battalion will organize a strong point within the area of responsibility.

204. Analysis of Defensive Sector

a. The commander performs a detailed reconnaissance of the area by foot, air, or motor vehicle. Based upon this reconnaissance and other information obtained, he analyzes his defensive sector to determine which terrain feature(s) must be controlled by him to accomplish his mission. If the seizure or control of such a feature would afford a marked advantage to either opposing force, it is a key terrain feature and must be *controlled* by the defender.

b. The defender is not rigidly bound to physically occupy key terrain features; he may control entry to them or, in conjunction with fires, defend them with comparatively small forces. It may be necessary to defend key terrain features in strength, or the commander may elect or be ordered to relinquish key terrain temporarily as a part of the scheme of maneuver.

c. After a determination of key terrain, the commander must analyze the avenues of approach into his sector from all directions. He also considers avenues of approach to be used by elements of his force in the counterattack. The commander analyzes the observation, fields of fire, concealment, cover, and obstacles in the sector. He also considers possible improvement of the obstacles and the use of barriers to enhance his defense. From this analysis of his defensive sector, he determines how he can make best use of the terrain within available resources to accomplish his mission.

205. Determination of Forces To Be Employed on FEBA

a. As the commander is analyzing the terrain in his sector, he considers the amount of resistance which he desires on each major

avenue of approach based upon his visualization of what will be required to hold the terrain or execute the required delay. As one technique, the commander may visualize the number of platoon size units required on the FEBA. From this visualization he then determines the number of companies required and selects tentative lateral boundaries.

b. The number of companies employed along the FEBA, the width of the sector assigned to each, and the specific locations of blocking positions selected for preparation and occupation (or for preparation and possible future occupation) depends upon the mission; the size, trafficability, and natural defensive strength of the area to be defended; enemy capabilities; and the capabilities of the defender.

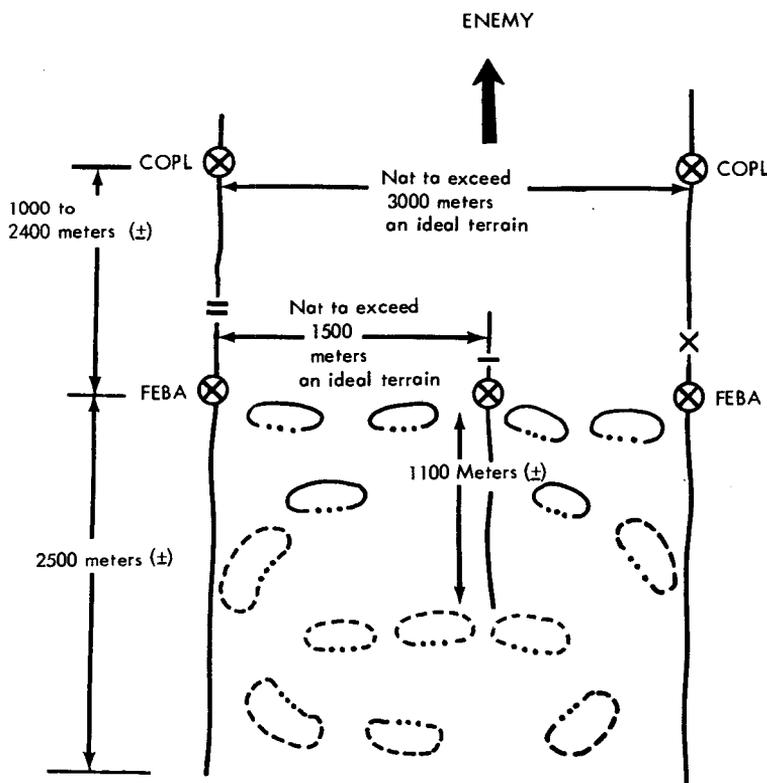
c. Forward elements of the mechanized infantry battalion employed on the FEBA must be dismounted to conduct an effective defense, since the APC is not a fighting vehicle. Therefore, in determining the forces to be employed on the FEBA, the mechanized infantry battalion commander considers the combat power of his forward units primarily in a dismounted role. The major difference in a defense conducted by a mechanized infantry battalion is in its ability to move elements quickly to supplementary or alternate positions, to conduct delaying actions, and to move the reserve rapidly in a counterattack. Frontages and depth for a forward mechanized infantry battalion are therefore essentially the same as any other infantry battalion.

206. Frontage and Depth

a. The battalion commander assigns proportionate frontages to his forward companies according to the natural defensive strength and importance of their defense area. Each company is assigned sufficient frontage and depth to enable it to disperse as the mission will permit.

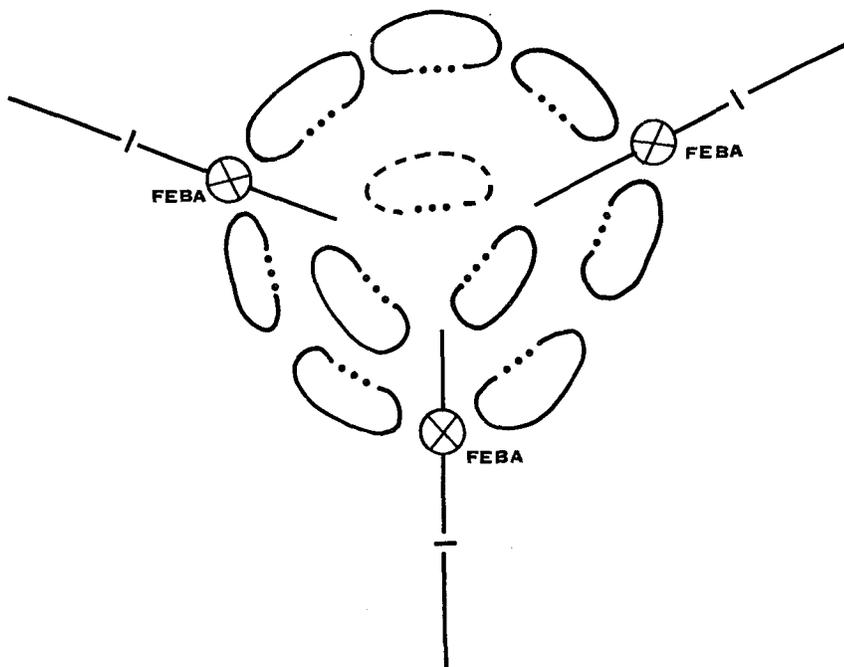
b. The battalion is capable of conducting a defense, on ideal terrain with two companies forward, on frontages up to 3,000 meters with depths of about 2,500 meters. Companies are capable of conducting a defense on ideal terrain on frontages up to 1,500 meters with depths of about 1,100 meters. *These are considered to be the maximum frontages; the frontage will normally be considerably less.* Conditions which limit visibility and the fields of fire of the defender, offer good avenues of approach to the enemy, or reduce the combat power of the defender, will habitually reduce this maximum frontage. The actual capability of the battalion in any given situation can only be determined after a complete estimate of the situation (fig. 26).

c. Companies are not assigned frontages in excess of 1,500 meters. When the battalion has been assigned a frontage in excess of 3,000 meters, it will still occupy only 3,000 meters or less of its defensive sector. The additional lateral area will be covered by patrols, fires, observation posts, listening posts, minefields, and other means. In effect, this will result in gaps between battalions which must be covered by as many of the above mentioned means as are available. An enemy attack through these gaps must be detected, located, fired upon, and if the need arises, blocked and/or destroyed by the fire and maneuver of all or part of the battalion. In this regard, the battalion plans to occupy a perimeter (fig. 27) when forced by enemy action, if retention of a particular terrain feature within the battalion defensive area is imperative to the brigade defense, or if there is danger of the battalion becoming isolated from other friendly defending units during the conduct of defense of its area.



NOTE: NOT TO SCALE

Figure 26. Battalion in area defense (schematic).



NOTE: Enemy threat from any or all directions.

NOTE: NOT TO SCALE

Figure 27. Battalion perimeter defense (schematic).

d. In the assignment of frontages to forward units, the commander also considers the additional support which may be rendered to them (e.g., additional combat forces in support or attached, assignment of barrages, etc.) in order to equalize defensive tasks.

207. Dispersion and Mutual Support

a. The commander is constantly faced with the problem of weighing his vulnerability resulting from concentration or dispersion. The defender's nuclear weapons may assist materially in providing a solution to the problem of controlling large areas since they can destroy enemy forces of significant size that may attempt to move through lightly held areas. Chemical and biological weapons may also be employed in such areas. Dispersion is between, rather than within, battalions and they must be able

to operate with substantial gaps between them on a battlefield of considerable width and depth. The dispersion presents a problem in surveillance, in massing nonnuclear fires, in mutual support and in reinforcement.

b. It is desirable for units and weapons to be located and employed so that they can assist one another with direct fire of automatic weapons. As a minimum, mutual support is obtained between companies by the fires of 81-mm mortars.

c. Care is exercised to insure a proper balance between concentration and dispersion. Dispersed personnel and equipment at every echelon must be capable of accomplishing the mission. The depth of the area assigned to the forward companies is comparatively shallow in relation to the overall depth of the battalion area. However, they are given adequate space to position their weapons, control facilities, and logistical elements, and to establish alternate and supplementary positions.

208. Battalion Reserve

a. As the battalion commander is determining the forces required on the FEBA, he concurrently considers the size and location of the reserve. He allocates sufficient combat power to the reserve after a consideration of METT. The reserve is not a residue remaining after allocation of elements to forces on the FEBA. A reserve may consist of troops and nuclear weapons or troops alone. Appropriate missions for the battalion reserve include—

- (1) Providing the battalion portion of the brigade combat outpost.
- (2) Preparing and occupying blocking positions.
- (3) Conducting counterattacks.
- (4) Assisting forward companies, when practicable, through use of organic fire support.
- (5) Providing flank and rear area security.
- (6) Preparing to assume mission of forward company on order.

b. The reserve position(s) and alternate and supplementary positions are selected so as to provide defense in depth, all-around defense, and flexibility. Positions are on or near key terrain features or on major avenues of approach where penetrations from the front or flanks can be blocked.

c. When the battalion commander requires the reserve to prepare alternate or supplementary positions, he specifies the priority of construction. When the battalion reserve is not work-

ing on positions, manning the combat outpost, or performing surveillance missions in the battalion rear area, it usually occupies the reserve positions having the highest priority for defense. These positions may be completely occupied or occupied with skeleton forces, with the remainder of the reserve dispersed in the vicinity. In the mechanized infantry battalion, the reserve is often dispersed and may occupy assembly areas or blocking positions as the situation dictates. The mobility of the unit allows rapid assembly and/or movement to blocking positions or to alternate or supplementary positions.

d. The reserve must be prepared to move quickly to threatened areas. Helicopters may be used to shift reserves rapidly. APC afford limited protection for the reserve and a capability to concentrate power rapidly from dispersed positions to participate in a counterattack.

209. Determination of Security Forces and Measures Required

In planning his defense, the battalion commander insures that adequate provision is made for all-around security. The combat power allocated to security forces and the measures taken are determined by a consideration of METT. Consideration is also given to the degree of security provided by security elements of higher headquarters, i.e., covering forces and general outpost forces.

210. Covering Force

A covering force is normally established by corps headquarters to provide security forward of the general outpost line. This covering force has the mission of delaying the enemy forward of the GOPL for a specified period to provide time for the preparation of defensive positions to disorganize the attacking enemy forces as much as possible, and to deceive the enemy as to the location of the FEBA. Forces assigned to a covering force carry out their mission primarily by means of delaying action as discussed in chapter 7.

211. General Outpost (GOP)

a. The general outpost is the division security element. Its mission is to detect the enemy approach, delay and disorganize his advance, and deceive him as to the location of the defensive area. The location of the general outpost line (GOPL) may be prescribed by corps or division headquarters. The assignment of responsibility for the GOPL within the division sector is made by the division commander.

b. The GOP is normally a combined arms team under command of one of the brigades, although a battalion task force or the armored cavalry squadron may be designated as the control headquarters. When an infantry battalion is assigned the GOP mission, it is normally reinforced with attached combat and combat support units to enable it to accomplish a delay mission on a wide front.

212. Combat Outpost (COP)

a. The combat outpost is a security element of the brigade. The primary mission of the COP is to provide timely warning of the enemy's approach and to deny him close ground observation and direct fires into the battle area. Within its capabilities, the COP delays and disorganizes the enemy and attempts to deceive him as to the true location of the battle area. The brigade commander prescribes the location of the combat outpost line (COPL) and assigns responsibility to insure continuous security across the front of the brigade sector. The COPL is usually manned and controlled by forward battalions.

b. The COPL is normally located forward of the FEBA (desirably 1,000 to 2,400 meters) on the best terrain feature from which it can accomplish its mission. Detailed organization of the COPL is discussed in FM 7-11. Terrain selected for the COPL ideally should—

- (1) Afford long-range observation and fields of fire.
- (2) Provide obstacles to the front and flanks.
- (3) Provide concealment and cover on positions.
- (4) Provide concealed and covered routes of withdrawal.
- (5) Deny the enemy close ground observation and direct fires into the battle area.
- (6) Be within supporting distance of the battle area.
- (7) Control existing enemy avenues of approach.

c. The detailed composition of the COP will be prescribed by the battalion commander within the limitations stated by the brigade commander. Elements of the reserve company may man the COP established by a forward battalion. The strength of the COP will range from a reinforced rifle platoon to a reinforced rifle company. The COP is made as mobile as terrain and equipment permit. If the COP is provided with APC and tanks, it may place additional emphasis on delaying and disorganizing the enemy. Artillery and heavy mortar support are usually provided from within the battle area. When this cannot be done, elements of either, or both, may be positioned forward of the FEBA.

d. The battalion commander may order forward companies to establish the combat outpost line in their respective sectors. Tanks, antitank weapons, radars, and Davy Crockett squad(s) may be employed with forces manning the COP. Upon withdrawal of the COP, they revert to the performance of their primary mission. When forward companies man the COP, the battalion commander normally delegates to company commanders the control of an authority to withdraw from their portion of the COPL. Elements of the reserve may also be attached to forward companies for the purpose of manning the COP.

e. The company commanders provide timely information to the battalion commander and adjacent unit commanders on plans for and the contemplated time of withdrawal. If a company portion of the COP loses all communication with its parent company, its local commander may withdraw it when it has accomplished its mission or to prevent its capture or destruction. He makes every effort to notify his company commander and commanders of adjacent portions of the outpost of the contemplated withdrawal.

f. Usually, security elements of higher echelons are forward of the COPL. The reconnaissance platoon or the COP maintains contact with friendly elements to their front. If no friendly forces are forward, patrols are sent forward to gain and maintain contact with the enemy. The COP may locate and recommend targets for nuclear weapons. It does not engage in close combat. The COP withdraws over previously reconnoitered routes. Contact with the enemy is then maintained by a combination of patrols and by observation from forward defense positions.

213. Rear Area Security

a. During the course of planning for defense of the assigned area, positions which contribute to rear area security are developed. A separate plan for rear area security is not prepared at battalion level. Rear area security missions are included in the operation order. In addition, rear area security measures are integrated into the barrier plan, surveillance plan, fire support plan, and patrol plan. The positioning of units and the selection of supplementary positions, as well as the local security measures taken by all subordinate elements, contribute directly to rear area security.

b. A separate rear area security force is not established. Units of the reserve are given a contingency mission of providing rear area security forces as required. When the reconnaissance platoon is employed in rear area security, its mission is largely passive in nature and consists of establishment of observation posts, road

blocks, and patrols. When a situation develops which requires the employment of a force against a hostile force located in the battalion's rear area, the selection of the unit and size force to be employed depends on the tactical situation at the time and the size and location of the hostile force.

c. The demands for attention to primary missions in the defense dictate that no unit commander be designated as battalion rear area security commander. In the event that more than one unit is employed against a hostile force in the battalion rear area, the battalion commander will designate the commander of the force.

214. Other Security Measures

a. Units establish local security to prevent surprise and infiltration of their defensive positions. Security provided by forward companies consists of observation posts, listening posts, outguards, and patrols. The forward companies and/or the organic reconnaissance platoon patrol the area between COP and the FEBA to maintain contact with the COP and to add to the security of the battle area.

b. The battalion commander also establishes flank security, when required. Subordinate units institute security measures to provide for the security of the flanks of their positions. Defensive measures against airborne attacks, guerrilla action, infiltration, and CBR attack are established. Patrols seek out the enemy and gain information of his activities. They are employed forward of and within the defensive position. Other means that can be used to contribute to security, such as electronic surveillance devices, infrared equipment, illuminants, barbed wire, antipersonnel mines, and other devices, are employed forward of and within the battle area. Aviation and reconnaissance units are habitually used to perform security missions.

c. Passive security measures are highly important. Emphasis is placed on camouflage and concealment. All positions are dug in as time permits, and underground shelters are provided whenever possible. All emplacements must be provided with overhead cover for protection against the effects of enemy fires.

215. Determination of Requirement for Obstacles, Antitank Defense, and Other Defensive Measures

In the plan of defense, the commander must consider the need for establishing other defense measures to include—

- a. Obstacles and barriers.
- b. Defense against armor.

- c. Defense against airborne attack, guerrilla action, and infiltration.
- d. Defense against CBR and nuclear attack.
- e. Defense against air attack.
- f. Defense during reduced visibility.

216. Barrier Planning

The battalion commander plans for use of obstacles forward of and within his defensive sector which are incorporated in the brigade and/or division barrier system. Care must be exercised in planning the barrier system to avoid interfering with the rapid shifting of units. They are constructed with due regard to the location of defensive positions and the effect of barriers on the mobility of friendly forces, particularly in the counterattack. Toxic chemical landmines can be integrated into or supplement the barrier system to strengthen obstacles and assist in denying areas. Exploding flame devices, flame expedients, and illuminants can be prepared, controlled and fired by forward elements to create obstacles. Natural obstacles are used to the maximum, since the demands on manpower, material, equipment, and time impose a limitation on the extent of barrier construction.

217. Defense Against Armor

a. Closely allied to barrier planning is the plan for defense against armor. Natural obstacles and antitank minefields may facilitate the destruction of armor by canalizing it into the fields of fire of antitank weapons. The antitank defense is established laterally and in depth throughout the defensive sector to include use of all antitank weapons including individual weapons, mines, antitank missiles, tanks, artillery, and nuclear weapons. Primary attention is given to those avenues of armor approach which present a significant threat to the battalion; however, no area is overlooked in antitank defense planning, since armored forces may be employed successfully over seemingly unfavorable terrain.

b. Antitank defenses are planned to engage enemy armor as soon as it comes within effective range. They are planned to separate enemy armor from its accompanying infantry and to destroy it forward of the battle area. If enemy armor reaches or enters the battle area, the defense attempts to canalize it into terrain where its destruction will be facilitated by offensive action of armored reserves and by antitank weapons positioned in depth. When nuclear weapons are employed, the antitank defense is designed to force enemy armor to mass so as to present a remunerative nuclear target. Antitank fires are integrated with other

types of fires and with the barrier system. Rifle company anti-tank weapons are under the direct control of the company commander who coordinates their employment with battalion antitank weapons. For employment of attached tank units, see paragraph 231.

218. Defense Against Airborne Attack, Guerrilla Action, and Infiltration

Positive measures must be taken against enemy airborne, guerrilla, and infiltrating forces so that the unit can concentrate on its primary defensive mission. A warning system is established throughout the battalion area using security and observation elements already emplaced. Detailed reconnaissance is conducted to locate probable drop and landing zones. Where necessary, special patrols, warning devices, roadblocks, and observation posts with radar equipment may be established to cover the area. Measures are taken to provide for security of administrative elements in the area. An illumination plan is prepared. When information indicates that an enemy force has entered the area, all or a portion of the reserve is given the mission of destroying it. Planned fires support the reserve. Other units within the area remain in position and support the reserve by fire. When the battalion is in brigade or division reserve, it is prepared to perform similar missions for the brigade or division.

219. Defense Against CBR and Nuclear Attack

Provisions for protecting individuals and units from CBR and nuclear attack, including a warning system and shelters, are included in SOP. Special measures should be incorporated in the defense plan as required. See appendix VII and FM 21-40.

220. Defense Against Air Attack

Air defense units may operate in the battalion area under control of a higher headquarters. In this event, the battalion commander coordinates with the commander of these units. The fires of organic individual and crew-served weapons of the battalion may be effectively employed in coordination with air defense weapons to limit enemy air activity in the area. The battalion's organic weapons can be particularly effective against helicopters and similar slow moving air vehicles. Assigned firing areas and conditions under which battalion weapons are employed must be defined by the battalion commander. Air defense measures taken by the battalion may include the following: passive protective measures; establishment of a warning system; and allowing units to fire on all attacking enemy aircraft and on positively identified

low flying enemy aircraft even when the unit is not under direct attack. Air defense measures taken by the battalion may be prescribed by brigade or higher headquarters. Detailed plans for use of air defense artillery are prepared by the commander of the air defense unit in coordination with the FSC. Coordination is effected under the direction of the division artillery commander through fire support channels to minimize undefended gaps between battalions.

221. Defense During Reduced Visibility

The enemy may attack frequently using smoke or during periods of reduced visibility. In order to defend against such attacks, increased security measures are adopted. These measures include dispatching additional patrols, increasing local security, using organic and attached surveillance devices, using warning devices, and providing for illuminating the area where the enemy may operate. Training in night combat is also stressed.

222. Deception

In developing his plan of defense, the battalion commander considers the use of deception measures which may cause an attacker to dissipate or misdirect his effort. The security force employs deception to cause the enemy to deploy his forces prematurely and delay the execution of his plans. Dummy positions and equipment and simulated activities may enhance the use of economy of force and/or cause the enemy to execute unnecessary offensive action and render his force vulnerable to counteraction.

223. Use of Control Measures

Control measures used in the defense may include the trace of the FEBA, boundaries, coordinating points, blocking positions and assembly areas. Additional control measures for the counterattack are discussed in paragraph 237 and for the defense in paragraphs 134 through 136.

224. Trace of the FEBA

When there is a necessity to show the trace of the FEBA on a map or overlay, it is shown as a line connecting coordinating points. It represents the general trace of the forward edge of forward defensive positions. The exact trace of the FEBA is ultimately determined by the location of the forward rifle platoons. Desirably, the FEBA should provide good fields of fire, concealment and cover, observation, natural obstacles parallel to it, and no significant salients or reentrants.

225. Boundaries

a. Boundaries define the area of responsibility. They include areas within which units may fire and maneuver without clearance with other units. The boundaries between forward companies divide the battalion frontage according to the natural defensive strength and relative importance of the defense areas. Boundaries are located to avoid division of responsibility for the defense of key terrain features or avenues of approach. Every effort is made to give forward companies equal defensive tasks within their capabilities.

b. When the combat outpost is controlled by the battalion commander, company boundaries are extended forward to points short of the combat outpost line. If the combat outpost is controlled by the forward company commanders, the boundaries are extended through the combat outpost line to the limit of effective ground observation forward of the COPL. The extension of the boundary indicates the most forward limit of territorial responsibility. In either event, boundaries extend far enough forward to allow forward companies to position local security. Boundaries are normally located to coincide with easily recognizable terrain features. Boundaries between forward companies are extended to the rear to provide adequate areas for companies to organize their defense.

226. Coordinating Points

a. Coordinating points on boundaries fix the location at which a higher commander desires adjacent subordinate commanders to coordinate their defenses. The brigade commander designates coordinating points on the battalion boundaries at the FEBA and may designate coordinating points along the COPL, usually on recommendation of commanders of battalions located along the FEBA. Battalion commanders designate coordinating points on their company boundaries at the FEBA and, when the forward companies control the combat outpost, designate coordinating points on company boundaries at the combat outpost line.

b. A coordinating point should be located at or near a terrain feature easily recognizable both on the ground and on a map. Commanders (or their representatives) coordinate at these points and determine whether the area between their units should be covered by fires, barriers, physical occupation, or a combination of these means. When subordinate commanders believe that a coordinating point should be relocated, they recommend a change to the commander who designated it. Battalions may, without permission from higher headquarters, refuse their flanks from designated coordinating points on the FEBA to obtain adequate

security. Flanks must not be refused to the extent that dispositions and fires cannot be coordinated with adjacent commanders well enough to achieve a continuous defense. Effective surveillance must be maintained in the gaps between battalions.

227. Assembly Areas

Assembly areas are general locations designated for occupation by reserve elements not employed in blocking positions. Locations selected are based primarily on the reserve element's mission and mobility, concealment and cover provided, and the availability of routes of entry and exit.

228. Blocking Positions

A blocking position is a location organized to deny the enemy access to a given area or prevent the further advance in a given direction.

229. Fire Support Planning

a. Throughout the development of the defensive scheme of maneuver, the battalion commander concurrently develops a plan of fire support. The purpose of fire support is maximum destruction of the enemy. This plan includes the support of security forces, forces on the FEBA, and the reserve. Nuclear and non-nuclear fires are planned concurrently since they are designed to complement and support each other.

b. When nuclear fires are used, they may dominate the defensive fire plan. Nonnuclear fires are planned to assist in the defense of unit positions, to assist in causing the enemy to mass, to augment the effects of nuclear fires, and to cover areas where nuclear fires are not used. To the extent possible, areas most critical to the success of the enemy attack are planned as on-call nuclear targets. These areas include locations where the enemy may be expected to mass such as obstacle crossing sites, attack positions, and assembly areas.

c. The plan for the use of nuclear weapons should, so far as practicable, include complete data on all on-call target areas—the size of each area, the number and yields of nuclear weapons required to produce the desired results, and the appropriate DGZ and heights of burst. With this information, the commander is prepared to strike quickly whichever of these targets becomes the most important to the developing situation. Troop safety is an important consideration, particularly when nuclear weapons are used in close in fires and in fires to support counterattacks. Small yield weapons may have to be employed for these missions,

with increased reliance on nonnuclear fires against the enemy in close contact with the defending elements.

d. Final protective fires are planned forward of the battle area to break up the enemy assault. Final protective fires include direct fires and the allocated barrages of supporting artillery and those of organic mortars. The battalion commander employs barrages to cover dangerous avenues of approach into the battle area. He designates the general location of each barrage. The forward rifle company commander in whose area the barrage is located specifies its exact location on the ground to his forward observer and reports its exact location to the FSC. The rifle company commander assigns the location of a barrage(s) for the company mortars to cover approaches not covered by the barrages of supporting artillery and heavy mortars or to extend the coverage of these barrages.

e. Plans are made to bring the enemy under fire at long range and subject him to increasingly heavy fire as he approaches the battle area; to stop his assault by an intense barrier of fire (final protective fires) immediately in front of the battle area; and to block him or support counterattacks within the battle area. When the enemy air threat is not a primary consideration, air defense weapons with a surface-to-surface capability may be employed in a ground support role.

230. Organization for Combat

a. The battalion commander tentatively establishes his organization for combat early in his planning. However, as he continues to develop his scheme of maneuver, he may adjust his allocation of combat power as certain aspects of the defense are considered. When the commander has reached the stage in his planning where his scheme of maneuver is firm, he establishes a detailed organization for combat.

b. The commander may tailor his organic or attached companies by employing them as pure or cross-attached units. If tank units are made available to the battalion, he may organize unweighted (equal number of tank and rifle platoons), infantry-heavy, or tank-heavy company task forces.

231. Employment of Tanks

a. If tanks are available, their employment is also integrated into the antitank defense plan. Some tanks may be employed laterally and in depth throughout the forward portion of the battalion area. In such a case, tanks are located in or near rifle platoon positions; desirably, tanks are mutually supporting.

b. The remainder of the tank company is normally held as a part of the reserve. It is desirable to employ a tank company (ies) as additional control headquarters. The primary mission of the tank unit(s) in reserve is to support or make the counterattack. A secondary mission is adding depth to the antitank defense. Time permitting, defensive positions are reconnoitered and prepared.

232. Use of Engineers

Elements of the division engineers may support infantry battalions in the defense by preparing important demolitions, laying certain minefields and preparing and maintaining routes. They may also assist units in preparing defensive positions and may assist the movement of reserve elements participating in the counterattack by preparing routes.

233. Use of Chemical Support

Use of toxic chemical agents must be authorized by higher headquarters, but there are no restrictions on the use of nontoxic chemical agents such as flame and smoke. When toxic chemical agents are authorized for use, it is normal to integrate chemical mines into high explosive minefields to increase their obstacle value and make clearance more difficult. Smoke may be used to conceal operations from the enemy and hinder tactical air operations; however, it must be used with caution so as not to block essential observation of the defending forces or their adjacent units (FM 3-5).

234. Administrative Support

In evolving the plan of defense, the battalion commander considers the impact of administrative support on the mission. Particular emphasis is given to the location and security of the combat trains, supply and evacuation of combat elements, traffic control, and provision of special supplies and equipment (intrenching tools, barbed wire, mines, etc.) required for the defense. Although the defense is usually characterized by heavy expenditure of class V and light expenditure of class III, in the mobile defense this may not hold true. Where a great amount of maneuver is anticipated, particularly in mechanized infantry units, provision must be made for adequate maintenance and class III supplies. In the defense, the combat trains are usually located farther to the rear than in offensive operations. This avoids undue congestion in forward areas and reduces the probability of loss of administrative support elements from a shallow enemy penetration.

235. Communications

a. To control the defense, the commander must plan and insure adequate communication with higher, lower, adjacent, attached, and supporting units. All means, including radio, wire, messenger, visual, and sound, are used to the maximum extent practicable.

b. In the defense, wire is a principal means of communication. When adequate wire communication is available, radio is not used; however, radio nets remain open since wire communication may be interrupted or may be inadequate for the situation. Use of radio is normally restricted except during periods of enemy contact. Pyrotechnics and other visual signals may be used in the defense for identification of friendly units, to call for lifting and shifting supporting fires, and in the execution of counterattack plans.

c. In the mobile defense, as in other fast-moving situations where enemy reaction time may not permit him to influence the defender's action, operational necessity may dictate transmission of messages in the clear. Simple, concise, fragmentary orders in the clear by voice radio will be common at the lower echelons of command.

d. For detailed considerations of communication during the defense and actions of the communication officer and platoon, see appendix V.

236. Alternate Plans

The battalion commander plans for all foreseeable contingencies. He plans alternate and supplementary positions to insure flexibility in his defense plan. Flexibility is also obtained by maintaining a reserve and by centralizing the control of fire support at the battalion level. Counterattack plans are prepared with the knowledge that they frequently may have to be adjusted to meet a different set of circumstances than originally envisioned.

237. Counterattack Planning

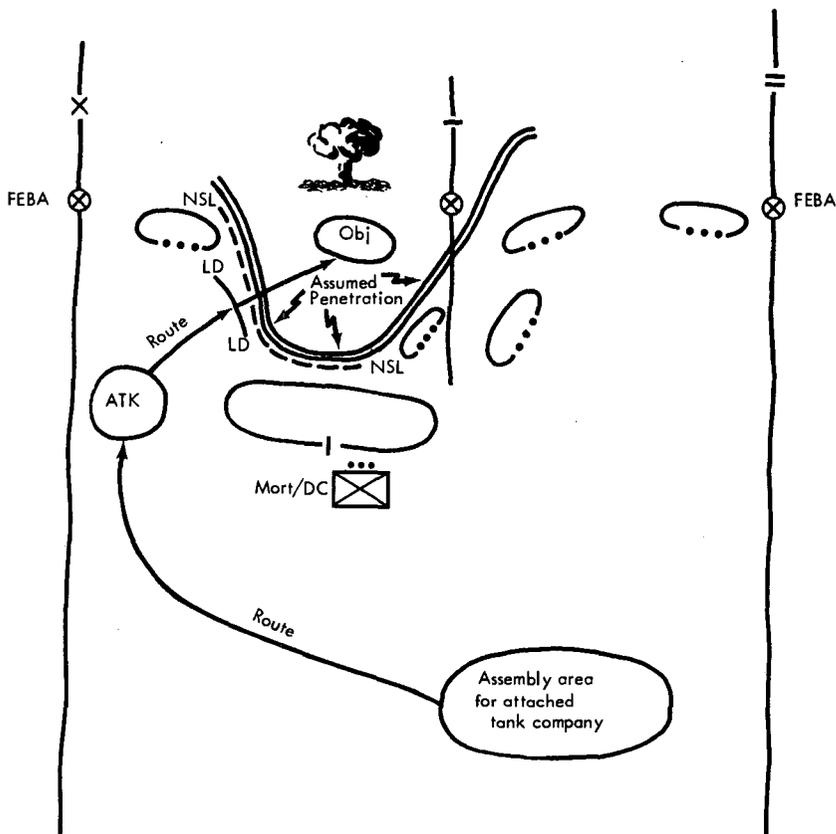
a. Counterattack plans are prepared concurrently with plans for the defense. They are prepared for all likely enemy penetrations within the defensive area. At the battalion level, a counterattack is a limited objective attack designed to destroy the enemy within a penetration and to regain lost portions of the battle area. The battalion reserve normally provides the maneuvering force, but the counterattack plan provides for including other organic, supporting and attached elements. The maneuvering force is

supported by the weapons of the battalion, including where practicable, weapons of the forward companies. Normally, a single coordinated effort is delivered, as the situation and terrain dictate, avoiding passage through friendly troops to the extent practicable. All friendly elements within the penetration are attached to the commander of the maneuvering force.

b. The battalion commander prepares counterattack plans and gives priority to those plans which assume the loss of or threat to the most critical terrain. The detailed planning for the counterattack is often accomplished by the commander of the reserve unit(s) in conjunction with the S3. Plans are rehearsed as time and security permit. Every effort is made to insure reconnaissance and rehearsal by key participating personnel. Night rehearsals are conducted as required.

c. A counterattack plan has the usual features of any attack plan. Special consideration is given to the following (fig. 28) :

- (1) *The visualized enemy penetration.* The commander must make assumptions as to the size of the force in the penetration, its width and depth, and the capabilities of the friendly forces to block and eliminate the penetration.
- (2) *Objective.* The objective assigned to the maneuver force is usually a terrain feature within the penetration the seizure of which is essential to the elimination of the penetration and the restoration of the battle area (par. 115).
- (3) *Direction of attack.* A direction of attack is assigned which will permit unity of effort and provide necessary close control of the attacking forces. Normally, the attack is directed at the flank or base of the penetration and avoids friendly defense areas. The use of nuclear support may make an attack against the nose of the penetration feasible (par. 127).
- (4) *Line of departure.* A line of departure is designated. Its location may be modified later to suit the situation at the time of execution (par. 128).
- (5) *Time of attack.* Consideration must be given to the time required to deliver nuclear fires in support of the counterattack, make a tactical damage assessment, and to move the counterattacking force to the line of departure.
- (6) *Attack position.* This position is designated but not used unless essential for the conduct of the attack, since unnecessary massing of troops and delay may result (par. 130).



NOTE: NOT TO SCALE

NOTE: Assumption is made that one platoon of left company is ineffective as result of enemy attack.

Figure 28. Battalion counterattack plan (schematic).

- (7) *Route.* The route(s) selected for movement of the counterattacking force(s) to the LD is as direct as the situation permits and takes maximum advantage of concealment and cover afforded by the terrain.
- (8) *Composition of the maneuver force.* In executing the counterattack, the commander commits all the means necessary to accomplish the mission.
- (9) *Blocking forces.* The unit responsible for blocking the enemy is designated. Blocking forces may be (but are not normally) attached to the maneuver force when it conducts the counterattack. If the penetrated company (ies) does not have the capability of containing the

penetration, elements of the battalion reserve are designated as the blocking force.

- (10) *Fire support.* Fire support is obtained from organic, attached, and supporting weapons of the battalion. Priority of fires is given to the maneuver force. Plans for the use of nuclear and chemical weapons must insure that the obstacles (including induced radiation and tree blow-down) which they may create within the battle area will not adversely affect either movement of the maneuvering force or accomplishment of the defensive mission when the battle area is restored.
- (11) *Defense missions.* The battalion commander designates the units that will be prepared to defend the area once the penetration has been eliminated.
- (12) *Reserve.* As a part of the counterattack plan, a temporary reserve is reconstituted upon commitment of the maneuver force. Plans are made in advance for such a contingency; the composition of the temporary reserve may be a matter of SOP.
- (13) *Other control measures.* The commander may use other control measures to facilitate a coordinated counterattack. Some of these measures may include checkpoints, phase lines, contact points, a nuclear safety line (NSL), and boundaries.

d. Adjacent battalion or other commanders coordinate plans to eject the enemy from a penetration that threatens both their areas. Brigade is informed of such plans. Throughout all steps of counterattack planning, commanders keep plans as simple and flexible as possible, realizing that it is unlikely that the actual penetration and counterattack will correspond very closely with the prepared counterattack plan.

Section III. PREPARATIONS FOR THE DEFENSE

238. General

a. While the commander and staff are preparing the plan of defense as outlined in paragraphs 201 through 237, concurrent actions are being taken within the battalion to prepare the unit for its defensive mission. Normally, when the brigade order is received, a warning order is passed to subordinate units to alert them for the pending operation. Arrangements are also made for movement of the battalion as required and designation of time and place of issuance of the battalion order and personnel to be present.

b. When defending units arrive on position, they immediately begin organization of the defensive position. Many of the tasks involved are carried on concurrently, but some may require priority. The battalion commander may specify the sequence for the preparation of the position and any special precautions to be taken regarding camouflage. The following is a recommended sequence:

- (1) Establishing security.
- (2) Positioning weapons.
- (3) Clearing fields of fire, removing objects masking observation, and determining ranges to probable target locations.
- (4) Providing signal communication and observation systems.
- (5) Laying minefields and preparing important demolitions.
- (6) Preparing weapon emplacements and individual positions, to include overhead cover, and camouflaging them concurrently.
- (7) Preparing obstacles (other than minefields) and less vital demolitions.
- (8) Preparing routes for movement and for supply and evacuation.
- (9) Preparing alternate and supplementary positions.
- (10) Preparing CBR protective shelters as required.
- (11) Preparing deceptive installations in accordance with deception plans of higher headquarters.

c. The organization of the ground begins as soon as the troops arrive in the area and continues as long as the position is occupied. When it must be organized while the force is in close contact with the enemy, defense against attack may be required during any or all stages of the organization. Maximum use is made of available fires to cover the organization, and smoke may be used to deny the enemy observation of the preparation.

d. Whenever practicable, in mechanized infantry units, APC's are placed in hull defilade to allow use of the 50 caliber machine-gun in support of the defense. APC may also be employed in securing the flanks and rear of the defensive position. A primary consideration in the employment of APC in the defense is that they be immediately available to the unit to facilitate rapid displacement of forces. If time and the tactical situation allow, tanks are similarly placed in hull defilade (to include those in reserve) to facilitate conduct of the defense.

Section IV. CONDUCT OF AREA DEFENSE

239. Conduct by Security Forces

Unless deception is an essential element of the defense, the attacking enemy is normally taken under long range fire, including nuclear fires and toxic chemical agents (if appropriate) as early as possible. As he advances, he is taken under increasingly heavy fires by the corps covering force and, in turn, by the division security force (GOP) and the brigade security force (COP). Prior to the time that each of these security elements is forced to withdraw through elements to its rear, they delay, deceive, and disorganize the enemy to the maximum extent possible. They normally do not become decisively engaged, and they fight a delaying action to inflict maximum casualties on the enemy.

240. Conduct by Forward Defense Forces

When the COP has accomplished its mission, or to prevent its capture or destruction, it withdraws from the position. Long range fires are placed on the enemy to cover withdrawal of units from the COPL. These fires are continued on the enemy as he approaches the FEBA. If enemy tanks are employed, all available fires are delivered to force tanks to button up and to separate infantry from tank elements. Small yield nuclear weapons may engage small groups of tanks. Antitank mines and available air support are also used to the maximum. Artillery fires, to include chemicals, may be used on tanks to blind or destroy the crew and destroy accompanying infantry. If the enemy succeeds in launching an assault, final protective fires and all other available fires are placed on him. The decision to call for final protective fires is usually delegated to leaders of platoons along the FEBA.

241. Conduct by Reserve

a. If the enemy penetrates the battle area, the battalion commander uses his reserve to limit the penetration. When there is a reasonable chance of success, he launches a counterattack to restore the battle area and destroy enemy forces in the area of penetration. The decision to counterattack is made by the battalion commander. In making his decision, he considers these questions:

- (1) Has the enemy been slowed or stopped forward of positions of the battalion reserve?
- (2) Have all available fires been employed without destroying the enemy?
- (3) Are reserves and supporting fires adequate to support the counterattack?

- (4) Has terrain been lost or threatened that jeopardizes the accomplishment of the mission?
- (5) Is a counterattack practical, in view of obstacles which may result from nuclear fires in the area?

b. Based on a consideration of the preceding questions, the battalion commander determines the probability of success. Affirmative answers to these questions generally favor a counterattack. However, they need not all be affirmative. An estimate is the decisive factor and a consideration of these questions is not a substitute for an estimate. As an example, if the defender is strongly supported by nuclear weapons and has an adequate reserve, the stopping or slowing of the enemy forward of reserve positions need not be the controlling factor in making a decision. In nuclear warfare, emphasis is on offensive action and a situation can be changed quickly by the use of nuclear weapons. Therefore, the nonnuclear criteria for stopping or slowing the enemy prior to a counterattack loses much of its significance when compared with offensive exploitation of nuclear weapons by the counterattack. If success does not appear probable, then the reserve is directed to block.

c. The counterattack capability is neither dissipated against minor enemy success nor employed against overwhelming odds. When it is launched, the counterattack is given all possible means to insure accomplishment of the mission. Piecemeal commitment of the counterattacking force jeopardizes the success of the entire operation. The counterattack is therefore carried out rapidly and aggressively, employing all the combat power necessary to insure success. Brigade is immediately notified of the decision to counterattack and a battalion reserve is reconstituted. After a successful counterattack, the battalion commander makes appropriate modifications to his defensive plan, including a consideration of the amount of induced radiation and other nuclear effects that may be present in the area. If the counterattack fails to seize the objective, brigade is informed and the ground gained is held until further orders are received or reinforcements are made available. For actions following an enemy nuclear attack, see paragraph 251.

Section V. THE RESERVE BATTALION IN THE AREA DEFENSE

242. General

a. A reserve battalion of a brigade in area defense may be assigned the following missions (fig. 29):

- (1) Limiting penetrations. The brigade commander desig-

nates company size blocking positions from which the reserve battalion can limit major penetrations, canalize the enemy, and provide all-round protection for the brigade battle area.

- (2) Occupying flank positions. When the brigade has an open or lightly held flank, positions are designated and organized from which the reserve battalion can protect the flank or extend the battle area to counter enemy flanking actions.
- (3) Counterattacking, based on a brigade plan.
- (4) Preparing a rear battle position and organizing the defense similar to that organized on the FEBA.
- (5) Organizing and occupying the GOPL or COPL.
- (6) Relieving a forward unit or replacing a unit rendered ineffective by enemy action.
- (7) Defending against airborne attack, guerrilla action, and infiltration and/or performing other rear area security missions.

b. Companies of the reserve battalion are dispersed laterally and in depth throughout its area of responsibility. Supplementary positions are prepared to complete the defense in depth on all major avenues of enemy approach and to furnish all-round defense. An attempt is made to have the companies mutually supporting. Companies may be echeloned to protect exposed or lightly held flanks. In organizing the area, a balance must be maintained between grouping elements of the battalion compactly and dispersing them to the extent that they cannot accomplish their blocking mission. When enemy contact or attack within the area of the reserve is not probable, companies of the reserve battalion are dispersed throughout the area to prepare positions. Care must be taken to insure that they are not so dispersed that they cannot move to their primary positions in time to perform their mission of limiting the penetration or counterattack.

c. The reserve battalion gives first priority to fires in support of its own companies. As a second priority, its fire support plan provides for assistance to forward battalions. Under exceptional circumstances and upon approval of the higher commander, the mortars of the reserve battalion may be moved to the vicinity of a forward battalion to support it. They withdraw to their primary positions in time to insure that their fires can support the reserve battalion when needed.

d. If the reserve battalion has tanks attached, they are employed to counterattack, to provide antitank defense in depth, and

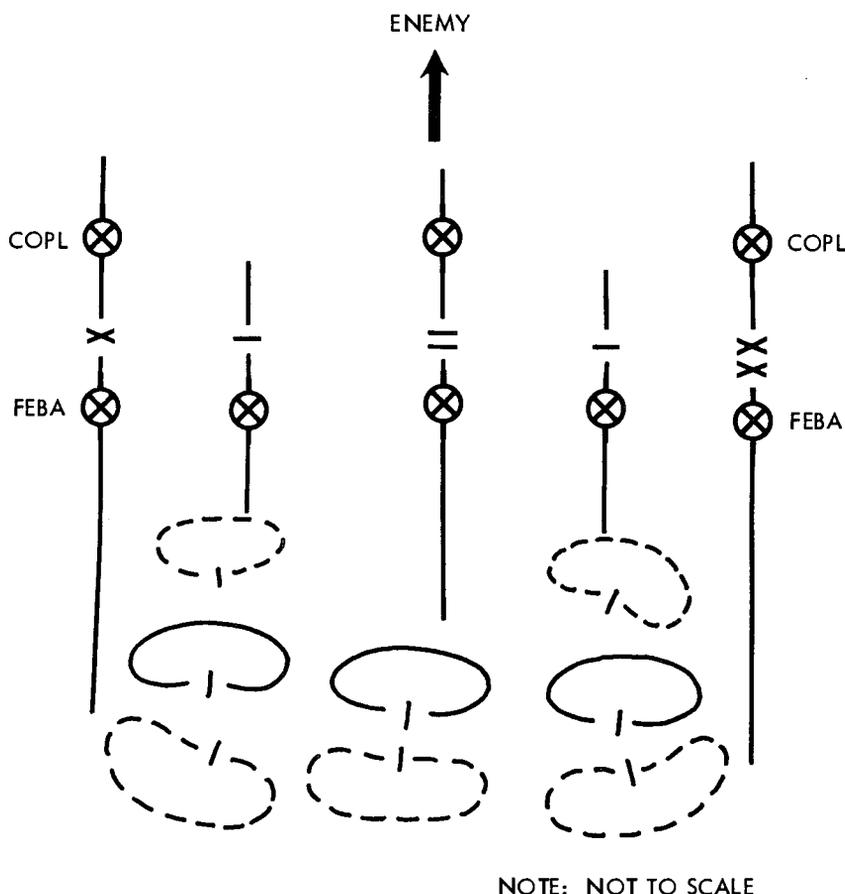


Figure 29. Battalion in brigade reserve (schematic).

to otherwise reinforce the battalion. They may be held in an assembly area or placed in prepared positions. Their employment is coordinated with the employment of the antitank platoon.

Section VI. BATTALIONS PARTICIPATING IN A MOBILE DEFENSE

243. General

Employment in the mobile defense normally dictates that infantry battalions be either mechanized or motorized. The battalion may participate as part of the security forces, forward defense forces (fixing forces) or the division reserve (striking force). Planning and conducting the defense is essentially as out-

lined in paragraphs 193 through 241 with the following special considerations taken into account at battalion level:

a. Blocking positions, or strong points may be organized at battalion (and, exceptionally, at company) level for those battalions located in the forward defense area. Blocking positions are organized for all-round defense on key terrain which dominates an avenue(s) of approach or is located to canalize attacking forces. Alternate or successive blocking positions, or strong points, are designated in depth.

b. Greater gaps exist between battalions (blocking positions, or strong points) on the FEBA. Because of these gaps, the danger of enemy infiltration in strength increases. Therefore, greater use is made of observation posts, listening posts, and patrols to cover these gaps between units.

c. In the mobile defense, primary emphasis is placed on the offensive role of the division reserve to destroy the enemy.

d. A COP is not normally used in the mobile defense. Security for forward defense forces is provided by a covering force, GOPL, observation posts, listening posts, and patrols.

244. Battalion as Part of Security Forces

When the battalion is employed as part of a covering force, it organizes and conducts its operations as described in paragraph 210. When the battalion is employed on the division GOPL, it organizes and conducts its operation as described in paragraph 211. Upon withdrawal, the battalion normally becomes a part of the division reserve.

245. Battalion as Part of Forward Defense Forces

a. General. When a battalion is assigned a sector on the FEBA as a part of the forward defense forces of the division in mobile defense, the battalion organizes and conducts the defense of its assigned area (within a brigade area) as a delaying action (ch. 7), an area defense (pars. 201–241), or some variation thereof. Every effort is made to canalize the attacker into “killing grounds”—terrain unfavorable to his maneuver, and on which heavy nuclear and nonnuclear fires have been planned. Dependent on the situation, battalions in the forward defense area may be ordered to hold key terrain. In other situations, they may allow the attacker to bypass. Regardless of how the defense is organized and conducted, the battalion commander will insure that the entire unit is positioned and prepared to fight and stay on its initial position if a changed situation so demands. The assignment of a

delaying mission should not of itself engender a mental attitude of "looking to the rear," since a change in the enemy situation may well require that the delaying unit be given a new mission such as area defense. It is imperative that the battalion commander have a full and detailed understanding of the division concept for conduct of the defense so that the organization of his assigned area, and subsequent conduct of the defense, will be in accordance with the division commander's plans.

b. Area Defense by Forward Battalions. The brigade commander may direct that specific terrain be retained when the retention of the terrain is essential to the integrity of the brigade position or when retention of the terrain will facilitate the canalization of the enemy into areas more favorable to the division. The mission of the battalion in this case is to stop, repel, eject or assist in canalizing the enemy. The defending battalion is prepared to accept semi-isolation from other friendly forces by refusing one or both flanks or to occupy a perimeter when forced to do so by enemy action. If the enemy attack cannot be stopped or contained, action is taken by the battalion to canalize the enemy to permit a counterattack by the brigade or division reserve. If the battalion is in danger of being overrun, it may be ordered to move to alternate or successive defense positions. In making withdrawals and adjustments, the battalion commander keeps his troops close to the enemy so that the enemy cannot use nuclear weapons without endangering his own troops. If the enemy withdraws after an attack, the battalion commander must be alert to conduct previously planned attacks to follow the withdrawal and reestablish the original defensive position if feasible.

c. Delaying Action by a Forward Battalion. When the battalion is employed in defense of those areas in which the brigade and/or division commander envisages an early withdrawal, it is assigned a mission to block, canalize, and delay the enemy and is employed on a relatively broad front and with little depth. Reserves at company level are reduced as necessary to permit the battalion to retain a reserve. The area assigned for defense is organized to offer as much resistance to the enemy as the terrain and the means available to the battalion allow. In most instances, because of wide frontages, the organization of the defense area will approximate the organization for a delaying action. In any event, the battalion is prepared to conduct a delay, on brigade order, to positions within the brigade or division rear area designated by a higher commander. The positions may be blocking positions in the division reserve area which will assist in limiting and containing the enemy penetration, or they may be assembly areas.

Throughout the entire operation, the brigade commander exercises continuous control through battalion commanders; he may require them to secure approval for moving reserve or uncommitted companies prior to their movement or being committed.

d. The Reserve Battalion(s) of Forward Defense Forces. The missions assigned to a reserve battalion of a forward brigade in mobile defense are similar to those outlined in paragraph 242. However, the reserve battalion will rarely organize the COPL since the COPL is seldom used in the mobile defense.

e. Other Considerations.

- (1) Flexibility of organization and operations is maintained. Within the division concept, the battalion may be required to organize the terrain and conduct its defense as indicated in *b* or *c* above, or some variation between the two.
- (2) Other aspects of the organization of this defense, including the employment of tanks and supporting units and weapons, fire support plans, and the use of barriers are similar to those discussed in paragraphs 201 through 237 for the area defense. Deception is particularly important, and great reliance is placed on the assistance afforded by nuclear fire support in protecting the flanks or disengaging from the enemy in order to withdraw elements of the unit to blocking positions.

246. Battalion as Part of Striking Forces

In the mobile defense, the division reserve constitutes the main counterattacking force, or striking force. Therefore, emphasis will be placed on offensive missions conducted as outlined in chapter 5. Elements of the reserve are located in widely dispersed areas prepared to move rapidly to areas of probable commitment. As part of the reserve, the battalion also may be required to organize positions in the reserve area.

Section VII. OTHER DEFENSE OPERATIONS

247. Reverse Slope Defense

a. A reverse slope defense is organized on that part of a slope which is masked from enemy direct fire and observation by the topographical crest. A successful reverse slope defense is based on denying the topographical crest to the enemy. Once the enemy gains control of it, the defender no longer possesses the advantage offered by the reverse slope. The battalion or its elements may conduct a reverse slope defense.

b. Although the battalion will rarely organize its entire front on the reverse slope, there may be situations when a part of the battalion may be profitably employed on the reverse slope. Some of the conditions under which a reverse slope defense may be adopted by elements of the battalion are these: a forward slope made untenable by enemy fire; when terrain on the reverse slope offers appreciably better fields of fire than on the forward slope; when it is desirable to avoid a dangerous salient or reentrant; or when the forward slope has been lost or not yet gained. The reverse slope may also be adopted to surprise the enemy and to deceive him as to the true location of battalion defenses. A reverse slope defense is particularly effective when friendly flanking fire may be directed on the forward slope of the reverse slope defense positions.

248. Defense of River Lines

a. *Defense.* A battalion commander may conduct a defense on a river line by either of two methods: (1) he may make maximum use of the river as an obstacle and employ the bulk of the battalion on or immediately near the river line; (2) alternatively, he may defend with minimum forces on the river line and hold the bulk of the battalion in reserve to strike the enemy when he is astride the river and prior to a large-scale buildup on the near side. The determination of which type of defense is organized depends upon the unit mission, friendly and enemy situation, and the terrain and weather; in most instances the terrain on the near and far bank will be the predominant factor.

b. *Maximum Force on River Line* (fig. 30). Factors which would favor a strong defense on the river line are—

- (1) Narrow sector assigned to the battalion allows the organization of a strong defense on the river line.
- (2) Observation and fields of fire on near bank are equal or superior to that on the far bank.
- (3) Good defensive terrain exists on the near bank (concealment and cover, observation, fields of fire, no obstacles immediately to rear, etc.).
- (4) Poor relative mobility or poor trafficability in area adjacent to near bank would prohibit quick movement of reserve.

c. *Minimum Force on River Line* (fig. 31). Factors which would favor such a defense are—

- (1) Wide defensive sector assigned to the battalion precludes organization of a strong defense on the river line.

- (2) Far bank has observation and fields of fire superior to that of the near bank.
- (3) Poor defensive terrain exists on the near bank.
- (4) Unit is defending on river which curves into near bank causing a serious reentrant or salient.
- (5) Good relative mobility and trafficability in area adjacent to near bank allows quick movement of reserve.

249. Planning the Defense of a River Line

After the battalion commander has determined which type of defense his unit will conduct (maximum or minimum strength on the river line), he follows the same techniques as when planning other type defensive actions (pars. 201-237). Special consideration is given to the following:

a. Analysis of Defensive Sector.

- (1) Trafficability and degree of slope of the banks, river bottom, and shores and the river-current velocity must be considered in relation to the enemy capability for launching an attack in armor vehicles (including tanks)

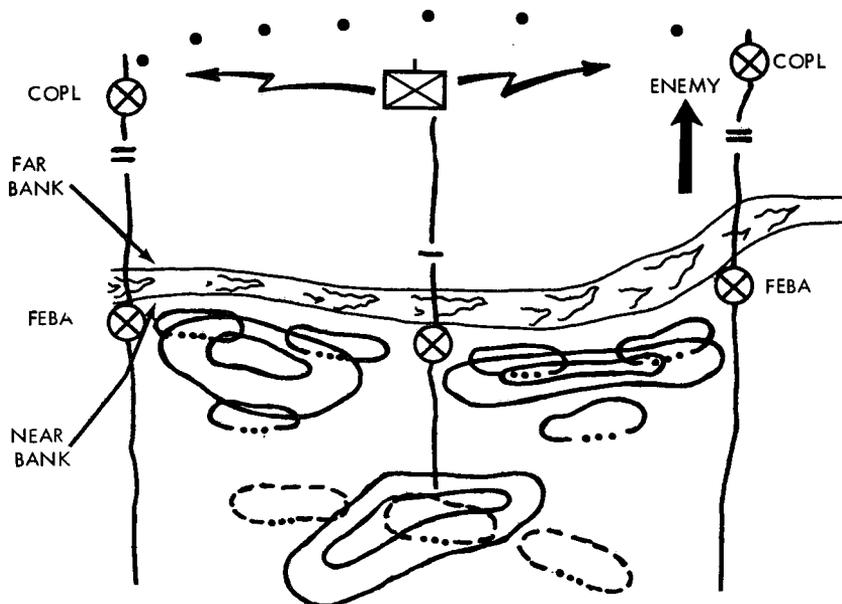


Figure 30. Maximum force on the river line.

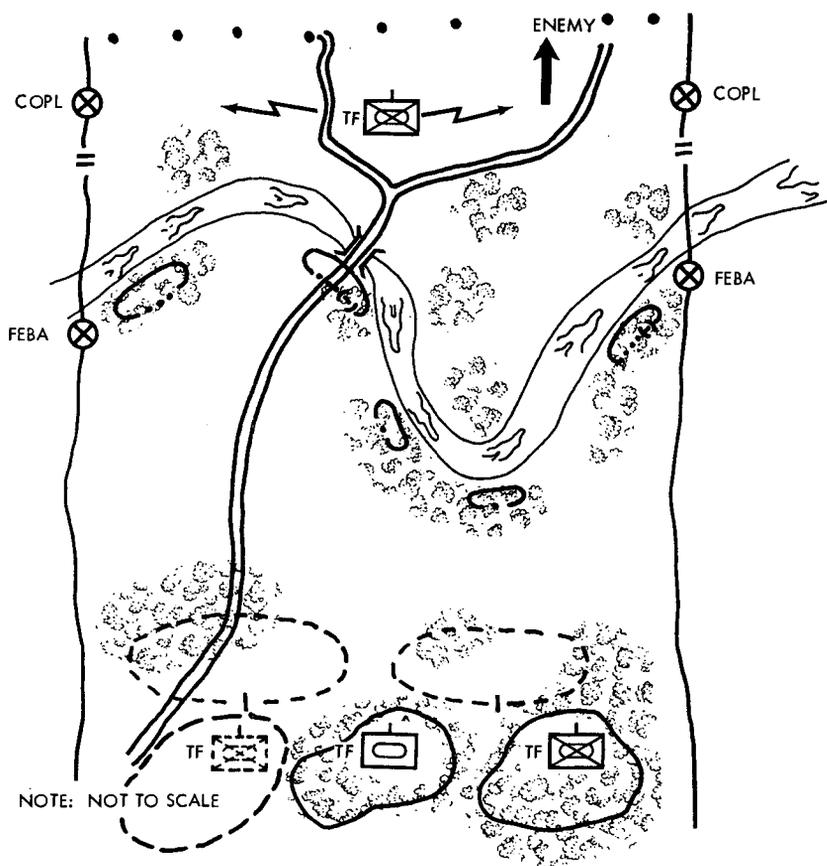


Figure 31. Minimum force on the river line.

and APC) that can swim or ford the stream. Strong defenses are established where the better crossing sites are available so as to deny their use and force the use of those less desirable. Crossing sites for armor vehicles should be mined and/or destroyed by cratering and construction of other barriers. Bridges should be prepared for demolition and destroyed at a time when such destruction is appropriate to accomplishment of the mission (f below).

- (2) Multichannel rivers are usually defended at the strongest channel with due regard for limitations imposed by acceptance of an obstacle within the defensive positions. Depth and nature of the river channel may provide only

fields of fire and observation and not an obstacle in the true sense.

- (3) When *minimum* force is employed on the river line, blocking positions are usually organized on the first good defensive terrain away from the river.

b. Determination of Forces to be Employed on FEBA. When *maximum* force is on the river line, the defense is organized as a normal area defense. When *minimum* force is to be placed on the river line, the battalion commander establishes strong points at key crossing sites. He determines what minimum force will be sufficient to delay enemy forces crossing the river and enable the reserve to maneuver and strike the enemy at the most opportune time. He determines the minimum force for the strong points on the following basis: strong points must be sufficient to delay enemy forces crossing the river so as to enable the reserve to maneuver and strike the enemy when the major part of his force is astride the river—but prior to a large scale enemy buildup on the near side.

c. Frontage and Depth. In the assignment of frontages, primary consideration is given to key terrain on the near bank and to trafficable areas on the near and far bank. When *minimum* force is on the river line, the gaps between strong points must be covered by patrols, fires, observation posts, listening posts, and other means. When *maximum* force is on the river line, the terrain may dictate that the forward defense forces be disposed immediately on the near bank; in other instances, the terrain may dictate that most of the force be immediately on the near bank with part of the forward defense force slightly away from the near bank (fig. 32). In either case, maximum advantage is taken of the obstacle.

d. Reserve. When *minimum* force is on the river line, the battalion commander retains a highly mobile reserve in blocking positions or assembly areas away from the river line. When *maximum* force is on the river line, the size and location of the reserve is the same as for a normal area defense.

e. Security Forces.

- (1) If a COPL is employed, it may be desirable to establish local security adjacent to the far bank in lieu of a COPL. When the COPL is established, desirably, it is placed on dominant terrain beyond the far bank. Security echelons should be disposed so as to cover approaches to the river. Plans should include use of waterborne patrols as an element of local security. On the COPL and for local security, particular emphasis

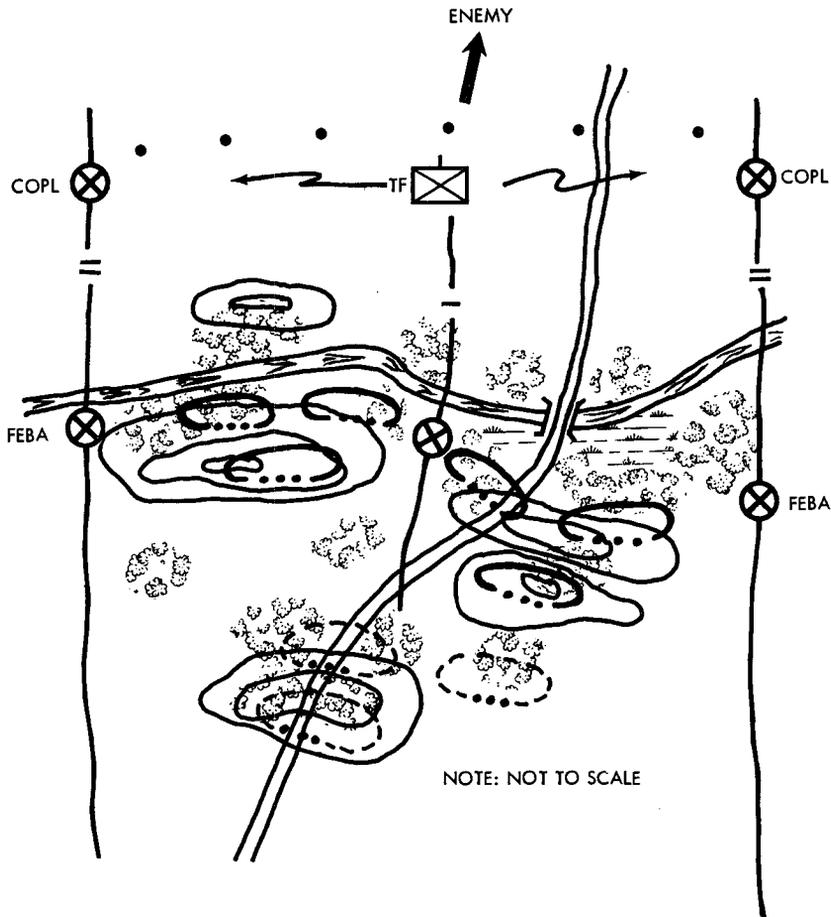


Figure 32. Maximum force on the river line with part of force disposed away from near bank.

- must be placed on counterinfiltration measures (patrols, warning devices, radar, infrared equipment, etc.) and on security measures during periods of reduced visibility.
- (2) The COPL may be manned by elements of the reserve or forward companies, as appropriate. Since APC have a swimming capability, the COPL should be mechanized, if possible.
 - (3) Security elements employed on the far bank must be provided means for their withdrawal over the obstacle. Desirably, alternate means of withdrawal are provided; i.e., even if bridges are available, boats can be cached on

the far bank in the event that the bridge is prematurely destroyed. Boats should be guarded and tow ropes used for quick withdrawal to the near bank. Air transportable forces may be withdrawn by air. Plans must also include delaying the destruction of crossing facilities until the security forces are withdrawn.

f. Destruction of Bridges.

- (1) After security forces withdraw, all means of crossing the river are removed or destroyed. Sufficient spans of bridges are demolished to prevent crossing on the wreckage or hasty building on the remaining bridge supports.
- (2) Since the destruction of bridges is of major importance in the defense on a river line, specific provision must be made for their destruction. Care must be taken that bridges are not blown prematurely or that they are not seized intact by the enemy.
- (3) For the command responsibilities, techniques and procedures for destruction of bridges see paragraph 261.

g. Rear Area Security. Since the enemy may conduct a river crossing in conjunction with an airborne assault, particular attention must be given to screening and placing obstacles on possible drop or landing zones.

h. Antitank Measures. All possible antitank measures are planned against enemy amphibious armored vehicles. Construction of obstacles and minefields on the near and far banks and planning of antitank fires are priority requirements. Fords are made impassable by use of mines and obstacles.

i. Fire Support Planning. Fires are planned so as to interdict possible assembly areas for troops and areas suitable for massing of crossing equipment. Fires are also planned for delivery on approaches to the river and on all possible crossing sites, with priority to the best crossing sites. Planning should provide for use of VT and mechanical time fires to be used on the enemy as he crosses the obstacle.

j. Dispersion. In the planning and conduct of the defense of a river line, special measures must be taken to avoid the presentation of massed forces to enemy fire. Reserve elements should remain dispersed until any enemy penetration that occurs makes itself vulnerable by placing its major force astride the obstacle. Once a counterattack is launched and the enemy force destroyed, the reserve is again dispersed and the defensive positions of the forward defense forces are reestablished.

k. Rehearsal. If time and security permit, the counterattack action of the reserve should be rehearsed. This is particularly vital in the defense with *minimum* force on the river line, since the timing of the counterattack is critical to the success of the operation.

250. Conduct of a River Line Defense

The conduct of a river line defense is essentially the same as in any other defensive action; however, in this type of defense, the timing of the counterattack is most critical. The enemy must be hit at his most vulnerable time, when part of his force is on the near bank, part on the river, and part on the far bank to achieve maximum destruction of enemy personnel and crossing equipment. The counterattack must strike the enemy before he attains a large-scale buildup on the near side. The enemy must be defeated in detail on ground (or water) of the commander's choosing. After the counterattack, the reserve force may return to blocking positions or assembly areas to the rear to prepare for further action.

Section VIII. REORGANIZATION AFTER NUCLEAR ATTACK

251. Preparation and Conduct

a. Emphasis is placed on rapid reorganization after an enemy nuclear attack. The success of the defense may depend upon the speed and the effectiveness with which defending forces are reorganized and disposed to destroy the enemy or contain his attack. The defense must be so organized that the loss of any single unit or a portion of the battle area will not result in total ineffectiveness of the battalion.

b. When an element(s) on the forward edge of the battle area is destroyed by a nuclear weapon, the battalion commander immediately takes action to reorganize survivors, survey the extent of damage to the prepared position, and restore the position with reserves when the extent of the area of radiation contamination permits. If the commander is unable to restore the entire position because of radiation, he reoccupies the portion that is within allowable safety limits and covers the remainder by observation and fire. If the position cannot be restored adequately, in whole or in part, by reoccupying primary positions, reserves may occupy other positions. Adjacent units take action to occupy positions which refuse their respective flanks. The positions occupied by the reserve should be as far forward as the terrain permits to reduce

the size of the salient. Withdrawal of the entire battalion to blocking positions is undertaken only when required to prevent its destruction, or when ordered to do so.

c. If the affected force is a reserve unit, immediate action must be taken to reconstitute a reserve.

CHAPTER 7

RETROGRADE OPERATIONS

Section I. GENERAL

252. Introduction

A retrograde operation is a movement to the rear or away from the enemy. It is an operation which may be forced by enemy action or made voluntarily; in either case, such an operation must be approved by the higher commander. A retrograde action may be conducted by ground or air movement, or by a combination of both methods. It is desirable that the retrograde force have mobility superior to that of the enemy.

253. Types and Purposes of Retrograde Operations

a. Retrograde operations are classified as three basic types:

- (1) *Withdrawal* is an operation in which a deployed force disengages from the enemy.
- (2) *Delaying action* is an operation in which a force under enemy pressure trades space for time while inflicting maximum punishment on the enemy without becoming decisively engaged in combat.
- (3) *Retirement* is an operation in which a force moves away from the enemy without direct pressure.

b. Retrograde movements are conducted for one or more of the following purposes:

- (1) To harass, exhaust, resist, delay, and inflict punishment on the enemy.
- (2) To draw the enemy in an unfavorable situation.
- (3) To permit the use of elements of the force elsewhere.
- (4) To avoid combat under undesirable conditions.
- (5) To gain time without fighting a decisive engagement.
- (6) To disengage from combat.
- (7) To place the forces involved in a desired position in relation to other friendly forces.

Section II. BASIC CONSIDERATIONS FOR RETROGRADE OPERATIONS

254. General

In the planning and conduct of all retrograde operations, the

commander evaluates certain basic factors or considerations which may have an influence on the success of his operation. The degree to which these considerations are applied will vary with the situation.

255. Terrain and Weather

Positions are selected which afford good observation and fields of fire; this allows a unit to engage the enemy with long-range fires and to inflict continuous damage on the enemy as he maneuvers toward the position. Full use is made of natural and artificial obstacles including those created by mines, atomic and conventional demolitions, CB agents, and nuclear weapons. Concealment and cover are sought for delaying positions, assembly areas, and routes of movement. Road nets are exploited, especially by mechanized and motorized forces, to expedite movement and to facilitate control of the operation. Road nets are denied to the enemy. Unfavorable weather may limit observation, impede movement, reduce the effects of nuclear weapons, and increase control problems.

256. Control and Coordination

Retrograde operations are characterized by detailed centralized planning and decentralized execution. Maximum use is made of such control measures as phase lines, checkpoints, routes (and alternate routes), delaying positions, and times for withdrawal. Although missions to subordinate units will be more detailed and more restrictive than in other operations, subordinate commanders must be allowed sufficient freedom of action to permit exploitation of advantages which develop at small unit level. This is essential since, in a retrograde operation, actions are normally carried out on an extended front thereby making control and communication more difficult. Subordinate commanders must have detailed knowledge of the overall plan so that they may properly conduct independent actions when communication with higher or adjacent units is lost.

257. Action Against Enemy Forces

a. All units avoid close combat in retrograde operations unless it is required to accomplish the mission. Freedom of maneuver is essential to exploit rapidly any situation unfavorable to the enemy, shift forces to meet enemy attacks, secure the flanks and rear, and take maximum advantage of terrain. A decisive engagement is avoided except at the option of the withdrawing force.

b. An aggressive enemy may attempt to infiltrate through gaps between units and establish blocking positions or ambushes behind

friendly lines. He may also attempt envelopments on exposed flanks and follow withdrawing columns to strike them from all directions. To counter such actions, commanders must place particular emphasis on gap coverage, flank security, and security during the move, even in seemingly friendly territory. During movements, mobile security forces, continuous reconnaissance, rapid movements, and air and antitank defense become priority requirements.

258. Traffic Control and Control of Civilians

a. Complete control of routes of withdrawal is essential to effective retrograde operations. Route priorities are therefore planned for all units to insure an orderly shifting of forces with due consideration for their mission and capabilities. The probability of enemy interdiction of road nets or congestion along the routes of withdrawal also demands planning for alternate routes.

b. Since a retrograde action can rarely be conducted without the civil population becoming involved in the operation, control and evacuation of civilians must be considered in all plans for a retrograde movement. Control of civilian movement is essential in order to avoid traffic disorder and congestion which might restrict the freedom of movement of the withdrawing force. Assistance from a higher authority will usually be required.

259. Security and Deception

Security may be obtained in retrograde operations through passive security and deception measures including:

a. Requiring radio silence for displacing units and maintaining a normal radio pattern in the forward defense area.

b. Providing front, flank, and rear security against ground and air attack to withdrawing units.

c. Maintaining normal supporting fires, patrolling, and radar employment to deceive the enemy.

d. Displacing during conditions of reduced visibility or by infiltrating and withdrawing on a wide front to provide security against nuclear attack.

260. Demolitions and Obstacles

a. Demolitions and obstacles are employed to the maximum extent practicable in order to delay and disorganize the enemy advance. Use of minefields, abatis and craters and destruction of bridges, tunnels, and narrow defiles may restrict enemy maneuver and thereby facilitate withdrawal of friendly elements. Nuisance

minefields may be used when authority has been granted by higher headquarters. Obstacles may also be created by nuclear fires (par. 262).

b. In planning use of demolitions, guidance must be provided on the time or conditions under which demolitions will be fired. A demolition firing party should be designated and, when appropriate, guards should be provided to prevent premature firing or seizure by enemy infiltrators. Care must be taken that demolitions employed do not hamper future operations in the area.

261. Destruction of Bridges

a. After withdrawal of security forces, all river crossing means are normally removed or destroyed. Any boats or rafts on the far bank are removed or destroyed; fords are mined or made impassable with obstacles; and sufficient spans of the bridges are demolished to deny the enemy use of the remaining bridge structure. The responsibility for destruction of bridges within his sector is normally delegated to the battalion commander. Certain restrictions on this destruction may be imposed by the higher commander.

b. A demolition firing party will be designated. An engineer officer or senior noncommissioned officer will normally be appointed as a firing party commander. Infantry units will provide an adequate demolition guard to include a demolition guard commander. The demolition firing party commander, who is under the command of the demolition guard commander, will fire the demolition at a prescribed time, on receipt of a code word, or upon order from the demolition guard commander. After the demolition is fired, results are reported to the commander ordering the firing. In the event of a misfire or only partially successful demolition, the demolition guard will provide protection to the firing party until such time as it has completed the demolition.

c. The demolition guard commander will order the firing of the demolition only upon the order of the authorized commander. However, if the enemy is in the act of capturing the bridge, the demolition guard commander will order firing of the demolition on his own initiative. The demolition guard will protect the demolition from enemy attack or sabotage. A seniority roster will be established to insure a specific chain of command in the event that the demolition guard commander is incapacitated.

d. Plans for destruction of bridges must insure that bridges are not blown prematurely or captured intact by the enemy. A list of units that are to use the bridge is furnished to the demolition

guard commander. Commanders of withdrawing units notify the guard commander when their units have cleared.

262. Fire Support Planning

Fire support planning in retrograde operations is similar to that of defensive operations (par. 229). Particular emphasis is placed on the following:

a. Fires are planned near all defiles and obstacles created by demolitions to include minefields, destroyed bridges and tunnels, and other obstacles. Nuclear weapons may be profitably employed to create craters, tree blowdown, or other obstacles to enemy movement. Surface or subsurface burst nuclear weapons are effective for contamination of terrain after a withdrawal by friendly forces. The enemy must then avoid the contaminated area and be forced into terrain favorable to us, or cross the contaminated area and accept casualties.

b. If the enemy masses strength to force passage of an obstacle, he becomes vulnerable to a nuclear attack and possible exploitation by a limited offensive action. Nuclear weapons may also be employed to assist in disengagement when necessary.

c. Since retrograde movements may involve periodic loss of control, the employment of nuclear weapons must be carefully coordinated. Easily recognizable nuclear safety lines (NSL) must be designated.

263. Use of Chemical Support

In retrograde operations, flame weapons may be effectively used against mass attacks which threaten to overrun positions. Smoke may be used to assist in screening troop movements, in deception, or to assist in disengagement. Toxic chemical agents may be employed to cause immediate casualties and/or to contaminate terrain.

264. Administrative Support

a. Plans must provide for disposition of excess supplies and equipment; evacuation of disabled vehicles; resupply during the retrograde operation; medical evacuation; and destruction of nonmedical supplies and equipment, if necessary.

b. Every effort is made to prevent supplies and equipment from falling into enemy hands. For this reason maintenance teams are normally placed well forward. In addition, specific instructions are issued authorizing destruction by designated personnel of non-medical supplies and equipment which cannot be evacuated.

c. Administrative support installations are normally located well to the rear in the retrograde so as to avoid interference with tactical operations and to insure minimum displacement. In the retrograde, plans must provide for a high rate of consumption of class III and class V supplies. Normally, these and other supplies are stockpiled by higher headquarters at predesignated points along routes of withdrawal.

265. Use of Army Aviation

a. The battalion may use supporting Army aviation in traffic control, radio relay, wire laying, medical evacuation, courier and messenger service, surveillance of enemy-held areas, artillery and mortar adjustment, laying smoke screens, and for movement of personnel, supplies, and equipment. Commanders can achieve better control and obtain more timely information by supervising the operation from Army aircraft. Airmobile forces can be used to block defiles and other critical points. When friendly forces are heavily engaged, armed aircraft may be used to assist them in disengaging and to cover their withdrawal. Aircraft observers may conduct reconnaissance to determine conditions of roads and bridges to the rear as well as to locate bypasses and alternate routes in case bridges are destroyed.

b. A withdrawal by air may be conducted in which all or a major part of a deployed force disengages from the enemy and is moved by air to another location. The withdrawal may be forced by enemy action or made voluntarily. The techniques discussed in chapter 10 are applicable.

266. Morale Considerations

All personnel must be fully informed of the purpose of the operation. An aggressive spirit must be retained and full advantage must be taken of all opportunities for offensive action. The results of successful offensive operations and/or destruction of the enemy by nuclear fires are made known to all troops. Rumors are suppressed to prevent disorganization and maintain morale. Forceful leadership, strict discipline, effective control, and prior planning are especially important in retrograde operations.

267. Stay-Behind Forces

a. During a retrograde movement, elements may be ordered to let enemy forces bypass them to enable the friendly elements to operate in the role of stay-behind forces. Operations of such forces require detailed planning, carefully delineated missions and effective control. Requirements for long-range communication

equipment and for evacuation normally necessitate support from brigade or higher echelon.

b. The actions of a unit intentionally acting as a stay-behind force are determined by its assigned mission. Appropriate missions for a stay-behind force include calling for and adjusting fires; executing demolitions; locating nuclear targets; reporting enemy information; and conducting raids to destroy key installations such as enemy command or communication facilities, supply installations, and nuclear delivery means. Planning should include contingency missions for units that may be forced into the role of stay-behind forces. Plans must also include measures for supporting fires, resupply coordination with friendly guerrillas, and/or recovery of stay-behind forces (FM 7-11 and FM 21-76).

268. Communication

Maximum use is made of wire communication during retrograde operations. However, in mechanized or motorized units, or when operating over extended fronts, radio and messenger may be the only means practicable. Regardless of means employed, every effort is made to avoid premature disclosure of the operation.

Section III. WITHDRAWAL

269. General

a. A withdrawal may be forced or voluntary and may be executed during daylight or at night. A withdrawal differs from a retirement in that it normally involves disengagement from the enemy. However, in a withdrawal, this disengagement is not complete, since contact must be maintained with the enemy in order to provide security for the withdrawing force.

b. Unless otherwise noted, the term "night withdrawal" as used in this manual connotes a *night-type* withdrawal without enemy pressure, usually during periods of reduced visibility. The term "daylight withdrawal" as used in this manual means a *daylight-type* withdrawal conducted under enemy pressure, normally during periods of good visibility.

c. Night withdrawals are favored over daylight withdrawals since they are conducted without enemy pressure. They provide freedom of action, facilitate deception, and reduce the effectiveness of enemy observation and fire.

d. A daylight withdrawal under direct enemy pressure is avoided, if possible, because observed enemy fires may result in heavy casualties and loss of freedom of action. Nevertheless, a

commander may decide on a daylight withdrawal if the expected losses are less than those he might experience if the withdrawal is postponed. Simultaneous planning for both a daylight and night withdrawal is required.

e. A night withdrawal is based on deception made possible by reduced visibility, while a daylight withdrawal envisions fighting to the rear. Therefore, if a withdrawal is made at night under enemy attack or when secrecy of movement is lost or cannot be maintained, it is conducted in a manner similar to a daylight withdrawal. Conversely, if smoke or other conditions reduce enemy observation, a daylight withdrawal may be based on deception as in a night withdrawal. Illuminants are planned to support a night withdrawal in the event secrecy is lost.

f. The commander ordering a withdrawal designates the location to which the troops will move and the action to be taken after the withdrawal. Although withdrawals are normally conducted in a direction generally perpendicular to the line of contact, on occasion a limited lateral movement may be considered. Withdrawals are normally followed by a defense on another position, a delaying action, or a retirement.

g. The battalion is normally assigned a zone of withdrawal. The boundaries of the zone extend to the rear to a brigade covering force or to the new position. The brigade commander usually assigns priority for use of routes to insure the orderly movement of all forces in the area. The battalion commander then assigns priority for use of routes to his subordinate units. For mechanized infantry units, desirably, there should be at least one route available for each withdrawing company.

h. During the withdrawal, limited objective attacks may be conducted to facilitate disengagement and keep the enemy off balance.

270. Planning for a Daylight or Night Withdrawal

a. After receiving an order to withdraw, the battalion commander and staff follow the sequence of actions outlined in paragraph 53. As part of this planning sequence, the commander formulates a plan of withdrawal. This plan includes a scheme of maneuver and a plan of fire support. Both are developed concurrently and must be closely integrated. The plan of withdrawal includes the essential details of security, administrative support, and the establishment of the communication system necessary for control. The following are also included in the plan of withdrawal:

- (1) New location to be occupied and disposition of units in that location.

- (2) Zones and/or routes of withdrawal to be used by subordinate units.
- (3) Strength and mission of security forces and other security measures.
- (4) Time of withdrawal and sequence of withdrawal of all subordinate units.
- (5) Traffic and other control measures.
- (6) Evacuation of casualties.
- (7) Provisions for evacuation and/or destruction of excess supplies.
- (8) Fire support.
- (9) Subsequent missions.
- (10) Alternate plans.

b. Planning for the withdrawal should allow time for subordinate commanders to conduct daylight reconnaissance of the new position and terrain and routes between the old and new areas. Units should develop standing operating procedures for making daylight and night withdrawals.

271. Night Withdrawal (pars. 269 and 270)

a. *General Concept.* If the battalion is on the FEBA, detachments left in contact are designated to protect the initial movement of the main body to the rear (fig. 33). As it moves farther to the rear, the main body will usually come under the protection of the brigade covering force (normally a reserve battalion) through which it withdraws.

b. *Detachments Left in Contact.*

- (1) The detachments left in contact have the mission of simulating normal activities of the main force and protecting the withdrawal of the main body within their capabilities. The detachments have limited capability for resistance, and must depend primarily upon deception to accomplish their mission.
- (2) The brigade commander coordinates the employment of detachments left in contact to include provision for necessary artillery support. He specifies the time of withdrawal by directing detachments to withdraw on order, at a prescribed hour or upon the occurrence of a specified contingency. He directs what action is to be taken in case of hostile attack, and also prescribes the general strength limitations for the detachments.
- (3) Within limitations imposed, the battalion commander

prescribes the size and composition of the battalion detachments left in contact. Normally, the detachments do not exceed one-third of the rifle strength of the forward companies, augmented by approximately one-half of the supporting weapons such as artillery (if available), mortars, machineguns, and antitank weapons. Detachments may also include the following: one-third of the supporting engineers; elements of attached tank units located in forward company areas; the reconnaissance platoon; radar teams located in forward company areas; the Forward Air Controller and sufficient forward observers; and necessary medical, command, and control elements. Inasmuch as the detachments left in contact simulate the normal activity of a fully occupied position, all elements are located so as to give the impression that the position is fully occupied.

- (4) Deception and secrecy may be obtained by suppressing noise made by withdrawing units, by simulating normal supporting fires, by patrolling, by using dummy positions, and by simulating normal radar coverage and radio traffic. Tanks and APC employed with forward units may remain with detachments left in contact when their withdrawal may compromise the secrecy of the operation or when they are required by the detachments left in contact to accomplish the mission. If tanks or APC are withdrawn, they do so by infiltration prior to the withdrawal of the main body. Their withdrawal is accompanied by a ruse or noise diversion such as delivery of artillery concentrations or an air strike on enemy positions in their proximity.
- (5) Approximately one-half of the heavy mortar section supports the detachments left in contact by the battalion. Approximately one-half of the artillery in support of the brigade usually supports the detachments left in contact by the brigade.
- (6) The reconnaissance platoon normally remains as the reserve element of the detachments left in contact. It patrols or blocks the most likely avenue of enemy approach into the battalion rear area. The reconnaissance platoon may act as a security element to assist the withdrawal of the detachments left in contact. Additionally, it may perform the task of maintaining contact with the enemy during the withdrawal. The priority of these missions is determined by the commander of the detachments left in contact.

- (7) The battalion commander does not normally employ elements of the reserve company as reserve of the detachments left in contact. He may do so when they are needed to augment the reconnaissance platoon, or when the reconnaissance platoon is not available.
- (8) The battalion executive officer is normally designated as the commander of the detachments left in contact. Subsequent to the initiation of the withdrawal, and at the discretion of the battalion commander, the commander of the detachments assumes responsibility for the sector. The commander of the detachments may change the disposition of forces in his sector to preserve the integrity of the position. Alteration of the position is not made until the main body has cleared the forward company area. He reports such changes to the commander of the brigade detachments left in contact.

c. Control Measures. The battalion commander maintains control of the withdrawal by designating initial points (IP) and release points (RP) (pars. 419 and 420), guides, company assembly areas, routes of withdrawal (including alternate routes), and route priorities in accordance with those assigned by the brigade commander. He recommends to the brigade commander locations for traffic control posts (TCP) along routes of withdrawal. The battalion does not establish traffic control posts. Assembly areas are located well forward to facilitate early reorganization of the units for the withdrawal. These assembly areas should be on good routes of withdrawal, in defilade if possible, with adequate turn-around space provided in or adjacent to them if transportation is to be used. Assembly areas should be planned for the night withdrawal but may not be occupied when the commander senses that the movement can be controlled without their use. If they *are* used, they should be occupied for the briefest possible period; the occupying unit provides its own security. Alternate routes are provided to insure the orderly movement of the force to the rear in case primary routes are denied.

d. Fire Support.

- (1) Plans for supporting fires include the maintenance of normal nonnuclear fires in the area. This requires an increased rate of fire from the weapons supporting the detachments left in contact.
- (2) A night withdrawal is normally made without the use of scheduled nuclear weapon support since success depends primarily upon secrecy. However, if a night withdrawal

receives heavy enemy pressure, it is normally supported on-call by nonnuclear and/or nuclear fires.

- (3) The employment of Davy Crockett weapons in night withdrawals is limited. Massed targets are difficult to fix at night at a distance which will provide friendly troop safety. The effect of flash blindness (dazzle) on withdrawing forces must be considered. If terrain forward of the forces left in contact canalizes the enemy into an avenue of approach, Davy Crockett units may be employed with the forces covering these avenues. To be effective, concentrations should be registered during daylight. Radar or infrared equipment may be used to determine when the enemy has massed sufficiently to present a target.
- (4) If nuclear weapons are used to assist in disengagement, the nuclear safety line must be clearly delineated and recognizable. In any use of nuclear weapons, friendly troops must be warned so they may shield their eyes and guard against dazzle.

e. Secrecy. All daylight activities which might disclose the intention to withdraw, such as abnormal movement of vehicles to the rear, are prohibited. Necessary daylight motor movements to the rear, including reconnaissance, are made by infiltration. Provisions are made to insure that noise does not betray the withdrawal.

f. Transportation.

- (1) If an infantry or airborne infantry battalion makes a night withdrawal the following techniques are used. Shortly after dark the minimum vehicles necessary for the movement of supplies and equipment are brought as far forward as practicable. Sufficient vehicles are placed in assembly areas to transport the heavy weapons and ammunition of the detachments left in contact. It is highly desirable to completely mechanize (or motorize) the detachments left in contact to facilitate their rapid movement to the rear. If a limited number of vehicles is available, priority of allocation of vehicles is given to the detachments.
- (2) If a mechanized infantry battalion makes a night withdrawal, APC's may be withdrawn using one of three techniques outlined below:
 - (a) APC's, except those provided for detachments left in contact, may be withdrawn shortly after dark a few at a time to company assembly areas. Artillery and

mortar fires are used to cover the noise of movement. This technique may be used when routes to the rear are limited and when early movement of APC's can be made without compromising secrecy.

- (b) All APC's may remain initially in their forward positions. The main body moves on foot to the rear to a predesignated assembly area(s) or along a route(s) where they may later be picked up by APC's remaining on position. Immediately prior to the withdrawal of the detachments left in contact, APC's for the main body begin their movement to the rear where they pick up designated elements of the main body. (It is essential that plans provide for loading of dismounted elements on specifically designated APC's. This will facilitate loading and insure retention of tactical integrity during the remainder of the move and on the next position.) Until these APC's on the initial position (usually each with 2 or 3 men) begin their withdrawal, they may add additional firepower to the detachments left in contact. This technique is appropriate when multiple routes to the rear will enable a quick and orderly withdrawal of all APC's and when there is danger of compromising the secrecy of the withdrawal by earlier movement.
- (c) All forces on position may withdraw simultaneously without using detachments left in contact. See *j* below.

g. Supply and Medical Evacuation.

- (1) Before the withdrawal starts, unit commanders insure that the level of ammunition supply is adequate for the action. The first troops to withdraw can, if necessary, transfer ammunition to the detachments left in contact. Supplies are delivered at the new position in time to fill anticipated needs.
- (2) During a night withdrawal, medical air evacuation may be limited. A skeletonized aid station remains with the detachments left in contact.

h. Communication.

- (1) Communication is maintained in the old position and established in the new position. Communication personnel are informed of the time of displacement, route(s) of movement, and locations of the battalion and company command posts in the new position.
- (2) A daylight reconnaissance should be made to select and mark command post sites on the new position. If prac-

licable, wire lines are installed before dark unless such action will compromise secrecy.

- (3) Enough communication personnel remain with the detachments left in contact to maintain continuous wire communication, if possible, by using the lines already established in the old position. Wire communication between the new battalion command post and the detachments left in contact is desirable because of radio restriction. Wire lines are cut and sections removed upon withdrawal of detachments left in contact.
- (4) During the withdrawal, listening silence is maintained in the new position and the use of radio by moving units is restricted. Normal radio traffic in the old position is continued for deception. Adequate radios are left in the old position to permit the simulation of normal activities.
- (5) Pyrotechnics are used in the old position as prearranged signals to the extent permitted by the simulation of normal activity.

i. Conduct of Night Withdrawal.

- (1) Higher commanders usually specify the exact time that the main body of the battalion begins its withdrawal. This is usually shortly after dark.
- (2) Trains and rear installations usually precede movement of the main body to the rear, followed in turn by company vehicles not required by the main body or the detachments left in contact. They may move by infiltration during daylight, observing strict security measures so as not to disclose the withdrawal to the enemy. Such movement must be authorized by the brigade or higher commander.
- (3) The reserve company may withdraw as a unit immediately prior to the withdrawal of the main body of forward companies. If the battalion commander anticipates possible pressure from the enemy, he may retain the reserve company in position until the main body of forward companies has passed through the reserve company position.
- (4) All elements of the forward companies not designated as part of the detachments left in contact normally withdraw simultaneously. Small units withdraw through platoon assembly areas over predesignated and reconnoitered routes. Units move by motor or on foot through initial points along previously designated routes to the rear position. Supporting units and weapons are normally

attached for the withdrawal to the unit in whose area they are employed.

- (5) Artillery and mortars that are not supporting the detachments left in contact are usually displaced to positions to the rear soon after the main body of forward companies starts to withdraw. This permits maximum fire support during the initial stage of the withdrawal.
- (6) A rear guard secures the movement of the main body.
- (7) Tanks may be withdrawn by infiltration prior to the withdrawal of the main body if there is not a definite threat of enemy armor and their withdrawal will not nullify deceptive measures. Tanks that remain with the detachments left in contact withdraw with other elements of the detachments. Tanks with infrared equipment or searchlights may provide assistance to the detachments in the event of an enemy attack during the withdrawal.
- (8) Elements of the detachments left in contact withdraw simultaneously at a prescribed time or on order, using the same assembly areas and routes of withdrawal designated for the main force, if such routes have not been compromised to the enemy. The time of withdrawal generally is prescribed by the higher commander and should permit the detachments left in contact to come under the protection of the security force prior to daylight. Suitable security is maintained until the detachments left in contact are under the protection of a force to the rear. The authority to withdraw the detachments in contact rests with the commander of the brigade detachments left in contact unless the battalion is on an independent mission or unless the brigade delegates the authority to the battalion commander.
- (9) To avoid confusion, when the battalion withdraws to a new position its units are initially employed, when practicable, in the same or similar formation on the new position as on the old position. The COPL (if established) is normally manned by elements of the reserve company. Initially, the reserve commander controls the COPL; however, when the forward company positions reach a satisfactory stage of completion, personnel from the forward companies may relieve the elements of the reserve company on the COPL to allow them to prepare reserve positions behind the FEBA. As these elements are relieved, they become the reserve in the assigned area. If a COPL is not established, elements of the re-

serve company may assist forward companies in preparing their positions, if necessary, or they may immediately begin preparation of reserve positions.

j. Simultaneous Withdrawal Without Detachments Left in Contact. When friendly forces have a greater degree of mobility than the enemy and when the forces in contact are not under enemy pressure, it may be feasible to withdraw all forward units simultaneously without leaving detachments in contact. If such a movement is undertaken, the withdrawing unit forms a rear guard to protect the movement against any unexpected enemy action.

272. Daylight Withdrawal (pars. 269 and 270)

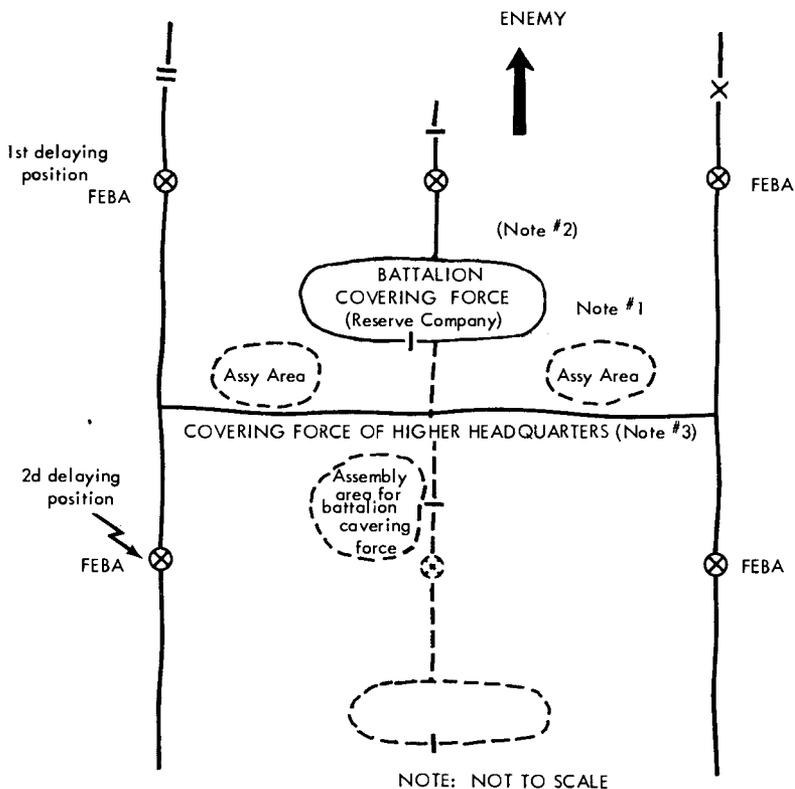
a. General Concept. A daylight withdrawal is avoided whenever possible. If such a withdrawal is required, and the battalion is on the FEBA, a covering force is used to provide security for the withdrawing elements (fig. 34). Forward units withdraw intact and detachments are not left to cover the withdrawal. Success of the daylight withdrawal depends in great part upon the temporary local control of the air and effective employment of covering forces.

b. Covering Force.

- (1) The battalion covering force is normally the battalion reserve reinforced with supporting units and weapons. The primary mission of the covering force is to provide security for the withdrawal of forward companies; however, the covering force may also be required to assist units in disengaging and to conduct limited offensive actions.
- (2) In designating the initial location for the covering force, the battalion commander considers the defensibility of the terrain; possible enemy courses of action; the ability of the force to cover the withdrawal of the companies in contact; the direction of withdrawal; and the location of the brigade covering force. Although the covering force normally occupies a covering position behind forward units, in the mechanized infantry battalion, the reserve may occupy a centrally located assembly area and be prepared to move to designated and prepared covering positions.

c. Control Measures.

- (1) Control measures are similar to those used for a night withdrawal: assembly areas, routes (and alternate routes) of withdrawal, initial and release points, guides,



NOTES:

1. The reserve company on first delaying position acts as a covering force for forward companies. After forward companies have passed through the reserve company, it withdraws through the covering force from higher headquarters. Assembly areas to rear of forward company positions may be utilized if necessary.
2. Forward companies withdraw to 2d delaying position which they organize. Reserve company withdraws to reserve area for 2d delaying position.
3. The covering force to the rear of the battalion normally consists of elements of the reserve battalion of the brigade.

Figure 34. Daylight withdrawal through brigade covering force (schematic).

and route priorities are used when required. Zones of withdrawal and covering positions are assigned. Phase lines and checkpoints may be used to facilitate control. Assembly areas are used only when deemed necessary to insure adequate control.

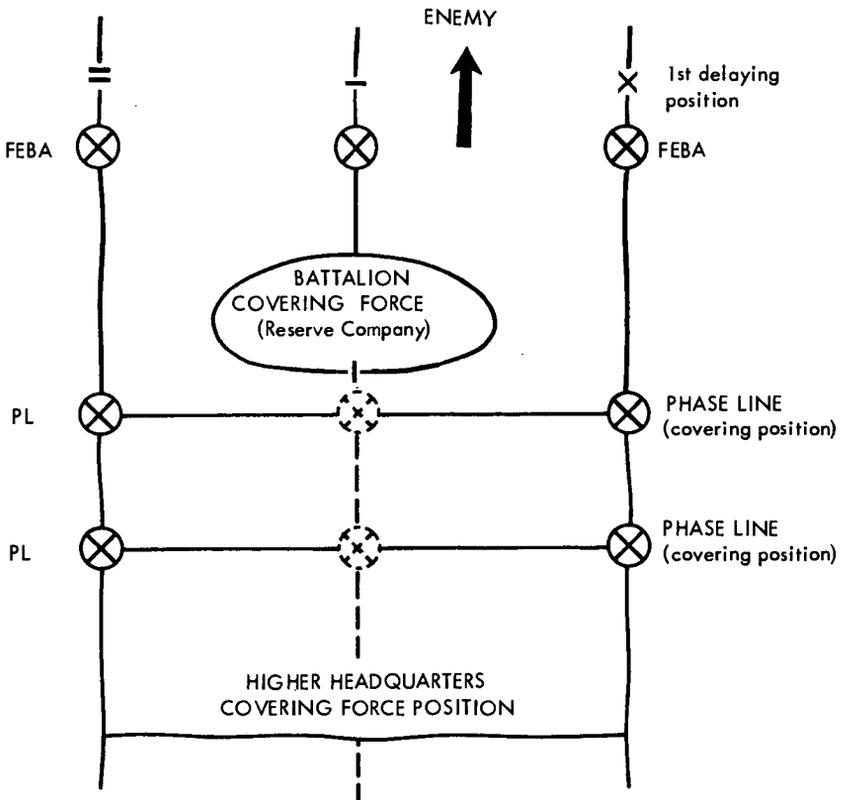
- (2) Zones of withdrawal facilitate coordination between adjacent units. Zones are designated by extending boundaries to the rear as far as the companies may have to

move in deployed formation; normally, this is through the brigade or higher command covering force position. If there is no other covering force to the rear of the battalion's covering force, and if a new position is to be occupied, the boundaries extend through the new position.

- (3) Company assembly areas, if used, are in defilade in rear of the battalion covering force. It may be desirable to designate alternate assembly areas. If enemy pressure is great, these areas may be located in rear of the covering force of higher headquarters.
- (4) If the enemy pursues aggressively and a brigade covering force is not close enough to cover the withdrawal, intermediate covering positions are organized and occupied on previously selected terrain according to the doctrine governing delaying action (fig. 34). Successive covering positions may be used alternately by the reserve and the forces initially in contact until the battalion comes under the protection of the brigade covering force or reaches the new position.

d. Fire Support.

- (1) All available fires are planned on known enemy positions, including assembly areas, attack positions, and reserves. This fire support is planned to disrupt and disorganize the enemy and retard his reaction to the withdrawal operation. Smoke is used to deceive the enemy as to the disposition of friendly forces and to conceal movement in the withdrawal. Nuclear fires planned and placed on the enemy may disorganize him sufficiently to permit friendly forces to break contact and may assist in preventing or delaying pursuit.
- (2) Davy Crockett weapons provide a significant advantage to forces effecting a withdrawal from action under enemy pressure. Fires are provided to assist in the disengagement of heavily engaged forces and in particular to destroy enemy followup or reserve forces. Squads may be employed with forward forces initially, with subsequent support provided to the battalion covering force. A wide battalion zone or relatively weak reserves may cause the commander to keep one or more squads in general support. Selected positions should facilitate coverage of dangerous avenues of approach and support of the covering force. Fires are planned to cover likely areas of enemy concentration, defiles, obstacles and probable locations of enemy supporting weapons. Care



NOTE: NOT TO SCALE

NOTES:

1. As in Fig 34, reserve company covers withdrawal of forward companies initially. If enemy pursues aggressively, one or more of the forward companies, after withdrawing through the reserve, organizes a covering position to allow the reserve to withdraw, since the higher headquarters force is too distant to perform this mission. This procedure is repeated until forces can withdraw through the higher headquarters covering force and proceed to 2d delaying position.
2. Assembly areas may be utilized if required and the enemy situation permits.

Figure 35. Battalion covering its own daylight withdrawal through successive positions (schematic).

must be taken to insure that the weapon or its ammunition does not fall into enemy hands.

e. Transportation and Troop Movement.

- (1) To avoid traffic congestion, a movement plan is prepared and put into effect upon initiation of the withdrawal. Guides and traffic control posts are furnished by brigade or by elements attached from brigade or division to insure smooth and rapid movement to the rear once the withdrawal starts.
- (2) Company vehicles are brought as far forward as practicable to move weapons and ammunition to the rear. The number of vehicles brought forward is held to the minimum consistent with the load requirement. When practicable, supply and administrative cargo vehicles are brought forward to move supplies and equipment to the rear. Vehicles not needed in forward areas are moved to the rear on prescribed routes. Unnecessary movement that might disclose the withdrawal is avoided.

f. Supply and Evacuation.

- (1) Units in forward positions are adequately supplied, but caution must be exercised to preclude overstocking. Withdrawing units may transfer supplies to covering forces as they pass through them. *Nonmedical* supplies that cannot be evacuated are destroyed.
- (2) Casualties at aid and collecting stations are evacuated before the withdrawal begins. Medical personnel, including those needed to operate aid stations, are attached to covering forces. Casualties within the covering force are evacuated by aircraft, medical vehicles, or other available transportation.

g. Communication.

- (1) The battalion communication officer or his representative reconnoiters covering position(s), routes of withdrawal and the new position and prepares for adequate communication throughout the operation. While wire is used in the daylight withdrawal to the maximum extent practicable, communication to distant, detached, and motorized or mechanized units usually is limited to radio and messenger.
- (2) During the initial stages of withdrawal, communication facilities are maintained as long as practicable on the old position. When command posts close, march command posts are opened. A small detachment remains to operate

the communication facilities for the covering forces. When the old command posts are closed, wire lines are cut and sections removed to prevent their use by the enemy. Communication personnel are sent ahead of the main body to install the battalion wire net on a rear position which is to be organized for defense or delaying action.

- (3) The withdrawal route of the battalion command post is announced. The withdrawal routes of company command posts are prescribed in battalion orders to facilitate the use of existing wire communication. Companies immediately report any deviations they make from these routes. Battalions and companies select march control posts along the routes of withdrawal and inform higher, lower, and supporting units of their location. Army aircraft may be used to displace the command post.

h. Employment of Supporting and Attached Units.

- (1) All available fire support is employed to assist forward units during the conduct of the withdrawal.
- (2) Tanks are employed to engage enemy armor at long ranges, to counterattack enemy elements attempting to penetrate or bypass the battalion covering force, and to cover the withdrawal of elements of the battalion covering force. Tank units are ideally suited for employment in a spoiling attack to extricate heavily engaged elements. Platoons of an attached tank company may be attached to the forward companies to support their withdrawal. After the forward companies withdraw, the entire tank company may be employed as a part of the battalion covering force. Tanks and infantry habitually work together; however, when the terrain is trafficable and provides good observation, the infantry elements of a company generally withdraw before the tanks. If the terrain is heavily wooded, or observation is otherwise restricted, the infantry covers the withdrawal of the tanks.
- (3) The reconnaissance platoon may be used under battalion control to protect a flank of the battalion or to maintain contact with the enemy forces. It may also be used to give warning of hostile movement and, within its capabilities, harass, delay, and destroy pursuing enemy forces. It may be attached to the battalion covering force to perform similar missions.
- (4) The mortar section is normally retained in general support. The Davy Crockett section is employed as discussed in paragraph 272d (2),

- (5) Antitank squads are usually attached to withdrawing forward companies to engage enemy armor at long ranges. Elements of the antitank platoon may be attached to the battalion covering force as forward companies withdraw through the covering force.
- (6) Air control teams direct air strikes against targets of opportunity.
- (7) Air defense artillery units, if attached, are disposed to deny the enemy air observation of the battalion covering force and to provide air defense for critical areas along the routes of withdrawal. Ground targets of opportunity may also be engaged.
- (8) Supporting engineers prepare obstacles in depth to delay the advance of the opposing force to the front and flanks. They assist in destroying nonmedical supplies which cannot be evacuated, and maintain or improve routes of withdrawal. When engineers are attached to the battalion for the withdrawal, they may be further attached to the battalion covering force and to each withdrawing unit.
- (9) In the infantry or airborne infantry battalion, when APC are available they are used to the maximum to facilitate the withdrawal. Desirably, the entire battalion is mechanized; however, when the number of APC is limited, priority in attachment is made to those units in whose areas the most difficult combat is anticipated. The 50 caliber machinegun on the APC may be used to support the withdrawal of forward elements.
- (10) Chemical units may place smoke to screen selected areas. Chemical personnel provide the technical supervision for employing chemical agents to contaminate obstacles, demolished areas, defiles, and likely avenues of advance of the opposing force.

i. Conduct of the Daylight Withdrawal.

- (1) The battalion commander prescribes the sequence of withdrawal of forward companies. When the terrain and situation permit, all forward units are withdrawn simultaneously. If this is not practicable, the units least heavily engaged are withdrawn first. The fires of organic and supporting weapons are used to assist in the disengagement. In some situations it is desirable to launch limited objective attacks by highly mobile forces to relieve enemy pressure on forward elements and permit their withdrawal. Smoke screens are useful in disengag-

ing such units. Tactical air support, if available, should also be employed.

- (2) Ordinarily, the initial withdrawal of engaged units is straight to the rear under cover of all available fires. These units may move to the company assembly areas or, more desirably, directly to a rearward position. Although the battalion covering force normally covers the withdrawal of forward companies, in some instances the company may be required to cover its own withdrawal by leapfrogging platoons.
- (3) Security forces consisting of flank, advance, and rear guards protect the battalion during movement. The strength of the security elements depends upon the location of adjacent units, the security provided by higher headquarters, and the enemy strength, composition, and activity.
- (4) Units gain passive protection against enemy air attacks by using air guards and dispersed formations. Automatic weapons are placed in firing positions for air defense during a halt. If air defense artillery (ADA) is available it is integrated into the movement.
- (5) As a means of maintaining secrecy, vehicles moving to the rear proceed singly or in small groups. Deception may be gained by using open formations of vehicles moving toward the front, by using smoke to restrict enemy observation, and by carefully selecting routes of withdrawal.
- (6) If the brigade covering force is not positioned to cover the withdrawal of the battalion covering force, forward companies and the covering force leapfrog from one intermediate covering position to another until the battalion reaches a secure position or moves beyond the enemy area of influence. In this type action small mobile forces strong in fire power take maximum advantage of terrain from which long-range fires can be placed on the enemy. These mobile covering forces must be withdrawn before they become engaged in close combat unless otherwise ordered by the commander of the withdrawing unit. Since the conduct of this type action depends on small-unit action, authority for withdrawal should rest with the lowest echelon of command consistent with a coordination capability throughout the battalion.
- (7) Throughout all phases of the withdrawal operation, a dispersed formation is maintained consistent with the capa-

bility to cover forward units and delay the enemy advance.

273. Battalion as a Covering Force

a. The battalion may be assigned a mission of covering the withdrawal of forward battalions of the brigade or it may operate as part of the reserve brigade and cover the withdrawal of a forward brigade. When the battalion is assigned the mission of covering the withdrawal of another unit(s), the initial position and the period of time it is to be held or the conditions under which the battalion withdraws are prescribed by a higher commander. The battalion is usually reinforced for a covering force mission.

b. The battalion organizes and defends the covering position in a manner generally similar to that used in a delaying action (par. 274). The battalion reserve is used to meet an envelopment of either flank, block a breakthrough, counterattack, reduce minor penetrations, extricate heavily engaged units and to cover the withdrawal of the remainder of the battalion.

c. A battalion operating as a covering force accomplishes its mission by—

- (1) Delaying enemy troops with demolitions and obstacles.
- (2) Employing long range fires, both nuclear and nonnuclear.
- (3) Counterattacking if the situation warrants.
- (4) Covering its own withdrawal with its reserve and the fires of organic and supporting weapons.

Section IV DELAYING ACTION

274. General

a. In a delaying action, maximum punishment and delay are inflicted on the enemy without becoming decisively involved in close combat. The delaying action is usually employed as an economy of force measure. It is the type of action normally fought by covering forces and security detachments. A delaying action may also be employed by certain elements of the forward defense forces in the mobile defense, although these elements may have certain restrictions on their maneuver and area of operations. A delaying action is executed most effectively by highly mobile troops (motorized, mechanized, or airmobile) supported by armor, tactical aviation, and nuclear and nonnuclear fires.

b. The effective use of obstacles, particularly when covered by

fire, reinforces the delaying capability. Delaying forces must offer continuous opposition in order to force the enemy to deploy and maneuver; however, decisive combat is avoided except at the option of the delaying force. Delaying forces maintain contact with the enemy at all times and cause continuous delay to the enemy.

c. Delaying actions assume increased importance in nuclear warfare. Dispersed formations, emphasis on flexibility of action, reliance on fires, and movement designed to inflict maximum punishment on the enemy while avoiding close combat are characteristic of a delaying action.

d. A battalion may conduct a delaying action independently or as part of a larger delaying force. When part of a larger delaying force, the battalion may be employed in the security, forward defense, or reserve echelons or as a flank guard.

e. The echelons of a battalion delaying position are similar to those used in the defense. They may include a security, forward defense and reserve echelon. When a wide frontage is assigned to the battalion, a combat outpost may not be employed. When a COP is not employed, emphasis is placed on local security.

f. The battalion may accomplish delay by—

- (1) Delay on a single position. (The fundamentals of defense apply as described in ch. 6).
- (2) Delay on successive positions.
- (3) Delay on alternate positions.
- (4) Limited offensive action to throw the enemy off-balance.
- (5) A combination of any of the above.

g. A delaying action differs from an area defense principally in the following respects:

- (1) Decisive combat is avoided.
- (2) Positions are organized to be held for a limited period.
- (3) Counterattacks are used primarily to disengage friendly units or to temporarily hold a position until more favorable conditions for withdrawal develop.
- (4) Maximum firepower is positioned forward.
- (5) Frontages are usually greater in a delaying action.

275. Planning for Delaying Action

a. A delaying action mission assigned to the battalion commander may include the general location of the initial delaying position (if the battalion is not in contact); the area for delay; and the period of time he is to delay forward of a designated

position. Times of withdrawal, phase lines, and successive or alternate delaying positions may also be prescribed.

b. Within this framework, the battalion commander establishes his scheme of maneuver and plan of fire support. He may designate delaying positions for his battalion in addition to those prescribed by the higher commander. The number of positions to be occupied depends on the total space available for delay, the nature of the terrain, relative mobility of opposing forces, the enemy situation, and the required delay time as stated in the mission.

c. As part of a delaying action, the battalion commander may also be required to make a withdrawal through a rearward position. In such a case, battalion plans should provide for liaison and coordination with the rearward force (par. 279).

276. Selection and Organization of Delaying Positions

a. After assignment of the mission, the battalion commander studies and reconnoiters the area assigned for the delaying action. Normally, this will be a zone of action with the boundaries extended to the rear through the next delaying position or to a covering force of a higher headquarters.

b. When the battalion commander selects delaying positions, they should have the following desirable characteristics:

- (1) Good observation and long-range fields of fire. Locations near the topographical crest facilitate the delivery of long-range fires. If a long delay on one position is required, terrain that permits mutual fire support by flat-trajectory weapons is desirable.
- (2) Covered and concealed routes of withdrawal.
- (3) Obstacles to the front and flanks.
- (4) Concealment and cover on the position.
- (5) A series of parallel ridges across the axis of hostile advance.

c. Distances between successive delaying positions should be short enough to permit completion of a withdrawal to a new position in one night, but far enough apart to force the enemy to regroup his forces and displace close support artillery to continue his attack from one position to the next. Open terrain will usually require greater distances between positions than close or wooded terrain.

d. Successive delaying positions behind the initial position are reconnoitered in detail and organized by the unit scheduled to occupy them.

e. In a delaying action the battalion will frequently be assigned a frontage much greater than that assigned in an area defense. When this is done, the battalion may organize the position by placing more platoons on the FEBA (rifle companies may occupy their sectors with three platoons abreast) or by accepting greater gaps between platoons and companies. In any case, gaps should be covered by patrols, observation posts, listening posts, fires, and other means.

f. In organizing the delaying position, the battalion reserve should be located where it can limit penetrations and cover the withdrawal of forward units. Whether it is placed in an assembly area(s) or in a blocking position(s) depends on its mobility, the width of the position, trafficability of the area, and the adequacy of flank security.

277. Conduct of the Delaying Action

a. The conduct of the delay between successive positions during a voluntary withdrawal depends to a great extent on the degree of visibility. During darkness or other periods of low visibility, detachments are left in contact to insure secrecy and deception. Reconnaissance forces remain as part of the detachments left in contact and assume the role of rear guard when the detachments are withdrawn. The reconnaissance elements execute demolitions, direct fires, and take action to delay the enemy within their capability. During daylight, mobile forces keep the enemy under surveillance, execute demolitions, direct fires, and delay the enemy within their capabilities.

b. All withdrawals under enemy pressure are conducted similarly, regardless of the state of visibility. The delaying force fights its way to the rear, utilizing covering forces and making maximum use of fires, demolitions, and offensive action to inflict damage on the enemy and delay him. Essentially the action develops as indicated below:

- (1) The approaching enemy is taken under fire at long ranges by the security forces. As the enemy advances and comes within range of additional weapons, the total volume of fire is increased. Every effort is made to inflict maximum casualties on the enemy, disorganize him, and force him to stop to reorganize or mass for an assault. Nuclear fires are used to the utmost against all appropriate enemy targets presented.
- (2) The battalion commander avoids decisive combat, except of his choosing. If the enemy threatens to close on the position, he decides whether to execute a daylight

withdrawal or to risk close combat in order to postpone the withdrawal until darkness. If minor contact or penetrations are anticipated, he may elect to wait and withdraw at night. If large portions of the position become engaged, with the likelihood of being overrun, he may execute a daylight withdrawal.

- (3) During the course of the withdrawal, designated personnel execute demolitions, close openings through minefields and prepare other obstacles as time and materiel permit. Toxic chemical munitions and nuclear weapons may be effectively used to create barriers, to reinforce natural obstacles, and to deny the enemy key terrain features. All obstacles, both natural and artificial, are covered by fire.
- (4) If the battalion is exposed to enemy nuclear fire the commander reorganizes and continues his mission. If his mission has been adequately accomplished, he may reorganize the affected units and withdraw his entire force to the next delaying position.

c. The decision as to the exact time to withdraw from a position depends on many factors: the strength and composition of the attacking force, status of adjacent units, strength of the position, conditions of the delaying force, and the amount of delay required by the mission. The withdrawal should start while the delaying force has freedom of movement.

d. The authority to withdraw a battalion in a delaying action prior to a designated time remains with the commander initiating the action unless specifically delegated to a lower level. In either case, the next higher commander must be kept fully informed of the situation so that he can order appropriate adjustments before units become too heavily engaged. Continuous liaison is maintained between battalions to insure coordination of the withdrawal. A subordinate commander who is out of contact with higher headquarters must do everything possible to carry out the mission as he understands it and reestablish communication. If forced to withdraw before contact is regained, he must inform the higher commander as soon as possible and coordinate with adjacent units.

e. Times of withdrawal from different delaying positions are varied so as not to establish rigid patterns. Movement at night or under conditions of reduced visibility is preferred, particularly when the enemy has air superiority.

Section V. RETIREMENT

278. General

a. A retirement is an orderly withdrawal of troops according to their own plan and without pressure by the enemy. A battalion usually executes a retirement as part of a larger force. When it is on an independent mission, the battalion retires in compliance with specific instructions or after completing its mission. A retirement may be made to increase the distance between the defender and the enemy, to reduce administrative support distance, to occupy more favorable terrain, to conform to the dispositions of a larger command, or to permit employment in another sector. A withdrawal may precede a retirement; it becomes a retirement after the main force has disengaged and march columns have been formed.

b. In a retirement, the battalion is formed in a manner inverse to that employed in a movement to contact (pars. 150–152). Appropriate advance, flank, and rear security is provided; when a withdrawal has preceded the retirement, a strong rear guard will be employed. Should the enemy take the battalion under fire from the rear, delaying action tactics are employed by the rear guard.

c. The considerations for and the conduct of retirement by air are the same as for an air movement behind friendly lines.

Section VI. WITHDRAWAL THROUGH A REARWARD POSITION

279. General

a. A withdrawal through a rearward position is an operation in which a unit withdraws through a unit occupying a defensive position. Essentially, this movement is a passage of lines to the rear; however, because of the problems inherent in such a maneuver and the conditions under which it is normally executed, the withdrawal through a rearward position is normally more difficult than a forward passage of lines.

b. The battalion may execute such a withdrawal after it has completed a GOP mission, a covering force mission, or during a delaying action. In planning for the withdrawal, the following items receive special emphasis:

- (1) Command and control.
- (2) Mutual recognition.
- (3) Communications.
- (4) Fire support for withdrawing force.
- (5) Obstacles and barriers forward of defensive position.

(6) Traffic control.

(7) Liaison and exchange of information and plans.

c. Specific arrangements must be made for the assumption of responsibility for the sector from the withdrawing force. The commander on the defense/delaying position will assume responsibility at a place or time designated or mutually agreed upon by the two commanders. Desirably, this change of responsibility should occur when the withdrawing battalion completes passage of a geographic location (designated as a fire coordination line or phase line) or at a specific hour. Coordination and control are facilitated if boundaries for both the defending and the withdrawing unit coincide.

d. To insure an effective passage, a plan for mutual recognition during day or night is developed. This may include use of radio, visual, or other signals. Arrangements should also be made for communication between defending and withdrawing units.

e. Plans are made for providing fire support from the defensive position for the withdrawing force. In the event that minefields and other obstacles have been placed in front of the defensive position, the withdrawing force must be advised of their location and of any gaps or lanes through them. Once the withdrawing force has passed through lanes, they may be closed by the defending force. Plans are made in advance to close lanes through obstacles or barriers.

f. To reduce the troop density occasioned by the rearward passage, the battalion commander will use multiple routes, speed in movement, and appropriate traffic control measures. Points of passage are reduced to a minimum consistent with the requirement for expeditious passage. The withdrawing unit is afforded priority on roads providing this arrangement does not jeopardize the operation of the unit being passed. The commander of the withdrawing unit is responsible for informing the defending commander when passage through the defensive position has been completed.

g. Liaison is established between both forces, and information and plans are exchanged. On passage, the withdrawing commander provides information of the enemy situation.

h. Assembly areas to be employed by withdrawing units should be located far enough to the rear to avoid interference with the maneuver of the in-place unit and should be occupied only when necessary to regain control of the withdrawing elements. This is particularly applicable to mechanized units.

CHAPTER 8

RELIEF OPERATIONS

Section I. GENERAL

280. Introduction

A relief operation is the replacement of one unit by another. It may be used to conserve the combat power and effectiveness of the element being relieved, to insure maintenance of the initiative in a tactical situation, or as part of the tactical plan. The operation may take the form of a relief in place or a passage of lines.

a. A relief in place is an operation in which all or part of a unit is replaced by a relieving unit which assumes its mission. The relief in place is executed when the unit being relieved is defending. The relieving unit may continue the defense or prepare for a subsequent attack. The relieved unit is withdrawn or assumes another role in the scheme of maneuver.

b. A passage of lines is an operation in which an incoming unit attacks through and/or around the flank(s) of a unit which is in contact with the enemy. Elements of the unit passed through remain in position and support the attacking unit until their fires are masked, at which time they may be withdrawn or committed to other actions.

c. The battalion may participate in a relief as a unit; additionally, a relief may be accomplished within the battalion, e.g., the relief of a forward company by the battalion reserve company.

281. Basic Considerations

The following items are common to, and require coordination in, all types of reliefs.

a. Plans. Preparation of detailed plans for the relief and their close coordination is required between all echelons of the relieving and the relieved units. The incoming unit must become thoroughly familiar with the existing defensive plans including fire plans, barrier plans, counterattack plans, patrol plans and other pertinent plans. Liaison personnel are exchanged to facilitate exchange of information. The unit being relieved may leave liaison personnel with the relieving unit, if practicable.

b. Transfer of Command. The time or circumstances under which the relieving unit commander will assume responsibility for discharging the mission of the element being relieved is clearly established.

c. Reconnaissance. Arrangements must be made for a thorough reconnaissance, in daylight if possible, by commanders and staff officers of the relieving unit. Reconnaissance should include, when appropriate, an inspection of existing defensive installations; relief routes; entrucking, detrucking, and turn-around points; weapon positions; and administrative installations.

d. Movement Control. Joint arrangements between the relieving and the relieved units must be made for the control of units moving into and out of the area. Coordination must include—

- (1) Routes to be used and priorities for their use.
- (2) Responsibility for traffic control.
- (3) Location of entrucking, detrucking, and turn-around points.
- (4) Provision for guides.

e. Intelligence. The unit being relieved transfers to the relieving unit all information and intelligence concerning the enemy and the area of operations. If additional information is required by the relieving unit (e.g., prior to an attack) the unit being relieved or passed through should obtain such information.

f. Fire Support. Supporting artillery and weapons of the unit being passed through fire in support of the unit executing the passage. Fire support elements of the unit making the passage (or relieving the other unit in place) may take positions in rear of the unit being passed through (or relieved in place). In either case, all fires delivered in the zone are controlled through the headquarters of the commander responsible for the zone.

g. Transfer of Responsibility for Minefields. A report of transfer is a written report which transfers the responsibility for a minefield from the commander of a unit that is responsible for the field when the unit is relieved, to the relieving unit commander. A report of transfer must be signed by both the relieved and relieving commanders and must include a certificate stating that the relieving unit commander has been shown, on the ground, or otherwise informed of all mines within his zone of responsibility and that he assumes full responsibility for such mines. The report of transfer is forwarded to the next higher commander having authority over both the relieve and relieving unit commanders.

282. Planning the Relief

The order directing the relief must specify, as a minimum, the time for commencing and completing the relief and priorities for use of routes involved. It may also specify the sequence of relief. In addition to the items for coordination in all reliefs, listed in paragraph 281, the following items receive emphasis in planning for a relief in place:

a. Sequence of Relief. A relief in place is executed in stages in order to insure the most effective defense during the relief. Reserves may be relieved first, followed by relief of forward elements, or vice versa. In determining the sequence of the relief, commanders should consider—

- (1) The subsequent mission of the unit that is conducting the relief.
- (2) The strength and combat efficiency of the unit presently in the forward defensive area.
- (3) The capability of the enemy to detect and react against the relief.
- (4) Characteristics of the area of operations.
- (5) The need to vary the pattern of relief.
- (6) Size and type of elements involved in the relief.
- (7) The enemy situation.

b. To maintain secrecy, which is essential in a relief, reconnaissance is held to the essential minimum in comparison with normal activities. Reconnaissance of the position should be performed in the vehicles or aircraft of the unit being relieved. Relief operations should be conducted during periods of reduced visibility. The tactical situation usually dictates whether the relief is made during daylight or darkness. In some instances the relief may be conducted over a period of more than one night. Reliefs at battalion level in daytime are avoided if possible; however, smoke may be used to conceal a daylight operation. The relief is conducted as rapidly as possible, consistent with secrecy and control. During the relief, normal activities are continued including supporting fires, radio traffic, vehicular traffic, radar employment and other activities. The outgoing battalion furnishes security and surveillance during the conduct of the relief. No mention of the relief is made in the clear over electrical means of communication.

c. Exchange of Equipment. When there is a relief of similar units, commanders of the incoming and outgoing units arrange

for the mutual exchange of crew-served weapons if such exchange will enhance and insure the continuous effective delivery of fires and prevent compromise of the operation. Outgoing units normally leave in position bulky supplies and other material when it will be beneficial to the relieved and relieving element. Firing data, minefield records, and such other data as appropriate are provided the relieving unit.

d. Communications. For communication considerations and actions of the communication officer in the relief, see appendix V.

e. Transportation. In order to make maximum use of available transportation and minimize traffic movement, the relieved and relieving units plan common use of nonorganic transportation.

f. Attachments. To simplify control and reduce the number of guides, commanders of incoming and outgoing battalions usually attach elements of their antitank platoons and attached tank units to rifle companies in whose area they are located. After completion of the relief, these units may revert to battalion control.

g. Coordination. The incoming commander must insure that coordination is effected with adjacent and supporting units.

283. Conduct of Relief

a. Defending forces are vulnerable to enemy attack during the conduct of a relief. Appropriate counterintelligence measures are employed to avoid disclosure of relief operations. Maximum fire support from outgoing and incoming units should be available to insure the success of the operation and prevent enemy reaction in the event the operation is discovered by the enemy.

b. To localize confusion inherent in a relief and to avoid excessive massing, adjacent companies of the battalion are not normally relieved at the same time. Elements of the outgoing battalion leave the area as soon as they are relieved and control is established.

c. Battalions do not designate assembly areas for units larger than a company. Company assembly areas are separated as much as possible to minimize vulnerability to enemy fires. Delays within assembly areas are held to a minimum.

284. Command During Relief

During the relief, commanders at each echelon are together at the command post or observation post of the outgoing unit. The incoming unit commander assumes responsibility for the defense when the majority of his unit is in position and communication and control are established, or at a time previously designated by

the next higher commander. In the absence of orders from the next higher commander, the exact time of exchange of responsibility is agreed upon by the commanders concerned. When command passes, the incoming commander assumes control of all units of the outgoing unit which have not been relieved. If an attack occurs before the incoming commander assumes responsibility for the defense, he assists the outgoing commander with all means available to him. In this event, elements of the incoming unit in the battalion area are placed under the operational control of the outgoing unit. Changes in organization of the defense desired by the incoming unit commander are initiated after the change of responsibility.

Section III. PASSAGE OF LINES

285. Planning the Passage

A passage of lines may be conducted to: maintain the momentum of the attack with fresh troops; change the direction of attack; exploit an enemy weakness with reserve forces; or initiate an offensive from a stabilized situation. Coordination between units is essential for a rapid, secure, and controlled passage. Troop concentrations are minimized to avoid the formation of lucrative nuclear targets. In addition to items listed in paragraph 281, the following receive emphasis in planning for a passage of lines:

a. Selection of Areas of Passage. When possible, the areas selected for the actual passage should be the unoccupied areas between elements of the unit being passed through, or on its flanks. Units making the passage move to the area of passage and into the attack without occupying forward assembly areas. Careful march planning is required to insure that attacking units reach the LD without the requirement for use of an assembly area. However, if a nuclear preparation is used, a nuclear safety line may be required and attacking units may be required to stop and take necessary protective measures.

b. Transfer of Responsibility. Responsibility is transferred to the commander of the unit executing the passage at a time mutually agreed upon unless the time has been specified by a higher commander. Normally, the commander of the unit making the passage of lines assumes responsibility for the zone of action at or prior to the time of attack. If responsibility for the zone is transferred prior to initiation of the attack, the commander of the unit making the passage is given operational control of those

units being passed through that remain in contact at the time of the transfer.

c. Support. The unit in contact provides all possible assistance to the unit executing the passage of lines. Such assistance includes the clearance of lanes through friendly minefield(s), provision of guides, fire support, and other combat support within its capabilities. In addition to tactical support, the unit in contact may assist the attacking unit in providing certain administrative support, including evacuation of casualties and prisoners of war, control of civilians, and traffic control.

286. Passage of Tank and/or Mechanized Infantry Units

When tank or mechanized units make a passage of lines, more detailed coordination between units is required because of the length of tank and/or mechanized columns, noise and confusion created by armored vehicles, sensitivity of armor to terrain, and the possible congestion in zone. Special emphasis is placed on the following coordination measures:

a. Areas and routes to be used by the tank and/or mechanized units.

b. Clearing and marking lanes through friendly minefields to permit rapid passage of tanks and/or APC. This is normally accomplished by the unit in contact.

c. Provision of guides by units in contact, down to and including platoon level.

CHAPTER 9

OTHER TACTICAL OPERATIONS

Section I. GENERAL

287. Introduction

This Chapter includes a discussion of linkup operations, river crossings, antiguerrilla operations, and patrolling. Night attacks, raids, reconnaissance in force and tactical deception, including feints and demonstrations, are included in chapter 5. For information pertaining to amphibious operations, refer to 31-series manuals; Combat in Fortified Areas and Towns, FM 31-50; Cold Weather, Northern, and Mountain Operations, FM 31-70, -71, and -72; Desert Operations, FM 31-25; and Jungle Operations, FM 31-30.

Section II. LINKUP OPERATIONS

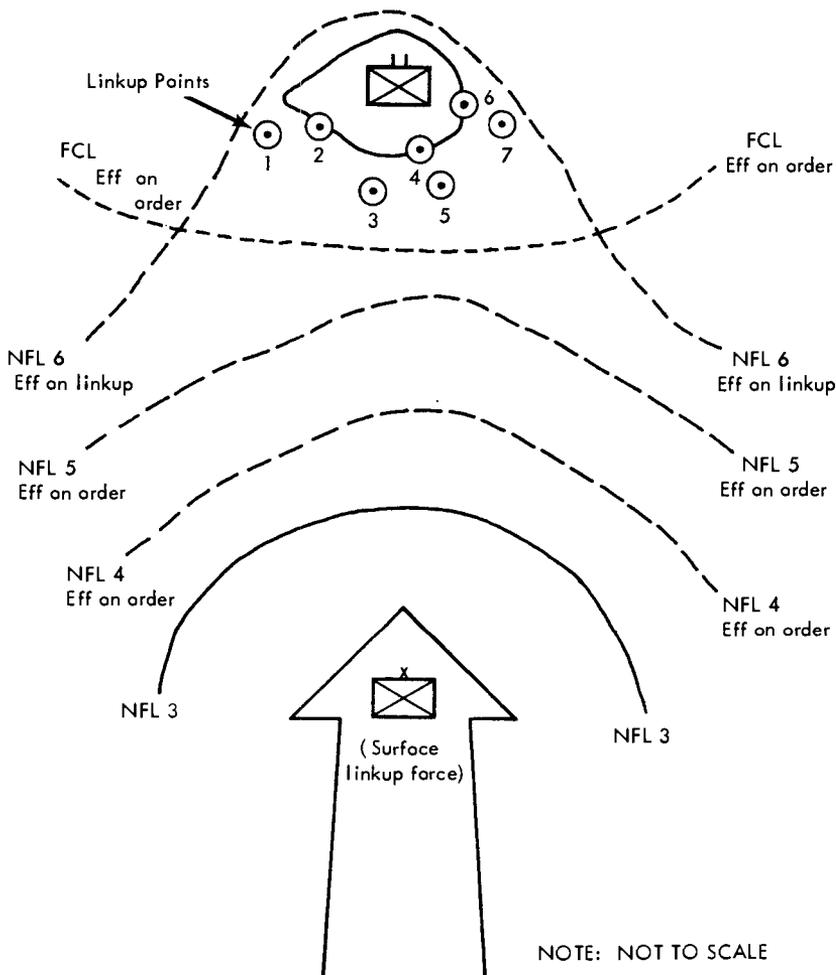
288. General

A linkup involves the juncture of two converging ground forces. It may be conducted as a part of the following operations: air-mobile or joint airborne operations; an attack to assist, or, the breakout of, an encircled force; an attack to join an infiltrated or a friendly guerrilla force; or in the convergence of separate forces. The battalion may participate in linkup operations as a part of a larger force or it may conduct operations within its own resources which require linkup.

289. Planning for Linkup

Planning for linkup must insure close coordination of the efforts of the linkup force and the force with which linkup is made (hereafter referred to as the stationary force). Plans are prepared and coordinated in advance and include the following (fig. 36):

a. The command relationship of forces involved in a linkup operation must be established prior to the operation to insure a clear delineation of responsibilities. The stationary force may be attached to the linkup force or the linkup force may be attached to the stationary force. In addition, both forces may come or remain under control of a higher commander. The headquarters directing the linkup establishes the command relationship, including the time or conditions under which command will be assumed.



NOTES:

1. A bomb line would normally be located around the stationary force in early stages of the operation. When linkup is imminent, the bomb line may be moved beyond the stationary force.
2. NFL of linkup force will be moved forward as required.
3. NFL 6 becomes effective for and applies to both forces after linkup. Additional fire control measures such as boundaries will be established at that time.

Figure 36. Coordination for linkup (schematic).

b. *Command and staff liaison* is accomplished before and during the operation. Information and plans are exchanged early in the planning phase. As linkup becomes imminent, additional liaison personnel may be exchanged to insure coordination of fires and of any changes in tactical plans; Army aviation may be used to facilitate this exchange.

c. *A system of mutual recognition* is devised to preclude the possibility of friendly troops firing on one another. This system may include: pyrotechnics, arm bands, panels, vehicle markings, lights of a distinctive pattern and/or color, colored smoke, infrared and radar devices, arm and hand signals, and use of a password.

d. *Communication plans* are coordinated to include establishment of nets and exchange of call signs, authentication procedures, radio frequencies, SOI, SSI, and of radio equipment, if required.

e. *Schemes of maneuver* are exchanged to include current and planned locations of friendly elements. Control measures are established in advance to include use of linkup points, boundaries, axes of advance and delineation of objectives, if appropriate. Linkup points are selected at easily recognizable points at which physical contact between the two forces is expected to occur. Sufficient linkup points are established to accommodate possible changes in the scheme of maneuver. Checkpoints and phase lines may also be used to determine by reference the location of one or both forces and thereby facilitate control.

f. *Coordination of fires* is accomplished by exchange of fire support plans and by use of control measures such as bomb lines, no fire lines, fire coordination lines, and nuclear safety lines. The definition and use of the control measures is discussed in chapter 4.

g. *Assistance from the stationary force* is provided to the linkup force to facilitate linkup and reduce the time of passage through positions of the stationary force. Obstacles are removed, where appropriate, immediately prior to linkup and lanes through barriers are opened. Guides provided by the stationary force assist in traffic control through and within defense positions. The linkup force must be fully informed of all minefields and other obstacles in front of and within the stationary force defense sector.

h. *Actions to be taken following linkup* are established in advance. The linkup force may reinforce or assume the defense of the area, conduct a coordinated attack with the stationary force, or pass through or around the stationary force and continue the attack.

i. *Alternate plans* are considered in view of the possibility that the linkup force may be unable to reach the stationary force in the

prescribed time. Provisions should be made for possible fire support, close air support, and aerial resupply for the stationary force for such a contingency.

Section III. ANTIGUERRILLA OPERATIONS

290. General

a. Guerrilla warfare is conducted primarily by indigenous forces organized on a paramilitary or military basis to attack, harass, and divert the enemy. As a normal part of its tactical operations, the battalion protects itself against guerrilla attack (par. 218). When it is engaged in operations to reduce or eliminate large scale guerrilla activity, it is involved in antiguerrilla operations.

b. The battalion normally conducts antiguerrilla operations as part of a larger force; however, in such operations it will frequently perform independent or semiindependent missions as the nucleus of a task force.

c. Antiguerrilla operations which a battalion may perform include—

- (1) Offensive action to destroy or capture guerrilla forces.
- (2) Providing security for vital military and civil installations.
- (3) Eliminating bypassed or other enemy conventional forces whose actions resemble guerrilla actions.
- (4) Securing and maintaining supply lines within their capability.
- (5) Denying guerrilla forces all sources of supply, reinforcement, communication and recruiting.

291. Basic Considerations for Antiguerrilla Operations

a. In order to function effectively, guerrilla forces normally require four essential elements: a secure base of operations; a source of supply; an intelligence system; and adequate communications. In an antiguerrilla operation, the actions of the battalion will involve reduction or elimination of one or more of these essential elements.

b. Guerrilla operations normally require support from an external power and/or civilian support, gained willingly or through coercion, in order to succeed. Specific action must therefore be taken to eliminate such support; consideration and protection for the general populace must be an adjunct to such action, since guerrilla forces will frequently resort to terroristic attacks to

elicit support. In order to eliminate the support furnished by the population or an external power, the antiguerrilla operation will normally require organization of the operational area, provision for unity of command, and coordination with civilian agencies.

c. In their operations guerrilla forces capitalize on stealth, surprise, speed, violence, rapid withdrawal, and dispersal. Hit and run tactics are employed and decisive engagement is normally avoided because guerrilla forces do not have the capability to fight conventional forces on even terms. Guerrilla forces do not follow an established pattern of operations and therefore are difficult to find, fix, and destroy or capture. For this reason the anti-guerrilla force must be able to obtain prompt, accurate information of the enemy and must take prompt offensive action against such forces.

292. Sequence of Antiguerrilla Operations

a. The operations against guerrilla forces normally follow a regular sequence as indicated below:

- (1) Establishing combat bases in areas of guerrilla activity.
- (2) Establishing control over civil populace.
- (3) Carrying out offensive operations against guerrilla forces.

b. Whenever possible, the steps outlined above are conducted concurrently as the situation allows.

293. Establishment of Combat Bases and Static Security Posts

a. The battalion commander will normally be assigned an area of responsibility when he is given the mission of combating guerrillas. In such a case, the battalion organizes one or more strong combat bases, normally at least of company size, within its assigned area. Forces are grouped in sufficient strength to prevent defeat in detail by guerrilla forces. Security, including use of warning and surveillance devices, is established for installations, equipment and troops. Since the guerrilla force has limited supplies, emphasis is placed on safeguarding military equipment, food, ammunition and weapons.

b. The battalion commander will normally subdivide his assigned area into areas of responsibility for company task forces. Within these areas companies will normally establish combat bases as outlined above from which they carry out actions to eliminate guerrilla activity. The battalion commander may direct the establishment of static security posts to secure critical points (e.g., bridges, points on routes of communication, etc.). These

static security posts may vary in size from small groups of personnel to company size units.

294. Establishing Control Over Civil Populace

a. Positive steps are taken to reduce any existing sympathy and deny support for the guerrilla forces. This can be accomplished by having friendly troops arrive unexpectedly at villages; by enforcing strict troop discipline and conduct; by civic actions and propaganda; and by establishing close liaison and coordination with civil authorities. Every effort is made to isolate the guerrilla force from its source of supply, reinforcement, and recruiting.

b. Surprise attacks conducted against located guerrilla forces will encourage the populace to resist guerrilla operations. When friendly forces react effectively to guerrilla attacks and ambush local guerrilla bands, a feeling of insecurity is developed among enemy forces while the population gains a greater confidence in friendly forces. In addition, raids and ambushes are conducted to keep guerrilla forces in a constant state of alarm for their security, to lower morale, to prevent rest, and to hinder their conduct of operations.

c. In the conduct of antiguerrilla operations every effort is made to gain information of guerrilla activities. Maximum use is made of aerial reconnaissance, combat and reconnaissance patrols, and information obtained from captured or surrendered guerrillas and reliable civilian sources.

295. Major Offensive Actions Against Guerrilla Forces

When guerrilla forces are located or reported, offensive actions are carried out against them. Those forces willing to fight in open battle are isolated to prevent escape and are immediately attacked; those which avoid open battle are forced by a series of police and military actions into areas which permit encirclement. Once surrounded, such forces are destroyed by continuous determined attack.

296. Types of Offensive Action

a. General. The major offensive actions taken against enemy guerrillas may be broadly classified as the encirclement, attack, and pursuit. The battalion normally participates in these actions as part of a larger force; however, it is also capable of conducting an independent encirclement, attack, or pursuit although on a limited scale.

b. Encirclement. A sudden and complete encirclement of guerrilla forces is the most effective method of destroying them. For

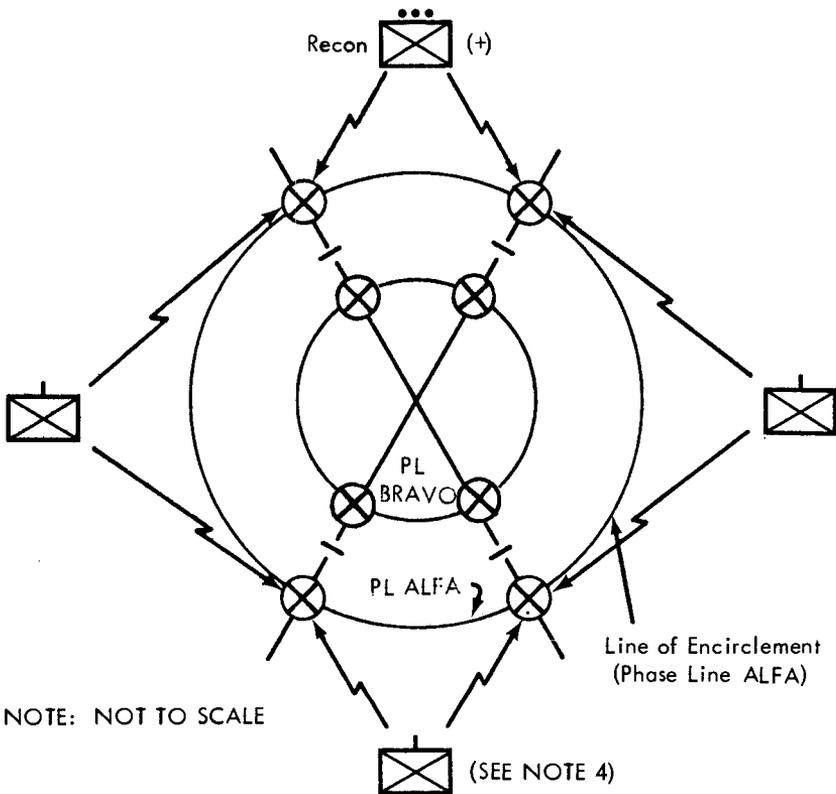
this reason, secrecy, deception measures, and security are stressed in movement to the line of encirclement (fig. 37); normally, this is accomplished at night or under conditions of reduced visibility. Units organize the line of encirclement and then progressively contact the encirclement and send patrols forward to locate the guerrilla forces. Once the enemy has discovered the encirclement, prompt and violent reaction may be expected as he probes for gaps or weak points in the formation. Friendly forces continue the contraction of the encirclement and take appropriate offensive action as required by the situation. Thorough combing of every area, including those most inaccessible, is mandatory. When enemy resistance is strong in the area of encirclement, a task force may be employed to drive directly into the objective area while the encircling force support its attack. Airborne (including airmobile) forces will frequently be employed in the conduct of a surprise attack on the redoubt area. In this and all encirclement maneuvers, maximum use is made of indirect fire support and tactical air support.

c. Attack. When time, inadequate forces, or the nature of the terrain do not allow use of large scale encirclement, the battalion or its subordinate elements may conduct an attack on located guerrilla forces by using the normal offensive maneuvers. Planning and conduct of such an operation is similar to that discussed in chapter 5. However, emphasis is placed on secrecy in order to achieve surprise in the attack. The objective of such an attack on located guerrilla forces is less likely to be an easily identifiable terrain feature than in the case of conventional operations. It is conceivable that the objective against this type of enemy may be fleeting and poorly defined.

d. Pursuit. The battalion or its elements may be required to pursue guerrilla forces after an attack or following a guerrilla breakout after an unsuccessful attempt at encirclement. Planning and conduct of the pursuit is similar to that discussed in chapter 5. Ambushes are established early on possible escape routes and patrolling is conducted so as to confuse the guerrillas as to specific plans. Every effort is made to block all routes of escape, either by fire and/or with troops. Emphasis is placed on aerial and ground surveillance to insure that enemy forces do not escape or set up an ambush. Airborne (including airmobile) forces are frequently used in cutting off guerrilla escape routes.

297. Administrative Support

a. When the battalion is operating at a considerable distance from brigade support elements, the strength of accompanying combat trains in the area may be considerably increased to in-



- Notes:
- (1) Troops move quickly and silently to line of encirclement (Phase Line ALFA) to achieve surprise.
 - (2) On order, line of encirclement is contracted.
 - (3) Upon reaching Phase Line BRAVO, troop movement must be closely coordinated to preclude firing into other unit areas. A task force may be sent into area to clear out remaining guerrilla forces.
 - (4) This company will also be required to retain part of its force (e.g. a reinforced rifle platoon) for use as the battalion reserve.

Figure 37. Battalion in encirclement operation against guerrilla forces.

clude attachment of division support elements. Because of the frequency of independent and semi-independent battalion operations, the provision of supplies and evacuation of casualties may pose serious problems. Protected convoys may be required for supply trains and medical evacuation. Emphasis will be placed

on aerial resupply and aerial medical evacuation. Conditions may dictate frequent use of motor vehicles or hand-carrying parties for some resupply operations. When practicable, local civilian labor is used.

b. Within the restrictions of international law, particularly as expressed in article 151, chapter 7, DA Pam 27-1, maximum use is made of non-U.S. forces and personnel for all activities in which they may be profitably employed. These include combat operations, security of the civil populace and critical facilities and installations, and use as guides and interpreters.

Section IV. PATROLLING

298. Command Aspects of Patrolling

a. A patrol is defined as a detachment sent out by a larger unit for the purpose of gathering information, securing prisoners of war or carrying out harassing, destruction, mopping up or security missions. Patrols are classified by the type of mission they perform. The two general classifications of patrols are reconnaissance and combat. They differ in the mission assigned and in their actions. There are many variations in the size and organization of these patrols, ranging from two men to a company or larger unit. Reconnaissance patrols collect information or verify existing indications. Combat patrols carry out harassing or destruction missions.

b. The battalion S2 has staff responsibility for reconnaissance patrols and the S3 has staff responsibility for combat patrols.

c. For further information on patrolling, see FM 30-7, FM 21-50 and FM 7-15.

299. Briefing and Debriefing Patrols

Normally, battalion-directed patrols receive their order supplemented by a briefing by the appropriate member of the battalion staff (S2 or S3). They are debriefed by the S2 or his representative. The company commander of the company furnishing the personnel for the patrol or his representative should be present at the briefings and debriefings. In combat operations it will not always be possible for the S2 and/or the S3 to individually brief and debrief each battalion-directed patrol. In their absence, the responsibility for this function may be delegated to the company commander of the company furnishing the personnel for the patrol. The NATO debriefing form should be used in debriefing patrols.

300. Long Range Reconnaissance Patrols

See FM 100-1.

301. General

a. The purpose of a river crossing is to move the attacking force across a river obstacle as rapidly and as efficiently as possible so that it may either continue its attack to destroy the enemy or to seize an assigned objective which will protect the crossing of the remainder of the force. It is an offensive operation differing from other offensive actions primarily in the application of techniques. However, it usually requires specialized crossing equipment and trained personnel. For detailed considerations of river crossing operations, see FM 31-60.

b. Whenever possible, a crossing is accomplished on a broad front to facilitate dispersion. However, crossing sites are usually limited in number, thus resulting in the canalization of attacking forces. Plans must therefore include provisions for rapid dispersion on the far shore both in width and depth in order to avoid presenting a lucrative target for enemy fires. Airmobile forces may be employed in conjunction with a river crossing to seize key terrain beyond the far bank and isolate defending forces or to seize crossing areas or crossing sites.

302. Types of River Crossings

a. A crossing is termed "hasty" when it can be conducted as a continuation of an attack by forces which advance to the river line and cross with a minimum loss of momentum. Since a hasty crossing is characterized by speed, surprise, and a minimum concentration of personnel and equipment, it is less vulnerable to enemy counteraction.

b. A crossing is termed "deliberate" when it is conducted under any of the following circumstances:

- (1) As a resumption of the offensive after friendly forces have previously secured the near bank.
- (2) When a hasty crossing is not feasible because of a lack of necessary equipment and personnel or because of the strength of enemy defenses.
- (3) As a result of an unsuccessful hasty crossing.

c. A deliberate crossing is characterized by some delay, more detailed preparation and planning at all levels, and the build up and employment of extensive and specialized river crossing means. A deliberate crossing also entails neutralization of enemy opposition in the zone of attack on the far shore. See FM 31-60.

303. Reconnaissance

a. Detailed information of the enemy situation and the nature of the river is essential. Since even small enemy forces can seriously interfere with a crossing, the commander executing the operation should have detailed knowledge of the location of any enemy force that can place observed fire on the river. The location of enemy reserves also assumes great importance because of the initial vulnerability of the crossing force to counterattack, especially by armor. Reconnaissance is therefore directed toward locating these enemy units so that their effectiveness may be reduced by nuclear and/or nonnuclear fires at the time of attack. Employing Army aircraft for radar, visual, and photographic reconnaissance is a fast and effective means of obtaining information of the enemy and area of operations. Such reconnaissance may reveal excellent blocking positions for airmobile forces beyond the far bank. All possible landing areas should be noted in case a diversionary attack by airmobile forces is desired in conjunction with the crossing attack. Aerial reconnaissance should be kept to the minimum necessary to accomplish the mission and should not reveal the crossing site by remaining in the immediate vicinity.

b. Much information of the river is usually available from engineer and civilian sources. Nonetheless the battalion may frequently be required to reconnoiter for its own crossing sites. The reconnaissance platoon is ideally suited for this role.

304. Planning the River Crossing

Considerations for planning a river crossing are essentially the same as those discussed in planning for an attack in chapter 5. However, additional emphasis is required in certain areas as indicated below:

a. *General Considerations.* Planning must provide for speed of operations, maximum dispersion, and the seizure of deep objectives. If transportation equipment such as APC and/or transport aircraft is available in quantity, it may be possible to achieve all of these aims. If crossing means are limited to boats and footbridges, resulting initially in a lack of mobility on the far bank, closer objectives may have to be seized, and the entire initial concept may have to be based on seizing and protecting a limited bridgehead until bridges and ferries suitable for carrying heavy equipment can be built. Smoke may be used to deny the enemy observation and the ability to visually adjust fires on crossing areas. Deception measures, including use of dummy smoke screens, may be used to confuse the enemy as to the exact crossing sites.

b. *Crossing Sites.* The following are desirable characteristics for a crossing site, regardless of whether the crossing is made by vehicle or boat:

- (1) A far shore that is undefended or lightly held. However, a strongly held position may be neutralized or destroyed with fires to obtain a desirable crossing site.
- (2) Terrain on the near and far bank which facilitates rapid movement forward and early seizure of key terrain features.
- (3) A moderate river current (not over 9.6 Kmph for M 59, and 6.6 Kmph for M 113).
- (4) An unobstructed water area.
- (5) Suitable banks for entry and exit.
- (6) Sites suitable for ferries and bridges to carry tanks and other heavy equipment.
- (7) A bend in the river line toward the attacker in areas where nuclear weapons are not available to neutralize enemy river defenses.
- (8) Dominating terrain including observation and fields of fire on the near bank superior to that of the far bank.
- (9) A narrow crossing site to facilitate use of an armored vehicle launched bridge (AVLB), if available.
- (10) Covered approaches, assembly areas, and attack positions.

c. *Time of Attack.* A time of attack is selected, if possible, that allows units to move forward in darkness but reach the far bank at daybreak. Care should be taken that repeated use of dawn attacks does not eliminate surprise.

d. *Deception.* Surprise is essential in a river crossing operation. Assault units should be able to reach the far bank and launch their attacks without major enemy interference. Feints and demonstrations are used to draw the enemy away from attack points and permit the assault units to get a firm foothold on the far bank.

e. *Fire Support.* The fire support plan is designed to permit an uninterrupted movement across the river and far enough forward to allow units to obtain dispersion. If available, nuclear weapons are placed on the far bank to neutralize or destroy enemy forces that can interfere with the crossing. Enemy reserves that can interfere with the crossing are taken under fire. Smoke is planned against enemy observation posts. In the early stages of the attack, tanks may provide overwatching fire to facilitate the crossing. Supporting weapons displace across the river early enough to insure continuous support to the attacking units.

305. Conduct of River Crossing

a. Troops move from positions well in rear of the river to the near edge, which is the line of departure. Every effort is made to maintain a continuous flow of personnel with no appreciable stopping on the near bank. This may not be possible when boats are used. In such a case attack positions (where boats are picked up) are selected by the battalion commander, and positions on the near bank from which boat teams can deploy and launch their boats are required. Units do not attempt extensive reorganization on reaching the far bank, but move rapidly away from the river to eliminate remaining enemy and to gain dispersion. As the attack progresses, reorganization is continuous until, eventually, the units are reconstituted in the formation necessary to continue the attack. The attack then proceeds as described in chapter 5.

b. The reserves remain on the near bank until sufficient ground has been gained to preclude massing on the far bank. They are prepared to move to the far bank quickly if the enemy's counter-measures threaten the success of the operation.

c. All available crossing means are used to achieve maximum speed in the crossing and the subsequent exploitation of the bridgehead, and to reduce the criticality of any one crossing means. Army aircraft, particularly helicopters, are capable of moving fire support units, reserves, and supplies to speed the buildup on the far bank.

CHAPTER 10

AIRBORNE OPERATIONS

Section I. GENERAL

306. Introduction

This chapter covers the planning and conduct of airborne operations by the battalion. The general section of this chapter deals with material applicable to all airborne operations. Sections II through IV and VI through VIII cover the pertinent aspects of joint airborne and unilateral airmobile operations respectively. Sections V and IX cover the planning and conduct of the airborne raid and withdrawal by air respectively. Additional detailed information on these operations may be found in FM 57-10, FM 57-35, and TM 57-210.

307. Definitions

a. An *airborne operation* involves the movement and delivery by air, into an objective area, of combat forces and their logistic support for the execution of a tactical or strategic mission. The means employed may be any combination of airborne units, air transportable units, and types of transport aircraft, depending on the mission and the overall situation. Airborne operations include joint airborne operations (parachute or air landed) and airmobile operations (parachute or air landed).

- (1) A *joint airborne operation* is one conducted by Army forces together with forces of another service, usually the Air Force.
- (2) An *airmobile operation* is one in which combat forces and their equipment move about the battlefield in aerial vehicles under the control of a ground force commander to engage in ground combat. One of the primary differences between airmobile operations and joint airborne operations is that in airmobile operations, the aerial transport is under the control of the ground force commander.

b. A simple administrative air movement in which subsequent combat action is not anticipated is not considered an airborne operation. However, many of the techniques and procedures for loading and lashing of supplies, preparing manifests, etc. may be applicable.

308. Characteristics of Airborne Operations

a. Airborne operations are planned to achieve tactical surprise and are completed in the shortest practicable time. The rapidity of the attack reduces the vulnerability of the airborne force to enemy counteraction, including use of nuclear weapons.

b. Unity of command throughout the operation is essential.

c. The operations of an airborne force differ generally from those of other ground forces in that—

- (1) An airborne force usually has limited artillery and heavy equipment and little or no armor within the objective area.
- (2) An airborne force must expect to fight in all directions.
- (3) The requirement for protecting perimeter-type landing areas and the lack of vehicles may restrict the flexibility of operations.
- (4) Adverse weather (primarily low visibility and high winds) may seriously restrict the conduct of airborne operations.
- (5) The force's limited ground vehicular mobility and anti-tank capability increase its vulnerability to enemy armor.
- (6) The force is particularly vulnerable to enemy air strikes and other fires during flight, landing, and assembly.
- (7) An airborne assault usually is made in lightly defended areas, facilitating initial tactical surprise. The lack of enemy defense may be due to the prevailing enemy dispositions or may be caused by friendly supporting fires, including nuclear strikes, in the area.
- (8) Obstacles and enemy defenses that would ordinarily have to be overcome or reduced by ground attack may be bypassed by vertical envelopment.

d. Successful execution of airborne operations requires gaining air superiority in the area of operations during the assault and follow up phases. When it is impossible to insure this, but the necessity for launching the operation is the overriding consideration, various techniques are used to gain surprise and reduce the enemy's ability to interfere. These techniques include, but are not limited to, flying at low levels, using multiple flight columns, operating during periods of limited visibility, and using various deceptive measures such as tactical ruses, feints, and electronic countermeasures.

309. Employment of the Battalion

A joint airborne force may be delivered by parachute or air

landed by aircraft of another service. An Army airmobile force may be delivered by parachute or air landing by Army aircraft. Only the airborne infantry battalion is capable of parachute delivery. It may also be air landed. The infantry battalion may be air landed in joint airborne or airmobile operations. The mechanized infantry battalion may be air landed in airmobile or joint airborne operations without its heavy equipment when the mission dictates that it operate in the objective area in a dismounted role. Armored personnel carriers can be lifted only in heavy transport aircraft. Consequently, unless exceptional strategic or tactical considerations dictate, it is not considered practicable to include the APC in airborne operations.

310. Echelonment for Airborne Operations

a. Combat elements of a force which is to participate in a joint airborne operation are normally organized into three echelons:

- (1) *Assault echelon.* This echelon is composed of those forces required to seize the assault objectives and the initial objective area and includes the reserve and supporting troops.
- (2) *Followup echelon.* This echelon is that part of the force (less the rear echelon) which is brought into the objective area as soon as practicable after the assault. It consists of additional vehicles and equipment of units in the assault echelon and combat, combat support, and service units not required in the assault echelon.
- (3) *Rear echelon.* This echelon is that part of the force which is left in the departure area to perform administrative and service functions not required in the objective area or those units whose functions can be performed more efficiently in the departure area.

b. Combat elements of a force which is to participate in an airmobile operation are normally organized into two echelons:

- (1) *Assault echelon.* This echelon consists of those forces and their equipment that are landed in the objective area to engage in ground combat. It may require one or more lifts, depending on its size and the number and type of aircraft available.
- (2) *Rear echelon.* This echelon consists of the remainder of the force: Those not immediately needed in the objective area, such as administrative personnel and equipment; and those that cannot be transported in available aircraft. This echelon normally accompanies the ground linkup force.

311. Close Air Support

Close air support supplements artillery and antitank weapons which usually are limited during the initial assault phase. Aircraft on air alert may be scheduled for execution of on-call strikes. Control of close air support in the initial stages of the operation requires a tactical air coordinator, accompanied by a representative of the ground commander, who operates over the objective area in an aircraft. The aircraft control team organic to the battalion communication platoon lands with the battalion to assist the forward air controller (FAC) in directing air strikes. Initially, requests for air strikes go directly from the FAC to the tactical air coordinator who allocates aircraft from those on air alert over the objective area. The FAC then directs the strike. When centralized control is regained, requests are routed through the airborne force headquarters where priorities are established and the approved requests are relayed to the tactical air coordinator. As soon as practicable, requests are routed through normal channels. A system of visual signals is developed in the air fire plan to inform tactical air of the position of friendly troops on the ground.

312. Nuclear Considerations

a. A nuclear preparation prior to an airborne assault makes it possible to deliver units directly on or immediately adjacent to objectives that otherwise would be too strongly defended, and enables small forces to seize the objectives quickly. The preparation is coordinated with the air delivery unit, supporting tactical air forces, other fire support agencies, and all participating ground forces.

b. The battalion scheme of maneuver is also influenced by the employment of nuclear weapons in that a nuclear preparation in support of the operation may permit the battalion to employ dispersed formations without undue risk of piecemeal defeat. However, friendly (and enemy) use of nuclear weapons may create obstacles by blast damage, fires in woods and built-up areas, and radioactive contamination which obstruct the movement of the battalion.

313. Communications

a. Special communication problems arise during the assault phase of an airborne operation. Because of the dispersion of the units on landing, speed of action, and distances involved, communication is relatively difficult to establish. Radio is the principal means of communication used.

b. Communication plans are integrated and coordinated at all

levels. These plans provide for communication between the battalion and the following, as appropriate:

- (1) Aviation or air transport units during the marshalling phase and in the objective area.
- (2) Artillery, naval, and air units providing fire support.
- (3) Administrative support installations.
- (4) Forces, including linkup forces, with a common or coordinated mission.
- (5) The next higher headquarters.

314. Training and Rehearsals

a. Training. The training objective of the battalion is to attain maximum efficiency in airborne operations as well as other ground operations. Training involves unilateral and joint training in aircraft loading techniques, air movement, and logistical and administrative procedures. Unit training emphasizes tactical operations on the ground, speed and precision in loading aircraft, techniques of assault landing, and assembly after landing. Individuals are trained in their primary ground role. Additionally, they must be proficient in flight discipline, loading and unloading of aircraft as well as parachute techniques, where appropriate.

b. Rehearsals. Rehearsals closely tied in with other training are conducted whenever possible. When feasible, rehearsals approximate the proposed operation. Rehearsals should include, as appropriate:

- (1) Loading and unloading of aircraft.
- (2) Communication procedures.
- (3) Assembly and control after landing.
- (4) Execution of the tactical plan.
- (5) Linkup operations.
- (6) Logistical considerations.

Section II. JOINT AIRBORNE OPERATIONS—GENERAL

315. General

Although all battalions, including infantry, airborne infantry and mechanized infantry, may participate in joint airborne operations, the airborne infantry battalion will be most frequently used in this type of operation. For this reason, in the remainder of this section, the airborne infantry battalion will be used as a basis of discussion. Where material is not applicable to the infantry or the mechanized infantry battalion (without heavy equipment) in the air landed role, it will be specifically noted. Except where indi-

cated, this chapter applies to both parachute and air landed delivery. Wherever the term airborne operation is used in this section, it is construed to mean joint airborne operation unless otherwise indicated.

316. Employment of the Battalion

The airborne infantry battalion normally participates in joint airborne operations as part of a larger force. However, the battalion or its elements are also capable of conducting frequent independent or semiindependent operations. The mechanized infantry battalion (without heavy equipment) will infrequently conduct independent or semiindependent airborne operations.

317. Missions for the Battalion

A battalion or elements thereof may be assigned the following missions in an airborne operation:

a. Attack to Destroy or Capture Enemy Forces or Installations, or to Seize Key Terrain. These missions may be assigned to all or part of a battalion to be accomplished during the assault phase or after an objective area has been occupied. Airborne assaults may be conducted in conjunction with other ground operations.

b. Expansion of or Exploitation From an Objective Area. The battalion may reinforce other initial assault forces and attack to expand the objective area or exploit from the objective area.

c. Airborne Raid. See paragraphs 344 through 353.

d. Area Interdiction. When the brigade conducts an area interdiction to prevent or hinder enemy operations in a specified area, it may make the battalion responsible for a part of the area. The battalion operates over a wide area destroying key enemy installations and facilities by use of guerrilla-type tactics.

e. Blocking Enemy Routes of Movement. An operation to block an enemy route of withdrawal or reinforcement is frequently conducted in conjunction with nuclear or nonnuclear strikes and/or ground attacks. Usually, units of company size or smaller occupy key terrain from which enemy forces can be stopped or delayed. The operation is either carefully coordinated with ground attacks to insure early linkup and to prevent defeat of the blocking force, or provision is made for withdrawing the force by air or ground movement. Airmobile forces may be used to cover the ground withdrawal by delaying the enemy from successive key terrain features.

f. Security and Reconnaissance. Flank guard, reconnaissance in force, covering force, or other security missions may be performed by all or part of the battalion.

g. Operation as Part of Other Forces. The brigade commander may detach elements of the battalion to reinforce other battalions or to constitute a task force operating directly under brigade control.

h. Other Missions. (See FM 57-10.)

318. Preparation for Joint Airborne Operations

Since the time available for preparing for an airborne operation may be limited, units must maintain a posture of maximum readiness to take part in an airborne assault on short notice. Operations of battalion size may be launched within 24 hours or less provided the unit is fully trained and prepared to perform such operations. If an infantry or mechanized infantry battalion has had no prior experience or training in air landings, it may require from 3 to 5 days of air movement training to perform an efficient air movement. To reduce the preparation time to the minimum, units conduct periodic training to maintain a high level of skill in such operations. Type loading plans are prepared in advance to enable the battalion to adapt readily to various types and numbers of aircraft or methods of employment. A unit SOP may reduce the preparation time required.

319. Security

Measures to guard security of forthcoming operations are stressed. Only those personnel who have a "need to know" are informed until such time as all personnel are "sealed-in" the marshalling area. Training and rehearsals, though oriented toward the operation, are characterized by their routine appearance. Practice "seal-in" alerts are periodically conducted when necessary to accustom local populace to conditions that will exist during marshalling.

320. Plans and Orders From Brigade

a. The brigade commander usually issues a warning order early in his planning phase so that the subordinate unit commanders can make their plans and preparations concurrently. The warning order for an airborne operation may include special security measures and advance information of the number and types of aircraft allocated to the battalion.

b. Brigade plans and orders give the battalion commander the following additional information peculiar to an airborne operation:

- (1) Assigned assault objectives and a sector of responsibility.
- (2) Location and assignment of drop and/or landing zones.
- (3) Requirements for special reports not covered by SOP.

- (4) Coordinating instructions for initiating the ground phases of the operation.
- (5) Data for the air movement plan to include location of loading areas and/or departure sites, allocation of aircraft, composition of aircraft serials, flight route diagrams, and the time for loading, takeoff, and arrival at the destination. Data for priority of movement, phase back of units, and logistical support is also included.
- (6) Data on marshalling including special security measures to insure secrecy.
- (7) Details of air-sea rescue, when applicable.
- (8) Details of time and place of arrival and the use of troops and equipment in the followup echelon, when applicable.
- (9) Organization of and instructions to the rear echelon.
- (10) Supply and evacuation procedures, including special measures for air resupply and air evacuation.

321. Liaison

On receiving a warning order for an airborne operation, the battalion exchanges liaison officers, as appropriate, with the following agencies:

- a. Other Army elements of the force.
- b. Supporting troop carrier elements.
- c. Supporting naval force.
- d. Supporting tactical air force.
- e. Linkup force.

Section III. JOINT AIRBORNE OPERATIONS—PLANNING

322. General

a. Wherever the term airborne operation is used in this section it is construed to mean joint airborne operation unless otherwise indicated. Upon receipt of plans or orders from the brigade, the battalion commander initiates detailed planning for the operation. Although the complete battalion order is normally issued after troops are sealed in the marshalling area, the battalion commander transmits all appropriate information to his staff and subordinate commanders to facilitate concurrent planning at all echelons. Such information is transmitted to the extent that security conditions permit. Similarly, the battalion commander and his staff participate in the development of the brigade and troop carrier unit

plans. It is desirable that attached or supporting elements also be included in planning. This insures close coordination and makes it possible for the battalion commander to reduce his planning time.

b. The extent of the battalion's involvement in planning depends upon the mission and the size and scope of the operation. When operating independently, the battalion is involved in joint planning to a greater degree than when operating as a part of the brigade.

c. Plans for an airborne operation must be simple and flexible. All leaders must be prepared to overcome unforeseen difficulties and exploit opportunities that may arise during the conduct of the operation. To attain flexibility, the planner—

- (1) Insures that the success of the operation does not depend on the arrival of any one air serial or tactical unit.
- (2) Develops simple landing and assembly SOP.
- (3) Uses landmarks that are easy to locate and identify from the air.
- (4) Prepares alternate plans to allow for adverse weather, misdelivery of units, communication failure and similar unforeseen happenings.
- (5) Makes allowance for operational delays in takeoffs and landings.
- (6) Maintains tactical integrity of units in loading plans whenever possible.
- (7) Prepares a simple plan for the disposition of troops and equipment at departure areas.
- (8) Incorporates consideration of phase back in planning in the event of a shortage of aircraft or sudden insertion of a high priority unit in the air movement plan.

323. Reconnaissance

In planning for airborne operations, emphasis is placed on the reconnaissance by the commander, staff, and company commanders. Although the battalion normally relies on higher headquarters for additional information of the enemy and terrain, key personnel should participate in aerial reconnaissance of the planned flight routes and the objective area if the situation permits. Information obtained on the reconnaissance is similar to that obtained in ground operations; however, stress is placed on gaining information of the following:

- a. Landing zones and drop zones available.
- b. Assembly areas.

c. Obstacles in the objective area including high tension wires, trees, and anti-airborne obstacles.

324. Planning Sequence

a. Detailed planning for an airborne operation follows the principles that are applicable to other ground tactical operations, but with consideration for the technical problems peculiar to airborne operations. Plans are developed by selecting the objective first and continuing the planning in reverse sequence to the marshalling area as indicated below:

- (1) *Ground tactical plan.*
- (2) *Landing plan*, indicating the sequence, time, and place of arrival of troops and material, based on the ground tactical plan.
- (3) *Air movement plan*, based on the landing plan.
- (4) *Marshalling plan*, based on the air movement plan.

b. Although reference is made to four separate plans, at battalion level, all of the above listed plans are normally incorporated in a *single plan*. As an example, the air movement plan is normally an annex to the operation order and may be supported by the following appendixes as required: air movement table, flight route diagram and air loading table. Although planning follows the sequence indicated above, the plans are closely interrelated and are developed concurrently. Administrative support planning begins with ground tactical planning and continues throughout the planning sequence.

325. Ground Tactical Plan

The ground tactical plan includes the assault plan to seize objectives and plans for defense, linkup, withdrawal, subsequent offensive operations, and displacement as appropriate. Assault and defense plans are prepared concurrently and include a scheme of maneuver and fire support plan. Alternate plans are also prepared. The development of the ground tactical plan is essentially as discussed in chapters 5, 6, and 7. However, additional consideration is given to the following:

a. *Sectors.* Sectors assigned to subordinate units should include adequate landing and/or drop zones. A company should not be required to fight in divergent directions. Desirably, the boundaries designated apply to both the assault and defense phase of the operation.

b. *Objectives.* Objectives assigned include those areas whose early seizure is required for defense of the battle area.

c. Assembly Areas. In a parachute assault, units normally assemble and reorganize in assigned assembly areas and then immediately attack to seize objectives. Units may be directed to attack before assembly is complete. In an air landed operation, the assembly and reorganization of the company may not be necessary.

d. Security Forces. In airborne operations, because of the greatly expanded area of responsibility dictated by a perimeter type formation, it is normally necessary to economize on use of security forces. A single security echelon forward of the airhead line is usually all that is practicable. This security echelon may be either the GOP or COP. The forces for the security echelon are normally provided by the forward elements. The battalion normally controls forces employed in the security echelon during the assault. After the objectives are secured, rifle companies along the airhead line may be given responsibility for the COP within their sectors.

e. Employment of the Reserve. The reserve normally enters the objective area in the assault echelon. It may be assigned security missions to protect supporting artillery and mortars under battalion control; to protect supplies and installations in the vicinity of drop and landing zones; or other missions which will not preclude its availability for execution of its primary mission. In the defense, reserve elements of rifle companies on the airhead line may be designated as battalion reserve.

f. Fire Support. In an airborne operation, the battalion commander relies upon the subordinate elements to seize their initial objectives or perform initial tasks rapidly by independent action. As a result, he may decentralize control of the supporting weapons to task force or company level. The heavy mortar section may be employed in increments of two squads with attached FDC control personnel, in an attached or direct support role in early stages in the assault. Similarly, Davy Crockett squads will frequently be in direct support of rifle companies and antitank squads will be attached to units for the initial stages of the assault. As soon as possible, however, centralized control is regained. The normal absence of friendly armor with the assault force places great importance on use of the antitank weapons. Artillery may be in DS, reinforcing the fires of artillery in DS, or attached to the battalion. Attached artillery is normally retained under battalion control.

g. Independent Operations. The battalion, operating independently or as part of a larger force, may seize a separate objective area. In such a case, the battalion commander develops his ground tactical plan as described above, but selects his own airhead line

and COPL within the limitations prescribed by the higher commander. The battalion commander normally translates his mission into terms of objectives on the ground which must be seized to accomplish the assigned mission. The airhead line normally circumscribes all of the objectives and the maneuver space required for their defense and desirably includes adequate drop and landing zones. The selection and location of the objective area is influenced by the following interrelated factors:

- (1) Mission of the airborne force.
- (2) Enemy situation and capabilities.
- (3) Characteristics of the terrain.
- (4) Capability of the airborne force.
- (5) Landing areas available.
- (6) Nature of subsequent operations.

326. Other Considerations in Ground Tactical Planning

In the development of the ground tactical plan, the battalion commander must consider the following factors which are characteristic of airborne operations and may affect the success of the operation. Specific actions must be planned to counter or overcome the following:

- a.* The possibility of engagement immediately after the landing with resultant difficulties in control and reconnaissance.
- b.* Limited artillery support. Elements of the battalion may have to attack before support elements have occupied firing positions.
- c.* Greater separation of units resulting in exposed flanks and rear.
- d.* Confused tactical situation with both friendly and enemy forces lacking information of the other.
- e.* The difficulty of command control in fast moving or obscure situations.
- f.* The possibility that all or a major portion of the battalion may be unable to assemble before the attack because of enemy action or inaccurate landings.
- g.* Lack of armor support.
- h.* Limited mobility.

327. Landing Plan

a. The landing plan is based on the ground tactical plan. It covers the sequence, time, and place of arrival of troops and material in the objective area. Landing zones (LZ) and/or drop

zones (DZ) are normally selected on objectives or as close to them as the terrain and enemy situation permit. However, when insufficient or inadequate drop and/or landing zones exist, boundaries may be shifted or several units may use the same landing area. The battalion commander selects drop zones or landing zones after receiving recommendations from the staff and subordinate commanders.

b. The battalion usually lands intact on a single or adjacent drop or landing zones. Subordinate elements may land on separate drop or landing zones when it facilitates the seizure of their objectives. In either case, elements of the battalion are desirably kept within supporting distance.

c. Different type serials using the same drop zone/landing zone are normally delivered in the following order: parachute, heavy drop, and/or air landed.

d. Alternate drop and landing zones are selected whenever practicable.

328. Timing the Operation

a. The battalion commander may recommend or select the time of landing in certain instances when the battalion or its elements conduct an independent operation. In selecting the time for landing, the commander considers the enemy dispositions and capabilities; the influence of predicted weather; visibility, both day and night; the availability of fire support; and the plan for supporting fires.

b. The battalion may land at first light to take advantage of darkness during the air movement and reorganize and attack in daylight, or it may land at last light to facilitate delivery and reorganization, then attack during darkness. Airborne operations conducted during daylight present fewer command and control problems, can be more complex in scope, and can be better assisted by close air support.

c. The battalion may conduct an assault at night or under other conditions of reduced visibility to gain tactical surprise or to reduce the effectiveness of enemy fire. Operations under these conditions have the following disadvantages:

- (1) Accurate delivery of units to their drop/landing zones is more difficult.
- (2) Air and artillery support is less effective.
- (3) Reorganization on the ground is more difficult and time consuming.

d. Timing the airborne operation with other operations requires consideration of the—

- (1) Missions of the airborne force.
- (2) Depth of the operation.
- (3) Capabilities and limitations of fire support in the objective area.
- (4) Nature of subsequent operations.

e. When a nuclear preparation is used, the operation is timed to permit tactical assessment and exploitation of the effects. The threat of enemy nuclear attack favors the conduct of the airborne operations at night, particularly the marshalling and air movement phases.

329. Assembly and Reorganization

a. The battalion commander plans for the rapid assembly and reorganization of the battalion after the landing. Assembly should facilitate seizure of the objectives. The battalion may assemble and reorganize as a unit in one general assembly area, or it may assemble and reorganize in several dispersed areas. The method is influenced by the following:

- (1) The probability that strong enemy forces may be engaged soon after landing favors reorganization of the battalion in one assembly area.
- (2) The probability of enemy nuclear attack favors reorganization in dispersed assembly areas.

b. The battalion commander may select company assembly areas or delegate this authority to company commanders. Alternate assembly areas are selected.

c. Desirably, assembly areas should provide good cover and concealment from enemy observation and fire; be of sufficient size to allow adequate dispersion; be close to LZ and/or DZ and facilitate movement to the objective(s); and be easily identifiable by prominent landmarks.

d. Appropriate assembly aids are prescribed to include use of panels, colored smoke and pyrotechnics, colored lights, radio homing devices, audible signals, and distinctive markings on clothing and equipment.

330. Air Movement Plan

a. The air movement plan is prepared jointly by the Army and troop carrier commanders concerned. It is based on the landing plan and includes the composition of aircraft loads, organization

of serials, and instructions for flight of the aircraft from the loading area to the objective area.

b. An air movement table, which is published as an annex to the operation order or as an appendix to the air movement plan annex, is developed jointly by the ground and transport unit commanders. The table gives the executing units detailed instructions on flight serial composition, the number of aircraft allocated, time for loading and takeoff, loading sites, and drop or landing zones. An air loading table, based on the air movement table, is prepared by the ground commander. Flight manifests are also prepared.

331. Marshalling Plan

a. Marshalling is the process by which units complete final preparations for combat, move to loading sites, and load in assigned aircraft. The marshalling plan is based upon the air movement plan. Air loading tables (a part of the air movement plan) indicate the personnel, vehicles, and equipment assigned to each aircraft; the loading site; and the times of arrival and departure.

b. The battalion completes preparations in a marshalling area and moves directly from it to designated loading sites. The loading site is the place where the aircraft are loaded for the operation. It may be at the departure airfield, or it may be a point where the aircraft land only long enough to load and then fly to the departure airfield or the objective area. Several units may outload at the same loading site in succession. The loading site should be as near as possible to the marshalling area to reduce the time required to move the airborne unit.

c. In nuclear warfare, both air and ground units avoid concentration during the marshalling phase. This requires that both air and ground elements remain dispersed, conceal preparations, and move to loading sites just prior to takeoff. To meet these requirements, airborne forces—

- (1) Disperse and carefully conceal their marshalling areas and take maximum passive measures to protect their personnel, equipment, and supplies. They dig personnel shelters immediately upon occupying a marshalling area and improve them as long as they remain. They protect equipment and supplies, particularly those most vulnerable to the effects of nuclear weapons, by revetments, dugouts, and underground shelters to the extent that time permits.
- (2) Conduct movements between assembly areas and to loading sites at night to the maximum extent practicable.
- (3) Prepare their supplies and equipment early for aerial

delivery. This may make it impossible to use organic vehicles and other equipment for training, rehearsals, and other activities in marshalling areas.

- (4) Time their movement to loading sites so that the bulk of the personnel arrive after the equipment and supplies are loaded.

332. Briefing

Troops are briefed in minute detail. All available briefing aids are used. Commanders of battalions and companies receive a common briefing on the missions of other units participating in the operation. Thus, in the event of inaccurate landings or unforeseen enemy action, missions may be shifted with a minimum of delay.

333. Loading

a. The battalion commander designates a sequence for the movement of units, supplies, and equipment to the loading sites based on the time required for loading and the scheduled time of takeoffs. Maximum security and secrecy are enforced.

b. Movement to the loading site may be by foot, vehicle, or aircraft. Transportation requirements and movement control are planned in coordination with appropriate agencies who normally provide such support.

c. Supplies and equipment are broken down into aircraft loads in the marshalling areas. They are carried to loading sites as are the personnel required to load and lash the material in the aircraft. Plane loads of supplies leave the marshalling area on a planned schedule to meet assigned aircraft at the loading sites.

d. The troops are organized into aircraft loads in the marshalling areas. They move to loading sites by aircraft load under the supervision of the jumpmaster. Upon arrival at the loading site, each group moves directly to its assigned aircraft. The battalion commander is responsible for the loading of personnel, supplies and equipment, under the supervision of transport aviation representatives, in accordance with the air loading table.

334. Plans and Orders From the Battalion

When detailed plans and orders are transmitted to subordinate units, they normally include information contained in paragraph 320 as applicable to company level. In addition, the following information is provided, as appropriate.

- a.* Changes to SOP loading plans.

b. The plan for reorganization after landing, including the location of company assembly areas, use of assembly aids, reports, security measures, and the method of collecting stragglers. Appropriate parts of the reorganization plan as listed above may be included in the SOP.

c. Detailed guidance on preparation of equipment for aerial delivery.

335. Reserve Battalion

a. The battalion may constitute all or a part of the brigade or division reserve in the airborne assault. Elements of the battalion in reserve may be committed by attaching them to other battalions, particularly in the initial stages of the assault.

b. The reserve battalion normally is brought into the objective area in the assault echelon. Planning for the air movement, landing, and reorganization are the same as for other battalions. The reserve commander plans for his commitment during the assault and subsequent operations as described in chapters 5, 6, and 7.

c. The brigade commander's plan normally includes the maximum use of available transportation for movement of the reserve battalion within the objective area. This may include transport helicopters organic to the division and any other available Army transport aircraft.

d. When elements of the brigade or division are simultaneously committed in widely separated areas, the reserve battalion(s) may be held in readiness in a departure area, prepared for aerial delivery in an assault role. In such a case, the reserve battalion commander prepares plans for commitment in the areas of each of the major brigade or division elements as appropriate in the priority established by the higher commander. When committed, control is decentralized. All or a part of the reserve may be committed and may land under a variety of conditions. It may land in a secure area and be attached to a force that has been particularly successful; it may reinforce a unit by making an assault landing; or it may assume the mission of a unit that has been subjected to nuclear attack or other enemy action which has reduced its combat effectiveness. Planning must therefore be flexible and the reserve must be maintained in a high state of readiness.

Section IV. JOINT AIRBORNE OPERATIONS—CONDUCT

336. General

Wherever the term airborne operation is used in this section it is construed to mean joint airborne operation unless otherwise

indicated. The loading, takeoff, and assembly of air serials from all departure sites are closely scheduled by the troop carrier headquarters controlling the air movement. The troop carrier commander prescribes the system used to expedite takeoff and landing; rendezvous and departure points; flight formation; assembly pattern and flight routes; emergency and crash procedures; and similar details concerning airfield operations and air movement.

337. Air Movement

The air movement to the drop and landing zones is under control of the troop carrier commander. During this phase, the battalion commander relinquishes control of his troops and does not regain it until after the landing. The air movement is made in accordance with the battalion air movement plan.

338. Landing and Reorganization

a. General. The landing and reorganization for the initial assault are the most critical periods for the battalion. Therefore, these operations must be executed with speed and precision. When necessary, security is sacrificed for speed and control of reorganization.

b. Landing.

- (1) Battalion elements are landed on or as close to their objectives as possible. Normally, time is required for these elements to collect their equipment and assemble as tactical units before engaging in combat. Surprise is enhanced by landing on the objective or making the move to the objective as short as possible. In addition, a short move is less exhausting to the troops.
- (2) Parachute serials, if used, usually land first, followed by the heavy drop or air landed serials. The serials are organized to facilitate implementation of the ground tactical plan. As a safety precaution, the battalion commander and part of his staff will move in one aircraft while the executive officer and other staff officers move in a different aircraft. The same general principle applies at company level.

c. Reorganization.

- (1) Reorganization after the landing consists of collecting equipment, assembling the tactical units, and regaining command control. The battalion reorganizes according to a prearranged plan, using predesignated assembly areas, assembly aids, and identification markings for personnel and equipment.

- (2) Elements of the battalion charged with providing security during the reorganization assemble by squads or platoons and move out directly on their missions. The remaining elements move quickly to their assembly areas, carrying the equipment and supplies required for their missions. Mortar, Davy Crockett, artillery and other units occupy their initial firing positions and prepare to support the reorganization.
- (3) Radio nets are opened on landing. Company and attached unit commanders periodically report their status in personnel and equipment as prescribed in the battalion SOP. The battalion sends similar reports to the brigade. The battalion reorganization is complete when all of its units have assembled or been accounted for and battalion control has been established.
- (4) Troops that land outside the planned area assemble rapidly under the senior officer or noncommissioned officer present. He establishes contact with their respective headquarters as soon as possible. Lacking other orders, such groups direct their efforts toward accomplishing the overall mission. Individual stragglers join the nearest unit and rejoin their own units as soon as the situation permits.

339. Conduct of the Ground Attack

a. The situation may require the battalion to start the ground attack before completing its reorganization. In the absence of other orders, unit commanders decide when their units are adequately assembled to start the attack. All commanders move their units as rapidly as possible to capitalize on surprise. If the battalion becomes engaged immediately upon landing, individuals and small groups fight to accomplish the battalion mission. Successively larger units establish control and reorganize as the situation permits.

b. When the objective is a considerable distance from the assembly area and enemy resistance is expected to be light, the battalion or smaller units may leave the assembly area in an approach march formation with patrols protecting the flanks and rear.

c. The attack phase of the airborne operation is conducted generally as described in chapter 5. The reconnaissance platoon, supporting engineers and other units assigned reconnaissance and security missions move out rapidly to establish roadblocks; to locate enemy forces; to disrupt enemy communication facilities;

and to provide early warning, security, and information. When the objective area is lightly defended, security forces may land on or move directly to the planned GOPL/COPL. Army aircraft begin their surveillance of the battalion sector and enemy avenues of approach and act as observers for supporting weapons.

d. Organic and attached antitank weapons cover approaches favorable to enemy armor. Elements of the antitank platoon that are attached to subordinate elements are returned to battalion control as soon as practicable. Supporting weapons give close continuous support to assault units. Landing the battalion near its objective facilitates support by the heavy mortar section since it reduces the frequency of displacement and the distance ammunition has to be carried. Attached or supporting artillery provides fire support for security elements that are beyond supporting range of the heavy mortar section. Close support aircraft of the tactical air force augment the artillery and antitank weapons and supplement the striking power of assault units, in addition to maintaining air superiority. When the battalion has seized its objective, it immediately begins preparing for subsequent operations.

340. Administrative Support

In the airborne infantry battalion, the support platoon leader will accompany the assault echelon. The S4 may remain in the marshalling area to insure adequate logistical support. Enough supplies accompany units into the objective area to meet their initial requirements. Subordinate units assigned offensive missions upon landing are not burdened with large amounts of supplies which they will have to recover and protect. Rifle companies usually land with only those supplies that can be carried on organic vehicles or by their personnel. A minimum size combat trains element lands with the battalion. Additional supplies are landed with and recovered by the battalion, which promptly establishes distributing points and sends supplies forward to the rifle companies on battalion transportation. Units operating on separate missions or isolated from the battalion may be supplied by direct air delivery. The battalion's freedom of maneuver will be restricted if required to protect landing zones for delivery of resupply. Followup supply should be air delivered to the battalion units as close to their positions as possible. Returning aircraft may be used for evacuation of casualties, key PW and items of immediate intelligence value.

341. Subsequent Operations

After seizing the objective area, an airborne force may defend

(ch. 6) ; linkup with surface force (ch. 9) ; conduct retrograde operations (ch. 7) or it may conduct further offensive operations (ch. 5).

342. Defense

a. Defense as Part of Larger Force.

- (1) The battalion defends its sector essentially as described in chapter 6. When the battalion's sector is too wide for a continuous defense, the battalion may organize one or more strongpoints. Surveillance of unoccupied portions of the sector is conducted by elements under battalion or subordinate unit control. This surveillance is accomplished by ground or air surveillance radars, observation and listening posts, ground patrols, observation aircraft, and air-transported patrols. Units employed on surveillance missions may be elements withdrawn from the GOPL/COPL, a portion of the battalion reserve, or elements sent out by subordinate units within their sectors.
- (2) The battalion commander takes action to eject, block, or destroy enemy forces which approach battalion strongpoint(s). When unable to prevent a penetration of the airhead line within his sector, he defends the key terrain features and requests assistance from brigade.
- (3) The situation may require the battalion to send task forces out beyond the defensive area to establish a patrol base or roadblocks, or conduct raids or limited objective attacks against enemy forces and installations in the vicinity. Task forces on these missions do not normally become engaged to the extent that they cannot disengage and withdraw to their defensive positions.

b. Defense in Independent Operations. When the battalion operates independently or widely separated from other groups, it organizes the defense of its objective area similar to the perimeter defense described in paragraph 206c or as a series of strongpoints.

c. Antitank Defense. The battalion emphasizes antitank measures in the defense. Positions are selected to take advantage of natural and manmade obstacles to enemy armor. Antitank mines and demolitions accompany small units on light weapons carriers and all personnel are trained to establish hasty antitank obstacles. By aggressive use of organic and attached antitank weapons and skillful use of the terrain, the battalion can greatly reduce its vulnerability to enemy armor.

343. Conduct by the Reserve Battalion

a. Attack. The reserve battalion accomplishes its mission as described in chapter 5. When it is assigned limited offensive or security missions, the reserve battalion commander allocates the minimum force needed, retaining the maximum force to support the attacking battalions or to take over their missions. When so ordered, he employs his organic and/or attached fire support means to support the attacking battalions.

b. Defense. The battalion in brigade reserve may be employed in the counterattack or blocking role, or both. It is employed generally as described in paragraph 242. When the brigade or division seizes an objective area too large to permit organizing the airhead line with mutually supporting positions, the reserve battalion may organize one or more important strongpoints for all-round defense.

Section V. AIRBORNE RAIDS

344. General

A raid is an attack to accomplish a specific mission with no intention of holding the invaded area. It may be designed to harass or deceive and disrupt the enemy so that he cannot concentrate in other areas; to obtain information of enemy installations, units, or activities; or to seize personnel or material for withdrawal. It is characterized by a sudden strike which gains surprise, and rapid withdrawal of the raiding force to avoid decisive engagement. Withdrawals may be made by air or other means.

345. Employment of the Battalion

The battalion may participate in a raid as a part of a larger force; it may conduct a raid with all or a major portion of the battalion as the nucleus of the raiding force and the battalion commander in command; or it may control and coordinate a raid composed of subordinate units. The material in this section emphasizes the second method of employment, although it is applicable to the other two.

346. Characteristics

Airborne raids are similar to ground raids except that the raiding force uses air transport to move to the objective area; withdrawal may also be by air. Air transport permits the raiding force to bypass enemy positions, terrain, or distance barriers that might preclude a ground raid. An airborne raid is more apt to be beyond supporting distance of the parent unit than a ground raid.

347. Mission and Objectives

The airborne raid may be conducted to obtain information of enemy defenses; selectively destroy enemy installations or positions; capture or kill enemy personnel; rescue friendly personnel; harass or disrupt enemy operations; or to seize critical equipment or similar intelligence objectives. The raiding force may be assigned an area of operations rather than a specific objective. Suitable objectives may be found deep in enemy territory or relatively close to the area of combat. The airborne force may operate separately or in conjunction with friendly guerrilla forces to attain the objectives which are most likely to hamper enemy operations and promote the success of friendly forces. Suitable objectives include—

- a.* Command posts.
- b.* Communication centers.
- c.* Potential transportation system bottlenecks.
- d.* Airfield installations.
- e.* Key personnel.
- f.* Supply installations and facilities.
- g.* Rear area headquarters.
- h.* Intelligence targets.
- i.* Prisoner of war inclosures.
- j.* Nuclear weapon facilities.

348. Planning and Preparation

The planning and preparation for airborne raids closely parallel the planning and preparation for the airborne assault. The scheme of maneuver and fire support plan are modified as for ground raids (pars. 180 and 181). The following aspects of planning and preparation are emphasized:

a. Detailed intelligence is essential; the major source of intelligence is higher headquarters. The difficulty of entering the objective area precludes a ground reconnaissance; therefore, the study of detailed air photos, maps, and intelligence studies of the area and, if practicable, aerial reconnaissance, must substitute for the ground reconnaissance. All intelligence should be circulated at the lowest level, consistent with the requirement for security.

b. Airborne raids are characterized by boldness of concept and execution; plans should not be rejected solely because they appear novel or unconventional.

c. Deception and counterintelligence plans are emphasized.

d. The nature of the mission may require the attachment of

specialty skilled teams or units to the battalion. The size of the force is kept to the minimum that can be expected to accomplish the mission. Personnel not required by the mission are left in the departure area. The battalion is normally reorganized into elements tailored to accomplish special tasks. Such elements include assault parties, security parties, and a reserve. TOE organizational structure is retained to the greatest degree practicable to permit use of the established chain of command.

e. The airborne raid may require special weapons or equipment; e.g., if the mission requires the evacuation of heavy equipment, the plan should provide the means.

f. Plans for movement should be designed to deliver the raiding force to the objective area intact with the minimum risk of detection.

g. Coordination may be necessary with other services and/or U.S./Allied paramilitary forces in the area of operation.

349. Time and Duration

Airborne raids are preferably carried out at night, dawn, twilight, or in fog, mist, or other conditions of low visibility to facilitate surprise. However, successful raids can be executed in daylight. The successful execution of a daylight raid usually requires the extensive use of supporting fires, including tactical air support, and measures to limit enemy observation and detection. The raid is executed as swiftly as possible, and the force is withdrawn before the enemy can react with significant force.

350. Rehearsal

Raids are rehearsed whenever possible; the more complex the planned operation, the greater the need for rehearsal. When Air Force and Navy personnel are to participate in the raid, they take part in the rehearsal. The ground phase is rehearsed on terrain similar to the objective area and under conditions similar to those anticipated for the raid.

351. Conduct of the Raid

a. Immediately upon landing, the elements of the raiding force assemble independently and carry out their assigned tasks without further assembly. The actions of the raiding parties are decentralized, and each operates as required by its own mission. As far as practicable, these actions are coordinated by the raid force commander.

b. The raid force commander can influence the action by using

supporting fires and the reserve. He must be constantly alert for unexpected hostile reactions.

352. Withdrawal

Alternate plans must be made for withdrawal because this is frequently the most difficult and hazardous part of the operation. The raiding force may be withdrawn by air, land, or sea. It may withdraw overland for some distance to rendezvous with aircraft away from the objective area.

a. For details of the withdrawal by air, see paragraphs 372 through 390.

b. The raiding force may withdraw overland by evasion and exfiltration. This method is favored in the following circumstances:

- (1) The distance to friendly lines is relatively short.
- (2) The terrain provides cover and concealment for the movement of small groups on foot, and limits the employment of mobile units against the raiding force.
- (3) Enemy forces are widely dispersed or under such pressure that they have difficulty in concentrating against the raiding force.
- (4) The raiding force is lightly equipped and does not have the mission of evacuating captured personnel or materiel.
- (5) The raiding force moves through an area occupied by friendly civilians, or where friendly guerrilla forces can assist the withdrawal.
- (6) Enemy fire, enemy air, adverse weather, or other factors prevent withdrawal by air.

c. Submarines, destroyers, and landing craft may be used for withdrawal by sea. Plans provide for alternate beaches and for naval gunfire to cover the withdrawal.

353. Resupply

a. Normally, the raiding force carries the supplies and equipment necessary to accomplish its mission, but the withdrawal plans may require resupply. Resupply may be made by airdrop direct to the raiding force or through paramilitary forces. Also, the raiding force may use captured material and weapons.

b. The amount of demolitions a raiding force carries is limited. When it has a destruction mission, the force may use captured explosives or gasoline for destruction of the objective.

354. General

This section discusses the broad principles of airmobile operations. Unabridged details of the techniques and procedures for airmobile operation may be found in FM 57-35 in areas of conflict between this manual and FM 57-35, material contained herein will govern.

355. Employment of the Battalion

All infantry battalions are capable of participating in airmobile operations. The airborne infantry battalion may conduct airmobile operations by parachute or air landing. The infantry and mechanized infantry battalions (without heavy equipment) may conduct airmobile operations by air landing only.

356. Missions for the Battalion

A battalion or elements there of may be assigned the following missions in an airmobile operation:

- a. Economy of force missions.
- b. Raids.
- c. Antiairborne and antiguerrilla operations.
- d. Over-obstacle assault operations.
- e. Exploitation of the effects of nuclear weapons.
- f. Seizure and retention of key terrain.
- g. Blocking or screening of enemy avenues of approach.
- h. Feints and demonstrations.
- i. Reconnaissance and security missions.
- j. Counterattack of enemy penetrations.
- k. Ship to shore operations.
- l. Other operations similar to that shown above.

357. Preparation for Airmobile Operations

The opportunity to employ airmobile forces to advantage may come suddenly and require immediate action on the part of the battalion or its subordinate elements. For this reason, the battalion must maintain a constant state of readiness, consistent with its other missions, to perform airmobile operations. Normally, airmobile operations require far less preparation and planning time than for other airborne operations. By developing type loading plans and SOP for airmobile operations, units may considerably reduce the preparation time required. Frequent airmobile training enhances unit readiness and also reduces preparation time required.

358. Security

In the planning and preparation for airmobile operations, appropriate measures are taken to prevent the enemy from learning of an impending operation. Training and rehearsals, although oriented toward the operation, are characterized by their routine appearance.

359. Plans and Orders From the Brigade

Plans and orders from the brigade will normally be simpler and in much less detail than that described in paragraph 320. When time allows, a written plan or order will be prepared. More frequently, fragmentary oral orders will be issued accompanied by a map overlay or sketch map. The size and state of training of the force involved, type mission, enemy situation, and time available are factors which influence the degree of preparation of plans and orders.

360. Liaison and Command Relationship

Liaison is established with appropriate forces as indicated in paragraph 321. The command relationship established between the ground combat unit and the transport aviation unit depends primarily on the capability of the ground unit to plan, coordinate, control, and support the air movement phase of the operation. Normally, the transport aviation unit is placed in support of the ground combat unit with operational control of both units retained by the headquarters (normally the brigade) that directs and supports the operation. For independent operations, transport aviation elements and aircraft maintenance and supply elements may be attached to the battalion or its subordinate elements.

Section VII. AIRMOBILE OPERATIONS—PLANNING**361. General**

a. Planning for an airmobile operation follows the general concepts and sequence as outlined for a joint airborne operation in paragraphs 322 through 324. As previously noted, however, planning will normally be much more abbreviated than for other airborne operations. The size and scope of airmobile operations are such that elaborate and detailed plans and orders are not necessary. Much of the detailed planning required for such operations can be eliminated by development and use of unit SOP.

b. The reconnaissance of the objective area and flight routes is accomplished as outlined in paragraph 323. When helicopters are to be used in the operation, particular emphasis is placed in re-

connoitering and selecting flight routes which provide defilade and are easy to follow. Steep defiles or canyons are avoided, especially when there is an appreciable amount of surface wind and momentary loss of aircraft control can occur from downdrafts. Heavily forested and swampy areas provide good routes as ground troops have little opportunity to see, or take under fire, helicopters passing overhead at treetop level. Army aviation officers assist in evaluating the effect of air density, altitude, temperature, and visibility on selected avenues of approach.

362. Ground Tactical Plan (fig. 38)

The ground tactical plan is prepared as outlined in paragraphs 325 and 326. In the preparation of such plans, however, the airmobile force will be guided by the following additional considerations:

a. Assembly areas may not be required when troops are air landed by Army aircraft.

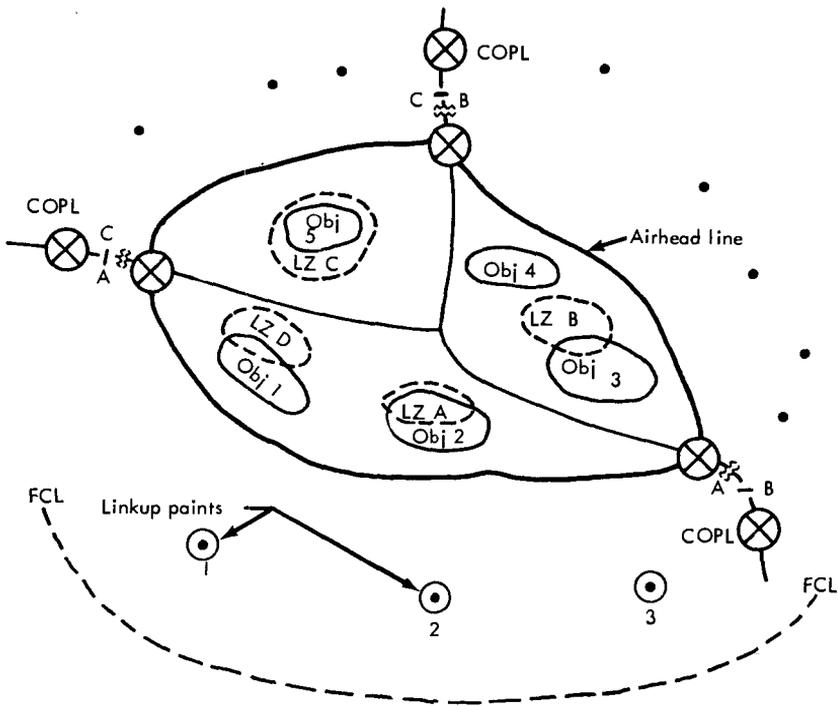
b. Security forces may land directly on their positions to enhance early security for the airmobile assault.

c. The reserve frequently is brought into the objective area in the assault echelon, but not necessarily in the initial lift, when a shuttle movement is required. The reserve may remain in the loading area with its aircraft prepared for movement to any point in the objective area. Since the airmobile assault frequently involves simultaneous seizure of multiple objectives, the reserve is usually small. The size of the objective area may require the employment of all rifle companies on the FEBA. This necessitates maintaining a small reserve. Because of the mutual support provided by the perimeter defense and the anticipated enemy reaction, a small reserve is acceptable. Additional reserves may become available from other elements of the airmobile force as they accomplish their initial tasks. Since the enemy probably will not attack the objective area from all sides simultaneously, the airmobile force commander is able to draw additional reserves from units not heavily engaged.

363. Landing Plan

The landing plan is developed as outlined in paragraphs 327 through 329 as modified by the following considerations:

a. Reorganization is minimized when troops are air landed by Army aircraft. The characteristics of these aircraft enables an air landed force to land on or near its objective provided it is secure from enemy observation and fires.



NOTE: NOT TO SCALE
 Enemy may be in any direction.

Figure 38. Scheme of maneuver, airmobile operation.

b. Because of the characteristics of Army aircraft, and particularly helicopters, the commander is also afforded greater flexibility in his choice of landing zones for use by an air landed airmobile force.

364. Air Movement Plan

a. The air movement plan is prepared by the ground unit commander in coordination with the Army aviation unit commander. It includes the following:

(1) Flight routes.

(a) The battalion commander, in coordination with representatives of the supporting aviation unit, selects flight routes from the loading area to landing/drop zones.

Flight routes are selected to follow easily recognizable terrain features such as rivers, natural corridors, railroads, and roads. Both approach and return routes are selected (they may be the same). Alternate routes are planned in the event that last minute developments preclude use of primary routes. Factors considered in selecting flight routes include—

1. Ability of the enemy to detect movement.
 2. Location of enemy forces and particularly air defense weapons.
 3. Capability of supporting weapons.
 4. Restriction on friendly fires and interference with other ground action.
 5. Ease of navigation.
 6. Weather conditions.
 7. Time of movement (day or night).
 8. Terrain.
- (b) Flight routes are defined by air control points (ACP) (checkpoints). Normally, the IP and RP are easily recognizable landmarks. They may be identified by visual or electronic devices, especially at night and during periods of low visibility. As many additional ACP as are required for navigation may be designated and marked in a like manner. Pathfinders may provide the necessary personnel and equipment to mark these checkpoints.
- (2) *Flight corridor.* Friendly fires must be controlled to provide maximum support without inflicting damage on the aircraft. Flight corridors inclosing all designated flight routes are therefore prescribed and all fires within the corridor are coordinated or restricted. The width of a corridor may vary with each operation. It depends on the aircraft formation, the type aircraft, the terrain, visibility, weather, and navigation facilities. It is desirable that a corridor require the least possible restriction of the fires of friendly forces. Normally, the proposed flight corridor(s) are coordinated with the brigade aviation officer and/or fire support coordinator who in turn coordinates with the division Tactical Operations Center. This is necessary for the purpose of air traffic regulation and identification. The division commander has approving authority for the establishment of flight corridor(s) provided the flight altitude does not exceed 500 feet above the terrain, and the flight corridor(s) remains within the division boundaries.

- (3) *Flight formation.* The flight formation for any given mission is influenced by technical as well as tactical considerations. Technical considerations govern the minimum flight safety precautions that must be adhered to. An important element for coordination in this portion of the plan is that flight units or serials are arranged within the formation to best support the plans for landing and subsequent tactical operations.
- (4) *Altitude.* The aircraft normally fly at the lowest altitude above the terrain within technical safety requirements. Low altitude reduces the enemy's capability to detect the movement and to place long-range, large-caliber weapons fire on the aircraft in flight. By flying low, aircraft take maximum advantage of irregularities in the terrain, thus gaining some protection from smallarms fire.
- (5) *Flight speed.* The prescribed speed to be flown depends on the type of aircraft, the formation, and the use of externally slung loads. The aircraft normally fly at the rated cruising speed, except that when two or more types of aircraft fly in a single serial, they fly at the cruising speed of the slowest aircraft.
- (6) *Movement control.* Movement control information includes the designation and location of the flight control elements, emergency procedures, and communication and navigation information. Normally, navigation will be visual. In other instances, manned air control points (ACP) with electronic navigation facilities and terminal guidance in the objective area may be required. IP's and RP's are normally designated to assist in control of the air movement. En route navigational facilities and terminal guidance in the objective area may be provided by the unit being airlifted or by field army pathfinder detachments. (The term "pathfinder" as used throughout this chapter refers to especially selected and trained battalion personnel who are capable of providing terminal navigation and control of Army aircraft.) The commander must carefully weigh the advantages derived from the employment of pathfinders against the possibility of loss of tactical surprise resulting from their employment.

b. Although less desirable, on occasion it will be necessary to move the battalion or its elements in more than one lift (shuttle). If this is necessary, the maximum rifle strength together with fire support, antitank, and security elements, normally move in the first lift. When a landing cannot be made in the immediate objec-

tive area and a cross country attack is necessary, it may be desirable for early lifts to await the arrival of succeeding lifts before beginning the attack.

365. Marshalling Plan

a. The marshalling plan is prepared as indicated in paragraph 331; however, it is normally less detailed and complex than for a joint airborne operation. In some instances, it may be only a matter of deciding and announcing where and at what time troops and equipment are to be loaded. In some battalion operations, loading may be complex enough to require written instructions as to the delivery of troops and equipment in the loading area, designation of loading sites, the time and priority of loading, and other details. Normally unit loading and unloading SOP makes it practicable for the battalion and smaller airmobile forces to employ simplified loading plans. Details of the marshalling plan are closely coordinated with the supporting Army aviation unit.

b. In preparing loading plans, primary consideration is given to the mission. Tactical integrity is maintained and key personnel are distributed throughout the serial or flight unit. If possible, spare aircraft should be made available in the event that one or more aircraft abort. Loading plans must be consistent with the ground tactical plan and air movement plan on which they are based (par. 333).

c. Briefings are conducted as discussed in paragraph 332.

Section VIII. AIRMOBILE OPERATIONS—CONDUCT

366. General

The loading, takeoff and movement of the airmobile force are controlled by the battalion commander. The commander of the supporting transport aviation unit advises and assists him by maintaining communication with the aircraft and by transmitting instructions as required. The battalion commander is kept informed of the progress of the loading and of any changes in serial composition, delays, etc., due to aircraft aborting prior to or on takeoff. This is particularly important during shuttle movements.

367. Air Movement

a. Serials take off from the loading area, by flights, at the time prescribed. The takeoff and movement to the IP are executed so the flights arrive at the IP at the prescribed time and in the proper formation.

b. The aviation unit commander is responsible for executing the

flight as prescribed by the battalion commander. He keeps the commander informed of progress during the flight and makes any recommendations he considers appropriate. The battalion commander maintains contact with the column during flight and transmits instructions as required.

c. Upon reaching the RP, flight units within the air column leave the column and proceed to the assigned landing zones/drop zones. They may be guided either by pathfinders, infiltrating patrols, self-erecting navigation aids, or by airborne guides.

d. When troops are air landed, every effort is made to reduce congestion in the landing zones and minimize the time aircraft are exposed to enemy fire while on the ground. Aircraft are unloaded rapidly and take off for return movement by flights without organizing into serials.

e. Flights return to the loading area over designated return routes. If an alternate route is to be used, necessary instructions are issued and coordinated with the FSC and other affected agencies. When returning flight leaders reach a predesignated point, they contact the loading area for instructions.

368. Landing and Reorganization

a. The landing and reorganization of an airmobile assault force is conducted as outlined in paragraph 338; however, in an airmobile operation, there will normally be a lesser requirement for reorganization, particularly where air landed units land with complete tactical integrity retained.

b. When landing zones/drop zones are immediately taken under fire by the enemy, the battalion commander may determine that excessive casualties and/or loss of aircraft requires the use of alternate plans. In such a case, appropriate orders are issued and aircraft are diverted to alternate LZ's or DZ's.

369. Conduct of the Ground Attack

The ground attack is conducted as outlined in paragraph 339.

370. Administrative Support

See paragraph 340.

371. Subsequent Operations

The conduct of subsequent operations, including the defense, is as outlined in paragraphs 341 and 342.

Section IX. WITHDRAWAL BY AIR

372. General

a. A withdrawal by air is an operation in which all or a part of a deployed force disengages from the enemy and is moved by air to another location. The withdrawal may be forced by enemy action or made voluntarily.

b. Local air superiority is a requirement for a successful withdrawal by air, but a small force relatively close to the line of contact may withdraw without air superiority by taking advantage of darkness or other conditions of poor visibility.

c. A force withdrawn by air normally moves to an assembly area behind friendly lines. Exceptionally it may move directly to another objective or battle area.

d. Army transport aviation and/or other military aircraft may be employed to move the withdrawing force. Either fixed- or rotary-wing aircraft may be used.

373. Command and Control

a. The commander ordering the withdrawal provides the air transport means, establishes a general time limit for executing the operation, designates the location to which the force will withdraw, and prescribes the action it will take in the new position.

b. To insure continuity of action and concerted effort in planning and conducting the withdrawal, responsibility and authority for all forces and all actions in the perimeter must be vested in a single commander. Within the bounds imposed by the requirements of the situation, the commander ordering the withdrawal provides maximum support and grants full freedom of action to the commander in the perimeter.

374. Planning for Withdrawal

a. Plans for an air withdrawal are based on orders from higher headquarters. The scope of the plans depends on whether the battalion is operating independently or as part of a larger force. In any case, plans should include the designation of detachments to be left in contact and measures for coordinating and controlling their actions; the time each unit, including detachments in contact, is to start its withdrawal; control measures; the location of assembly and loading areas; fire support; administrative support; communications; and, when operating independently, deception. Measures are also taken to provide for identification, secrecy, and security.

b. Plans for the withdrawal are as detailed as time permits. Unit SOP reduce the time needed for planning and increases efficiency. Some of the items that may be included in SOP are communication plans, instructions for destruction of nonmedical supplies and equipment, procedures and control for aircraft loading, a general sequence for the withdrawal, and security. When an operation involves a high degree of risk and there is a probability that a withdrawal by air will be necessary, plans for the withdrawal are made concurrently with the plan of operation. These plans are revised and kept current as the situation develops.

375. Reconnaissance

a. *Reconnaissance of Withdrawal Area.* The battalion commander (or his representative) and members of his staff conduct reconnaissance for the withdrawal. They select assembly areas; routes and/or zones of withdrawal; checkpoints; initial points; and phase lines, as required, for movement to the loading areas. Representatives of subordinate units are given adequate time for a daylight reconnaissance. Reconnaissance parties are limited in size to insure secrecy. They may mark routes and positions and post guides.

b. *Reconnaissance of New Position.* When practicable, reconnaissance parties are sent to the battalion's new location. In a withdrawal under pressure and on short notice, it may be impracticable for the withdrawing force commander to reconnoiter or send an advance party to the new location. In this event, the commander ordering the withdrawal arranges for arrival in the new area.

376. Timing of Operation

The commander of the withdrawing force selects the time of withdrawal within limits imposed by the commander ordering the withdrawal. Periods of reduced visibility aid in deception and maintenance of secrecy and enhance the chances of success for a withdrawal by air. A force withdrawing in daylight, under direct enemy observation and fire, may sustain heavy casualties; however, the situation may require a daylight withdrawal. A decision regarding the best time for withdrawal can be made only after careful consideration of the following factors:

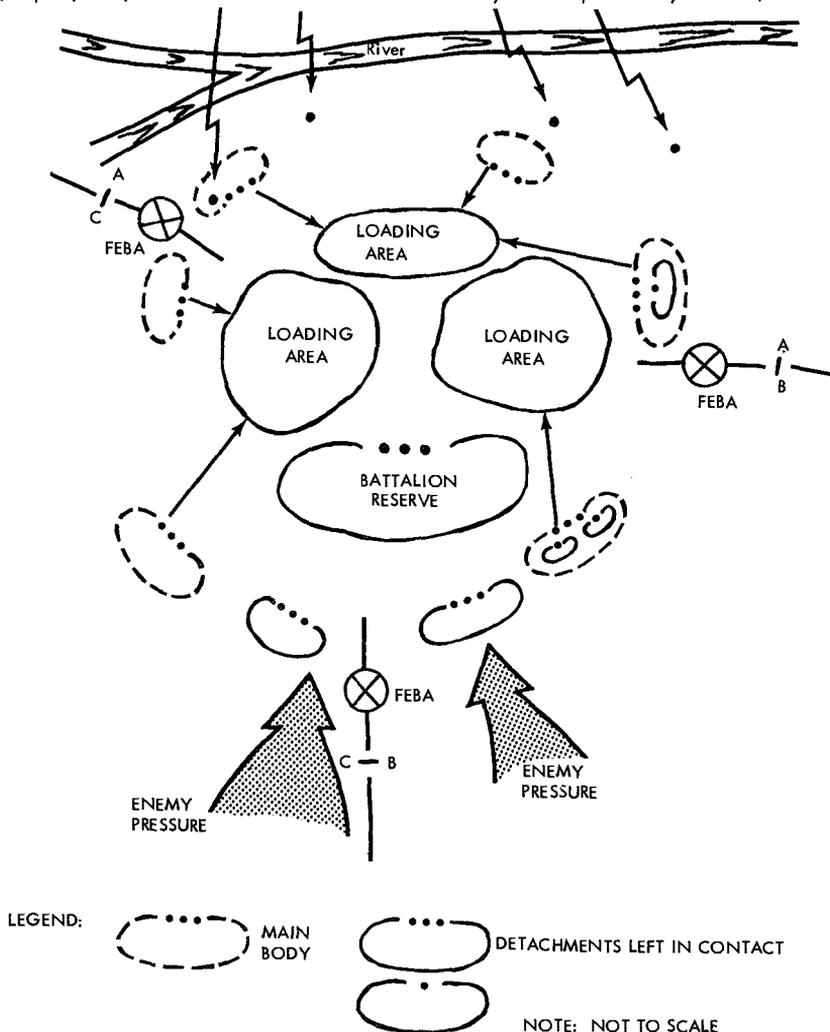
- a. The mission assigned.
- b. The relative effectiveness of enemy and friendly air.
- c. Enemy observation.
- d. The proximity of enemy forces.
- e. The enemy's capability for placing fires on loading areas.

f. The difficulty of control of ground forces and aircraft at night.

g. The capability to deny the enemy observation by the use of smoke.

h. The capability to neutralize the enemy by fire.

(Outposts, OP's, and roadblocks cover withdrawal of main body in sector protected by obstacle.)



NOTE: Assembly areas are selected immediately to the rear of company positions, but are not used if companies can withdraw directly to loading areas.

Figure 39. Battalion withdrawal by air (schematic).

377. Organization of the Withdrawal

The organization and disposition of forces for the withdrawal are essentially the same whether the operation is to be carried out during daylight or at night. Detachments left in contact, organized as a distinct tactical force under a single commander, cover the withdrawal of the main body. The main body includes all forces other than those employed as the detachments left in contact (fig. 39).

378. Detachments Left in Contact

a. The mission of the detachments left in contact is to prevent enemy interference with the withdrawal of the main body. When operating as part of a larger force, the next higher commander may prescribe general limitations as to the strength of battalion detachments left in contact. The battalion commander specifies the composition of detachments left in contact by subordinate units. The detachments should be held to the minimum consistent with the need to cover the withdrawal of the main body. The strength and composition of the force may vary in different portions of the objective area. A unit occupying a sector protected by a formidable obstacle may leave only minimum security, while units under attack may be required to remain in considerable strength. See FM 7-11.

b. Supporting troops are attached to the detachments left in contact as required. When an armor threat exists, a proportion of the battalion antitank weapons are left in place to cover favorable avenues of approach. Reconnaissance, artillery, engineer, medical, and elements of other supporting troops may be included.

379. Fire Support

a. The requirement for supporting fires increases as the forces withdraw and the capability to repel the enemy diminishes. Emphasis is placed upon nuclear and nonnuclear fires from fire support agencies, including close air support, artillery and naval gunfire. If a portion of the perimeter is under attack or is threatened, a large portion, and in some instances all, of the fire support units may be required to remain with the detachments left in contact. In a night withdrawal, some of each type of supporting weapons are left in place, distributed to retain the original pattern of fires, and contribute to deception and secrecy.

b. In addition to the transport, air support requirements include close air support and protection from enemy air, reconnaissance, and interdiction. Forward air controllers with the main

body, and later with the detachments left in contact, control air strikes in support of the withdrawal.

c. The commander ordering the withdrawal plans fires in support of the air movement, including air support.

380. Reserves

a. When operating as a part of a larger force, all or part of the battalion may be designated as the reserve and given missions that will assist in the withdrawal of the main body; i.e., blocking enemy penetrations, supporting by fire from prescribed positions, or counterattacking. Its withdrawal is normally covered by the detachments left in contact.

b. When the battalion executes a daylight withdrawal independently or as part of a larger force, it provides its own reserve to cover the withdrawal of the main body by blocking or counterattacking enemy penetrations. The reserve normally is small and may not exceed one reinforced platoon. It is attached to the detachments left in contact after the main body withdraws. In night withdrawals, the reserve is usually withdrawn as the last element of the main body.

381. Orders

The battalion commander issues a warning order to subordinates at the earliest practicable time. The order must be specific, as detailed as time permits, and cover not only the withdrawal phase but also subsequent operations. Maximum reference is made to SOP. Fragmentary orders are common when time is limited.

382. Control for Movement to the Loading Area

Movement to loading areas is controlled through the use of assembly areas, routes of withdrawal, initial points, and checkpoints. The assembly areas are located near the company positions. Defilade is desirable but not mandatory. Withdrawals under pressure may require the assignment of zones and phase lines, rather than routes, so that troops may move straight to the rear, maintaining a battle formation until they come under the protection of the reserve in a covering position.

383. Loading

Withdrawing forces must emphasize speed and provide for maximum coordination between the arrival of units in loading areas and the arrival, loading, and departure of aircraft. Aircraft on the ground for an excessive period invite destruction by

enemy fires and failure of the operation. Routine loading instructions are included in unit SOP. The amount of detail included in the plan is determined by the size of the operation, experience of personnel, and the time available. The following may be included:

- a. Schedule and priorities for loading.
- b. Designation of loading areas.
- c. Designation of and instructions for loading control personnel.
- d. Schedule for movement of units to loading areas.

384. Landing and Loading Areas

Landing and loading areas are designated by the highest headquarters involved in the withdrawal. They are as close to unit battle positions as the terrain and enemy situation will permit. To achieve maximum speed in the landing, loading, and takeoff, and to provide passive protection against mass destruction weapons, multiple landing and loading areas are desirable. Factors to be considered in selecting the location and number of landing and loading areas are—

- a. Landing area requirements for the types of aircraft to be used.
- b. Number of aircraft and rate of landing.
- c. Availability of facilities for improvement of landing areas.
- d. Availability of aircraft control facilities.
- e. Availability of dispersed parking and loading sites.
- f. Protection from enemy observation and fires.

385. Loading Control

Loading control personnel are provided in each loading area to summon and guide units from the assembly areas to the loading areas and to expedite loading. The actions of all loading control personnel are coordinated by a loading control officer designated by the commander. Constant liaison is maintained between the loading control officer and the air movement control facility to maintain balance between the arrival of troops and aircraft in loading areas.

386. Air Movement Control

a. The air movement control required to insure precision timing and minimum delay in the withdrawal depends upon the number of aircraft involved, landing facilities, and visibility. When the battalion is operating as part of a larger force, control facilities are established by higher headquarters.

b. In withdrawals employing Air Force aircraft, the Air Force provides movement control and control and support detachments at landing areas.

c. In withdrawals employing Army transport aviation, the battalion commander may appoint a movement control officer to direct the movement of aircraft and to coordinate with loading control personnel.

387. Deception and Secrecy

When the battalion is operating as part of a larger force, deceptive measures are taken as directed by higher headquarters. The battalion operating independently devises its own deception plan. Supporting fires, including air strikes on enemy positions, may be employed to divert attention from transport aircraft. Normal radio traffic and radar employment is maintained by detachments left in contact. Activities that tend to disclose an intent to withdraw are avoided.

388. Administrative Support

a. Plans are made for the early disposition of heavy equipment and supplies. The quantities to be evacuated depend on the availability of aircraft and the amount of time for outloading. Equipment and supplies that cannot be airlifted, other than medical supplies, are destroyed.

b. Adequate ammunition and supplies are dumped on position to sustain the detachments left in contact and supporting troops.

c. The evacuation of casualties may present a major logistical problem. Casualties are given high priority and are evacuated early in the operation. A detachment of medical personnel remains with the detachments left in contact.

389. Communication

a. The detachments left in contact take over existing wire lines and continue normal radio traffic after the main body withdraws. Strict communication security is enforced to preserve secrecy. Clear text radio messages concerning the withdrawal are forbidden.

b. Wire and messenger are the primary means of communication in the loading areas and between loading control personnel and the command post.

390. Conduct of the Withdrawal

a. Once the withdrawal has begun, all efforts are made to adhere to the prescribed time schedule. Units on the perimeter

which are to withdraw as a part of the main body are relieved and assembled with their tactical groups at the latest practicable time before their scheduled arrival in the loading area. They withdraw along routes or in zones as directed. Supporting units and weapons are normally attached for the move to the unit in whose area they were employed. Support troops and units least engaged are withdrawn first, and the most heavily engaged units last. Reserves may execute counterattacks to assist in disengagement.

b. Supporting fires, air support, mines, and obstacles are fully exploited to prevent the enemy from pursuing the withdrawing force. Smoke may be used to obscure enemy observation.

c. During a night withdrawal, emphasis is placed on secrecy and the simulation of normal activity as long as possible.

d. On arrival in the loading area, units complete preparations for loading and form into plane-load groups. These groups move to the loading area when summoned by the loading control personnel. Tactical loading may be sacrificed for speed and maximum use of the capacity of aircraft.

e. Detachments left in contact assume control of their respective areas when the main body begins its withdrawal. After the main body completes its withdrawal or at a predesignated time, the detachments left in contact break contact and move to designated loading areas under cover of close air and other fire support.

f. Loading areas for the detachments left in contact must be as close as practicable to their battle positions. It is highly desirable to use helicopters for this phase of the withdrawal because they can land, load, and take off in a minimum of time.

CHAPTER 11

MECHANIZED INFANTRY OPERATIONS

Section I. GENERAL

391. Introduction

This chapter is designed to cover those aspects of tactical operations which are particularly applicable to the mechanized infantry battalion engaged in mechanized operations. Although the operations of a battalion in the offense, defense and retrograde are essentially as outlined in chapters 5, 6, and 7, in certain areas there are minor differences. This discussion is intended to cover those areas of difference and highlight those areas of increased emphasis as they relate to mechanized operations of the battalion. The discussion is keyed principally to the mechanized infantry battalion operating as part of a mechanized or armored force. However, unless otherwise stated, the material contained herein is equally applicable to an infantry or airborne infantry battalion mechanized through attachment of armored personnel carriers.

392. Command and Staff Action

The sequence of command and staff actions outlined in paragraph 53 generally applies in mechanized operations. However, because of the frequent fast tempo of such operations, the sequence is usually abbreviated and commanders and staff officers are habitually required to accomplish the necessary steps in minutes. In fast moving mobile operations, decisions are necessarily based on rapid estimates. Orders are oral and fragmentary. Subordinate commanders are seldom called to the rear to receive orders but are met near their units or called on the radio by the commander or designated staff officers. Mission-type orders are used and subordinate commanders are allowed as much freedom of action as possible so that they may take immediate advantage of changes in the situation. The techniques will vary in their application according to the time available, the personality of the commander, and the professional ability of the staff.

393. Administrative Support in Mechanized Operations

a. The commander of a mechanized infantry battalion is of necessity required to place a high degree of emphasis on admin-

istrative support for the battalion. Armored vehicles require a constant and adequate supply of fuel and lubricants and extensive maintenance. These, in turn, require a much larger logistical force than in dismounted operations. The size of the combat trains will therefore increase from that of dismounted operations as more POL vehicles and maintenance personnel are required farther forward. With the increase in size of the combat trains, the commander faces an increased problem in providing for the security of the trains. Each of these problems is magnified during fast moving mobile operations (e.g., the exploitation) when the trains may be required to keep pace and move with tactical elements. Resupply by air may be required to sustain the operation.

b. Although maintenance is always a critical problem in the mechanized infantry battalion, the maintenance and recovery of disabled vehicles pose particular problems during fast moving operations. Time must be allowed for maintenance, and plans must be prepared to insure recovery of vehicles disabled during the operation.

c. The treatment and evacuation of personnel casualties is also modified during fast moving operations. In such operations the requirement for frequent movement and the extended lines of patient evacuation may necessitate greater emphasis on holding and carrying casualties and may require greater reliance on air evacuation. When enemy units have been bypassed, as in the exploitation, or when routes of evacuation are particularly vulnerable to attack by infiltrators or guerrilla forces, it may be necessary to move casualties to the rear by use of guarded convoys.

394. Terrain and Mechanized Operations

a. A mechanized unit is particularly sensitive to terrain. However, an aggressive mechanized infantry commander may exploit certain terrain disadvantages and surprise and destroy the enemy by using seemingly impassable terrain. The important point is that the commander recognize the capabilities and limitations of armored vehicles as they relate to terrain and that he employ his mechanized force accordingly. Specifically, the commander of a mechanized infantry unit must pay particular attention to the following:

- (1) Dry terrain may disclose the movement of mechanized units by the formation of dust clouds.
- (2) Minefields, roadblocks, antitank ditches, and other anti-tank obstacles may restrict the maneuver of mechanized units and slow their operation.

- (3) Obstacles may be created by tree blowdown or rubble following use of nuclear weapons.
- (4) Enemy forces may deny passable terrain to a mechanized force by destroying roads, bridges, defiles, and overpasses by demolition; by flooding low areas; and by felling trees across roads.
- (5) Forests, mountains, and swamps may restrict movement.

b. So far as practicable, the commander must plan to turn the possible disadvantages of terrain to his advantage. He may do this in a number of ways. Through aggressive use of aerial and ground reconnaissance, he may discover terrain disadvantages in adequate time to lessen their impact on his operation. For example, if a bridge has been destroyed or antitank obstacles have been placed on his planned avenue of approach, he may alter his plans to bypass the obstacle or may immediately bring forward engineers or other units to remove or overcome these obstacles. The mechanized infantry commander may also turn a possible terrain disadvantage to an advantage by aggressive offensive action. As an example, when it appears likely that a withdrawing enemy may occupy key terrain or destroy a bridge to facilitate a delaying action, the mechanized infantry commander may alter his scheme of maneuver to facilitate early capture of this key terrain or bridge. Airborne forces may be used in conjunction with the mechanized force for such an operation. Surprise may be the keynote of success in exploiting the use of terrain.

c. Mechanized vehicles generally have excellent cross-country mobility and therefore minimize the requirement for roads. However, it should be noted that the sustained fighting ability of mechanized units is dependent upon the flow of support transportation. Significantly, this transportation, for the most part, consists of wheeled vehicles which move best on roads. The mechanized infantry commander must therefore give due consideration to the impact of terrain on the supporting as well as his own force. It is axiomatic that the mobility of any force is limited to a great extent by the mobility of its logistical support.

Section II. OFFENSIVE OPERATIONS

395. General

When the mechanized infantry battalion participates in offensive operations, every effort is made to capitalize on the mobility, speed, and shock action of the mechanized force. In carrying out offensive operations, the battalion may use the penetration or envelopment (par. 111); the battalion is also particularly suited for the pursuit and exploitation (par. 162).

396. Planning the Attack

The considerations for and sequence of planning an attack are as outlined in paragraphs 112 through 142. In addition, in a mechanized operation particular emphasis is placed on the following:

- a. Optimum utilization of the armored personnel carrier.
- b. Formations for tanks and mechanized infantry.
- c. Determination of control measures required.

397. Optimum Use of the APC

The commander of a mechanized force must make maximum use of the armored personnel carriers to enhance his mobility. At the same time, care must be taken to insure that the APC is not used as a tank. The carrier is designed to increase the battlefield mobility of infantry and afford it a degree of armor protection. However, the APC is not a fighting vehicle and should not be used as such. For this reason, in the planning of the attack, the commander and his staff make every effort to capitalize on the mobility of the APC while at the same time reducing its exposure to enemy antitank fire. Plans should include maximum use of concealment and cover to allow the mechanized infantry to advance as close as possible to the objective before dismounting. Unless the enemy fires necessitate earlier dismounting, the infantry will normally dismount in the closest tactically feasible position in defilade short of the objective or the enemy position.

398. Formations for Tanks and Mechanized Infantry

a. Optimizing the use of the APC is closely related to the formations employed by the battalion and its subordinate elements. Wherever possible, these formations include use of a combined arms force with mechanized infantry and tank elements organized into one mutually supporting formation.

b. When the mechanized force has not encountered strong enemy resistance and fast movement is desired, the tanks desirably should lead the formation. Since infantry will be required for the assault, tank forces and mechanized infantry should not become widely separated. The distance between tanks and infantry prior to encountering strong enemy resistance is based upon a consideration of four factors:

- (1) *Mission*. If the mission requires rapid, closely controlled movement and undue enemy interference is not anticipated, as in a road march or in the exploitation, mechanized infantry may follow more closely behind the

tanks than would be the case if effective antitank fires were being directed at the tanks.

- (2) *Type and capabilities of enemy antitank weapons.* If the enemy is equipped only with short range antitank weapons such as rifle grenades, rocket launchers, etc., the mechanized infantry may follow the tanks closer than would be the case if the defending forces were using large-caliber, long-range, high-velocity, flat-trajectory, antitank weapons.
- (3) *Type of terrain.* If the terrain is rolling or rough affording numerous defilade positions, mechanized infantry may follow the tanks closer than would be the case if the terrain were open and relatively level or flat.
- (4) *Enemy action.* The distance between tanks and mechanized infantry in the integrated formation must not become so great as to permit the enemy to interpose an effective force between its elements, which might permit separate defeat of both tanks and mechanized infantry.

c. Once strong enemy resistance is encountered and a requirement exists for a combined tank-infantry attack, the formation will shift so that dismounted infantry precedes tank elements or tanks and dismounted infantry move together in an integrated formation. The same rule may apply when an obstacle must be breached or movement is made through a fortified, wooded, or built-up area.

399. Determination of Control Measures Required

Control measures for a mechanized attack are essentially the same as those outlined in paragraphs 122 through 136 as modified by the following:

- a. Intermediate objectives will infrequently be assigned.
- b. Axes of advance will normally be used.
- c. Phase lines and checkpoints will frequently be employed.

400. Conduct of the Attack

The conduct of a mechanized attack is essentially as described in paragraphs 154 through 161. There are, however, three areas which require increased emphasis in the conduct of such an attack as indicated below:

- a. Tank and mechanized infantry assault techniques.
- b. Coordination and cooperation in the assault.
- c. Movement of APC following the assault.

401. Tank and Mechanized Infantry Assault Techniques

The assault of a defended position by tanks and mechanized infantry in cooperation with artillery may take one of three forms:

a. Tanks and Dismounted Mechanized Infantry Assault in Coordination. Regardless of the method of attack, the assault is conducted as a coordinated effort. As the tank and infantry forces approach the objective, heavy supporting fires are placed on the enemy position. The tanks maintain their rate of advance and increase the volume of fire by saturating the objective with machinegun fire and by use of the main gun. At this time the mechanized infantry increase their speed in moving to dismount positions in order to overcome the loss of time in dismounting and to assure the proper tank-infantry coordination in the assault. The mounted mechanized infantry, behind the tanks, stop in the closest tactically feasible position in defilade short of the objective and the infantry dismount. As the dismounted infantry and tank force cross the final coordination line supporting fires are lifted or shifted to the flanks or rear of the objective; when appropriate, to prevent escape of the enemy or to break up counterattack formations. The fires of infantry and tank weapons replace the indirect supporting fires. Infantry close with and destroy the enemy in close combat and protect the tanks from individual antitank weapons and tank killer teams. Whenever possible, the machineguns of the armored personnel carriers are used to support the assault from the dismount area until their fires are masked by advancing riflemen. The riflemen use assault fire to close with the enemy. The shock action of assaulting tanks and infantry is multiplied by rapid movement and a heavy volume of fire, including the use of hand grenades. During this time the tanks continue to saturate the objective with machinegun fire, destroying enemy positions and weapons with the main tank gun. As the units arrive at the far edge of the objective, fire is directed on the enemy dispositions beyond the objective area. As soon as the objective is seized, the tanks and infantry are moved to positions dominating avenues of enemy approach and prepare to repel counterattacks or to continue the attack. Further actions to consolidate the position are carried out.

b. Tanks Support by Fire Only. Terrain or obstacles may make it impossible for tracked vehicles to join in the assault. In this situation mechanized infantry (dismounted) will conduct the assault just as any other infantry unit. Tanks will be used to support by fire with full consideration given to the long range and rapid rate of fire of the tank weapons and the precision and control

with which these fires can be delivered. As soon as the obstacle can be overcome, tanks will rejoin the infantry.

c. Tanks and Mechanized Infantry Assault While Mounted.

- (1) Under some circumstances the assault may be conducted by mounted movement all the way to the objective. An example of this would be after a nuclear strike on the enemy position and/or against hastily prepared positions with weak antitank defenses. To enable such an assault, tanks must be included in the assault force and enemy strength must be effectively neutralized. In such a case a dismount area is selected on the objective. A final coordination line is also selected by the company commander short of the objective even when the commander plans for his force to move straight onto the objective; this is essential since enemy action may force dismounting of infantry earlier than intended.
- (2) When the dismount area is on the objective, APC and tanks move rapidly to that area (with hatches closed) under artillery and mortar fires using airbursts. When they reach the dismount area, supporting fires are shifted or lifted, and the infantry dismounts immediately to eliminate any enemy remaining on the objective. The exact timing of the shifting of fires is of great importance. The last rounds of the concentration may be colored smoke to indicate to the infantrymen inside the APC when to dismount.

402. Coordination and Cooperation in the Assault

The mechanized infantry and tank force is employed by the commander in a manner that takes maximum advantage of the best characteristics of both elements. Maximum destructive effect on the enemy is obtained only when careful coordination and complete cooperation is effected among the leaders and individuals of the tank and mechanized infantry units. To insure this cooperation and coordination, the following should be stressed:

a. Tanks and infantry should, whenever practicable, assault as a single force. Undue separation between tanks and mechanized infantry may permit the enemy to man his weapons, destroy dismounted infantry, and attack tanks at extremely close ranges.

b. Dismounting by mechanized infantry must be accomplished at such a time and in such a manner as to insure a coordinated assault. All commanders must realize that remaining mounted too long may expose the vehicle and its squad to needless destruction by short-range weapons.

c. Armored personnel carrier commanders must insure that the driver places the vehicle in a protected or defilade position immediately after the squad dismounts to preclude needless loss of the vehicle from antitank or other fires.

d. To avoid needless cruising on or near the objective, tank commanders and armored personnel carrier drivers (who may be following the assault echelon) are given specific directions as to their mission once the assault is completed. This reduces unnecessary uncovered movement on or near the position which may result in confusion and needless exposure to enemy fire.

403. Movement of APC Following the Assault

Once the assault has cleared the position, it will be necessary to bring armored personnel carriers forward to rejoin their units. Any of several techniques may be employed as indicated below. The method used may be prescribed by SOP. In any case, the method used must be understood by all vehicle drivers before the mechanized infantry dismounts.

a. *Radio.* All armored personnel carriers are provided with vehicular radios that net with the sets carried for dismounted use. If radio is used, the range and positioning of the transmitting station must be considered and the driver must constantly monitor the radio.

b. *Messenger.* A dismounted messenger may be sent to the position occupied by the armored personnel carriers to guide them to their respective units. This method requires a route clear of enemy and is the slowest method.

c. *Pyrotechnic Devices.* A pyrotechnic signal may be fired to indicate to vehicle drivers the time to move and the approximate location of the unit. This technique requires constant scanning of an area by the driver, unobstructed vision in the area, and availability of pyrotechnics.

d. *Vehicles Follow Dismounted Personnel.* Under conditions of limited visibility and when effective enemy antitank fires are unlikely, armored personnel carriers may follow dismounted mechanized infantry by keeping the last man in sight. This technique has the advantage of keeping the armored personnel carrier close to its units with little time lost in remounting; however, it may result in loss of the APC if the unit becomes involved in a fire fight.

Section III. DEFENSE AND RETROGRADE OPERATIONS

404. General

When a battalion participates in defensive or retrograde opera-

tions as part of a mechanized force, it plans and conducts its operations essentially as outlined in chapters 6 and 7. However, additional emphasis may be required, because of the nature of mechanized operations, in certain areas indicated below:

a. Because of its mobility, the mechanized infantry battalion will be used frequently in the mobile defense or as part of the counterattack force in the area defense.

b. The enemy air capability will have a major impact on the maneuver capability of a mechanized force.

c. Barrier planning must be closely coordinated with any maneuver in defense or retrograde operations.

405. Employment of the Mechanized Infantry Battalion

a. The operations of the mechanized infantry battalion in the defense are influenced, to a great degree, by the mobility of the force. For this reason the battalion will frequently be called upon to participate in the mobile defense or to participate in the counterattack in the area defense. This is not to say, however, that the operations of the battalion will consist entirely of maneuver. In the mobile defense, the mechanized infantry battalion may be employed in the forward defense area to occupy one or more strong-points and delay, disorganize, and inflict maximum punishment on the enemy and canalize him into areas suitable for a counterattack.

b. When the battalion is employed on the FEBA, its forward elements must be dismounted to conduct an effective defense. The increased mobility of the battalion allows it to move rapidly to alternate or supplementary positions. This increased vehicular mobility will also better enable the battalion to move rapidly from one delaying or blocking position to another.

c. Because of its vehicular mobility, the battalion will frequently be employed as part of the counterattack force. The battalion may also be employed in a spoiling attack forward of the battle area. In such a case it plans and conducts its operations essentially as outlined in chapter 5.

406. Air Superiority and Mechanized Operations

The battalion commander must always consider the impact of enemy air activity on his force, and particularly in defense and retrograde operations. If enemy offensive operations are accompanied by enemy air superiority, the mobility potential of the mechanized force may be severely restricted. In such a case the commander will be required to take full advantage of concealment and to conduct offensive operations or withdrawals at night or

under conditions of reduced visibility. Friendly air superiority may not always exist; for this reason, commanders must be prepared to conduct their operations even under adverse conditions of enemy air superiority.

407. Barrier Planning

Since a mechanized infantry unit may be required to move units rapidly as a part of defense or retrograde operations, particular emphasis must be placed on coordinating this movement with barrier planning. Obstacles which are designed to impede enemy movement must not interfere with the freedom of maneuver of defensive forces. The placement of any obstacles, demolitions, or minefields forward of or within the battalion battle area must be closely coordinated with all friendly units. Wherever possible, barriers are integrated into the defensive scheme to stop the enemy or divert him into areas where he can be destroyed by fires and/or offensive maneuver of the mechanized force. To facilitate rapid passage through minefields and other obstacles, commanders must plan for rapid opening and closing of lanes as required.

CHAPTER 12

ADMINISTRATIVE TROOP MOVEMENTS

Section I. GENERAL

408. Introduction

Troop movements are classified as either administrative or tactical. They may be further classified according to transportation means employed. Administrative troop movements are those conducted when the probability of ground contact with the enemy is remote or improbable and when there are no security or secrecy requirements beyond those necessitated by the threat of enemy aircraft or long-range weapons. Movements made under conditions of probable contact are tactical, and special security measures are necessary. When a tactical move is made, the overriding consideration is normally the requirements of the tactical situation rather than the efficient use of transportation facilities.

409. Methods of Movement

a. To accomplish its missions, the battalion must plan and execute movements by foot, motor, air, rail, and water. Regardless of the method employed, detailed planning, precise scheduling, and strict control are necessary to insure that the battalion reaches the destination at the proper time and in condition to effectively perform assigned tasks.

b. To increase the effectiveness of the battalion in performing troop movements the battalion should compile experience factors covering prior movements. These experience factors may be in the form of road movement tables and graphs, precalculated road spaces and time lengths for battalion units, and similar information.

Section II. PREPARING AND PLANNING FOR MOVEMENTS

410. Standing Operating Procedures

a. Unit standing operating procedures (SOP) are prepared to include techniques and procedures for using each means of transportation which the unit may be expected to employ. The battalion commander establishes the necessary procedures for movement of the battalion as a whole and requires the company commanders to establish similar procedures for their units.

b. Some of the routine items that can be included in the SOP are loading plans, composition of serials and march units, control measures, rates of march under various conditions, formations, security measures, time intervals and distances, organization of quartering and reconnaissance parties, and reporting instructions. Orders for a particular movement may modify or amplify the SOP to fit the requirements of a particular situation. For this reason standing operating procedures are general in scope.

411. Planning

a. The basic considerations in planning any administrative movement are the mission; what is to be moved (troops and equipment); and the type, number and characteristics of transport available for the move. Regardless of the type of movement undertaken, its success depends largely upon the thoroughness with which it is planned. Plans for all movements include the—

- (1) Organization of troops.
- (2) Packing, marking, and loading of equipment.
- (3) Assembly of troops and assignment to transportation.
- (4) Provision for mess, medical care, rest en route and repair or replacement of disabled equipment during the move.
- (5) Control and communication measures during the move.
- (6) Groupment of troops and equipment at the destination.
- (7) Security measures including air, ground, and communication security.
- (8) POL resupply during the move.

b. To assist the march planner in organizing his thoughts and actions in logical order, the following sequence of march planning may be used:

- (1) Preparation and issuance of the warning order.
- (2) Estimate of the situation.
- (3) Organization and dispatch of reconnaissance and quartering party.
- (4) Preparation of detailed movement plans:
 - (*a*) Organization of the column.
 - (*b*) Review of reconnaissance information.
 - (*c*) March computations.
 - (*d*) Draft road movement table.
 - (*e*) Check of plan.
- (5) Preparation and issuance of the order.

412. Training

Practice in planning, loading, and the conduct of all types of

movements is essential to prevent wasted effort and to develop and improve standing operating procedures. Every opportunity is taken to integrate movement training of various types with other training. The supervision of such training provides the battalion staff with useful data and experience for refinement of procedures and serves as a basis for needed emphasis in future training.

413. Warning Order

The battalion commander issues a warning order for a movement as early as practicable consistent with his knowledge of the pending operation in order to give his unit maximum time for preparation. The warning order alerts the units and should indicate the general purpose of the operation, the destination, the type of movement, and the approximate departure time. Fragmentary orders should follow the warning order to provide as much pertinent information as secrecy requirements allow.

414. Route Reconnaissance Party

a. As soon as possible after receiving the warning order, a route reconnaissance is conducted to confirm and supplement data obtained from map studies, higher headquarters, and air reconnaissance. The route reconnaissance party for the battalion is usually made up from elements of the reconnaissance platoon and other personnel as required by the situation. The division commander may make engineer personnel available for this party. The reconnaissance party has three main functions:

- (1) To obtain detailed information of the route including the distance, trafficability, bridge capacities and similar information.
- (2) To determine the amount of engineer work necessary along the route.
- (3) To determine the number of guards and guides required.

b. Instructions to the route reconnaissance party specifically state the extent and nature of the information required and the time and place the report is to be submitted.

c. When time does not permit the party to complete its examination of the entire route before the march begins, it is dispatched in advance of the column and passes information to the main force as it is obtained. The reconnaissance party later joins the battalion at its destination.

d. When time is limited the battalion commander may direct aerial reconnaissance of the route, using Army aircraft, to precede the ground reconnaissance.

415. Quartering Party

a. A quartering party precedes the battalion to a new destination to facilitate its arrival and reception by making necessary administrative arrangements and, if appropriate, providing security at the assembly area. The quartering party usually consists of the S1 or the headquarters commandant, an S4 representative, the communication officer, representative(s) from each company, and necessary communication, medical, and security personnel.

b. The duties of the quartering officer are to—

- (1) Select the specific assembly area site, if this has not been previously determined, and arrange for its occupancy.
- (2) Allot portions of the battalion area to each subordinate unit.
- (3) Select locations for the command, communication, and administrative installations.
- (4) Make sanitary inspections and preparations.
- (5) Insure that each unit is guided from the release point to its assigned area.
- (6) Provide necessary security in the new assembly area.
- (7) Insure the area is safe for occupancy.

c. The headquarters commandant is responsible for posting route markers and guides along the route consistent with findings of the reconnaissance party. Guides may be provided by the rifle companies or other subordinate units.

416. Trail Party

The trail party follows the march column. It includes the personnel and vehicles necessary to assist the trail officer in—

a. Inspecting the vacated area and correcting and reporting any deficiencies.

b. Preventing straggling.

c. Placing necessary guards, flags, or lights to warn traffic approaching from the rear.

d. Picking up guides and route markers.

e. Disposing of disabled vehicles and their loads.

f. Providing medical service support.

417. Organization of Battalion Column

a. The battalion column is organized into serials to facilitate control by the battalion commander and to simplify the issuance of orders. Units that occupy the same general initial location and

can be governed by the same set of instructions as to initial point, route, destination, rate of march, etc., are organized in one serial if the size of the serial does not present an unwieldy control problem.

b. Serials are subdivided into march units. The number of march units is determined by the probable future mission of the battalion and the number of vehicles which can be controlled readily by a single commander during the march.

c. Serials are given numerical or alphabetical designations in the sequence of their expected arrival at the destination. They retain command unity insofar as possible. March units may be given numerical or alphabetical subdesignations.

d. The order of march is influenced by the proposed physical arrangement in the new assembly area and/or by the plan for employment of forces upon arrival at the destination.

418. Road Movement Order

The battalion road movement order may be either written or oral. A complete order designates the route, critical points, destination, schedule, rate, time intervals, formation, organization of the column, serial commanders, and other details not covered by standing operating procedure. Road movement tables and strip maps usually accompany the movement order as annexes and appendixes. (See FM 101-5 for a sample movement order, and FM 101-10 for a sample road movement table, road movement graph, and strip map.)

419. Initial Point (IP)

The initial point is the point at which movement is begun by the successive arrival of the units that finally make up the march column. It is an easily distinguishable feature on the route of march that all units can reach without countermarching and without crossing the movement of another unit.

420. Release Point (RP)

The release point is an easily distinguishable feature on the route of march near the destination at which specific elements of the column revert to the command of their respective commanders. Guides from the quartering party normally meet the incoming column at the release point to insure an uninterrupted movement into the new area.

Section III. FOOT MARCHES

421. General

The battalion's tactical success may depend upon the foot marching capability of its troops. Troops must be conditioned to strenuous marches early in their training and proficiency must be maintained.

422. Organization and Conduct of Foot Marches

See FM 21-18.

Section IV. MOTOR MOVEMENT

423. General

a. When the battalion is not motorized or mechanized, it may conduct a combined foot and motor march or shuttle its foot elements in successive echelons by organic vehicles.

b. Maximum use is made of multiple routes when available. Motor movements are often conducted during darkness to provide secrecy.

c. For complete discussion of motor movements, see FM 25-10.

424. Nonorganic Transportation

a. When transportation is attached to the battalion, the battalion commander is ordinarily given the following information:

- (1) The number and type (or capacity) of the vehicles.
- (2) The regulating point(s) and the times when the vehicles pass to and from his control.

b. A staff officer and guides from battalion units meet the incoming vehicles at the designated regulating point and dispatch them to the units to be entrucked.

425. Supervision of the Column

a. Although the position of the column commander's command post may be designated in the movement order, he himself moves where he can best exercise command of his unit. Army aircraft may be used during marches for control and liaison. Units will use panels to facilitate identification from the air.

b. The command posts of serial and march unit commanders usually move at the head of their respective elements, but there is no fixed position for the commanders. A control officer at the head of each serial and march unit is responsible for leading his unit over the designated route at the prescribed rate of march.

c. Staff officers assist the commander in supervising the movement by verifying the route of march at frequent intervals, especially when changes of direction are made; by insuring that adequate intervals are maintained; by insuring that guides are properly posted and instructed; and by determining and eliminating the cause of any unscheduled halt.

d. Military police may be attached to the battalion to man traffic control posts. They enforce movement priorities, transmit orders, and control traffic.

426. Time Interval

Serials and march units are separated by time intervals prescribed in the road movement order. Properly selected time intervals disperse the column and prevent congestion at critical points along the route.

427. Halts

Usually, a 15-minute halt is made after the first 45 minutes of marching and a 10-minute halt is made at each 2-hour interval thereafter. All march units halt simultaneously. Vehicles clear the roadway during a halt. Guards should be posted at the head and tail of each march unit to control passing traffic. One man from each vehicle, in addition to the driver, remains alert for march signals and to provide aircraft warning. At prolonged halts for maintenance, rest, and feeding, locations are selected which permit dispersion off the road.

428. Communication During the March

Communication within the march column normally is maintained by radio and messengers, supplemented by visual and sound signals. Messages may be delivered to march unit commanders as they pass traffic control posts. Communication within the battalion, adjacent columns and with higher commanders is ordinarily governed by the standing operating procedure of the brigade and/or division.

Section V. RAIL MOVEMENT

429. General

Orders directing a movement by rail indicate the point of entrainment, the date and time of arrival of troops for loading, arrangements for loading of equipment, the destination, and the purpose of the movement. The battalion commander is responsible for the preparation of plans and tables regulating the entrainment

and departure of the elements of this command. Details of the move are coordinated with the transportation officer of the area in which the movement originates. In a theater of operations, all contacts with civilian or foreign railroads are made through the appropriate transportation officer.

430. Preparatory Measures

a. When notified of an impending movement by rail, the battalion commander—

- (1) Appoints a rail movement staff to plan and coordinate the overall movement.
- (2) Completes as much planning as possible before he receives the movement order.

b. Upon receipt of the movement order, the battalion commander—

- (1) Gives full written details of the movement to the local transportation officer who arranges for the necessary rail transportation.
- (2) Appoints a train commander for each train in the movement.
- (3) Dispatches advance or quartering parties.

431. Supplemental Information

For the general procedure governing rail movement, see FM 100-5; for technical and logistical data and for planning forms and tables, see FM 101-10; for duties and responsibilities of personnel and reference data concerning entraining and detraining, see AR 55-355.

Section VI. AIR MOVEMENT

432. General

The infantry and airborne infantry battalions are air transportable if appropriate aircraft are provided. The air transportability of the mechanized infantry battalion is extremely limited due to weight of heavy equipment and limited availability of heavy transport aircraft (par. 309). The battalion maintains a current loading plan for personnel and equipment to facilitate rapid execution of air movements.

433. Details of Air Movement

See FM 57-35 and TM 57-210.

Section VII. WATER MOVEMENT

434. General

Troops and their combat equipment and supplies may be loaded tactically on the same ship or may be distributed among several ships or convoys, depending on the mission.

435. Plans

The battalion commander prepares plans for loading and unloading elements of the battalion according to the policies established by higher headquarters. He establishes direct coordination with the transportation officer at the earliest moment to expedite unit preparation. For details, see FM 55-110.

APPENDIX I

REFERENCES

AR 55-355	Military Traffic Management Regulations.
AR 320-5	Dictionary of United States Army Terms.
AR 320-50	Authorized Abbreviations and Brevity Codes.
AR 345-5	Personnel Management, Personnel Records.
AR 735-35	Supply Procedures for TOE Units, Organizations, and non-TOE Activities.
AR 750-5	Maintenance Responsibilities and Shop Operation.
AR 750-8	Command Maintenance Inspections.
FM 1-100	Army Aviation.
FM 3-5	Chemical, Biological, and Radiological (CBR) Operations.
FM 3-()	Operational Aspects of Radiological Defense (when published).
FM 5-1	Engineer Troop Organizations and Operations.
FM 5-15	Field Fortifications.
FM 5-135	Engineer Battalion, Armored, Mechanized and Infantry Division.
FM 5-136	Engineer Battalion, Airborne Division.
FM 6-20-1	Field Artillery Tactics.
FM 6-20-2	Field Artillery Techniques.
FM 7-11	Rifle Company, Infantry, Airborne Infantry, and Mechanized Infantry.
FM 7-15	Infantry, Airborne Infantry, Mechanized, Rifle Platoon and Squads.
FM 7-30	Infantry, Airborne Infantry, and Mechanized Brigades.
FM 8-15	Division Medical Service, Infantry, Airborne, and Mechanized Divisions.
FM 17-1	Armor Operations, Small Units.
FM 17-15	Tank Units, Platoon, Company and Battalion.
FM 17-36	Armored Cavalry Units, Platoon, Troop, Squad.
FM 20-32	Land Mine Warfare.
FM 20-33	Ground Flame Warfare.
FM 20-60	Battlefield Illumination.
FM 21-5	Military Training.
FM 21-6	Techniques of Military Instruction.

FM 21-10	Military Sanitation.
FM 21-11	First Aid for Soldiers.
FM 21-18	Foot Marches.
FM 21-20	Physical Training.
FM 21-30	Military Symbols.
FM 21-40	Small Unit Procedures in Nuclear, Biological and Chemical Warfare.
FM 21-60	Visual Signals.
FM 23-20	Davy Crockett Weapon Systems in Infantry and Armor Units.
FM 24-18	Field Radio Techniques.
FM 24-20	Field-Wire and Field Cable Techniques.
FM 25-10	Motor Transportation, Operations.
FM 27-10	The Law of Land Warfare.
FM 30-5	Combat Intelligence.
FM 30-7	Combat Intelligence; Battle Group, Combat Battalion, Field Army.
FM 30-9	Armed Forces Censorship (Army).
FM 31-10	Barrier and Denial Operations.
FM 31-12	Army Forces in Amphibious Operations.
FM 31-15	Operations Against Irregular Forces.
FM 31-21	Guerrilla Warfare and Special Forces Operations.
FM 31-21A	Guerrilla Warfare and Special Weapons Operation (U).
FM 31-25	Desert Operations.
FM 31-30	Jungle Operations.
FM 31-40	Tactical Cover and Deception (U).
FM 31-50	Combat in Fortified and Built-up Areas.
FM 31-60	River-Crossing Operations.
FM 31-70	Basic Cold Weather Manual.
FM 31-71	Northern Operations.
FM 31-72	Mountain Operations.
FM 41-5	Joint Manual of Civil Affairs.
FM 41-10	Civil Affairs Operations.
FM 41-15	Civil Affairs Units.
FM 54-2	Division Logistics and the Support Command.
FM 57-10	Airborne Operations.
FM 57-35	Airmobile Operations.
FM 61-100	The Division.
FM 100-1	Doctrinal Guidance (U).
FM 100-5	Field Service Regulations—Operations.
FM 101-5	Staff Officers' Field Manual—Staff Organization and Procedure.

- FM 101-10 Staff Officers' Field Manual—Organization, Technical, and Logistical Data.
- FM 101-31 Nuclear Weapons Employment (U).
- TM 3-() US Army Fallout Prediction Methods (when published).
- TM 9-2810 Tactical Motor Vehicles.
- TM 21-300 Driver Selection and Training (Wheeled Vehicles).
- TM 21-301 Driver Selection, Training and Supervision; Track Vehicles.
- TM 21-305 Manual for the Wheeled Vehicle Driver.
- TM 21-306 Manual for the Full-Track Vehicle Driver.
- TM 57-210 Air Movement of Troops and Equipment.
- DA Pam 108-1 Index of Army Motion Pictures, Filmstrips, Slides, and Phono-Recordings.
- DA Pam 310-3 Index of Training Publications.
- DA Pam 750-1 Preventive Maintenance Guide for Commanders.

APPENDIX II

ANTITANK PLATOON

1. Mission

a. The mission of the antitank platoon is to provide antitank support for the battalion. Although the primary target of the platoon is enemy armor, when such targets are lacking the platoon may engage enemy bunkers, OP's, vehicles, crew/served weapons, and similar targets.

b. A general discussion of the missions assigned to the platoon is contained in chapter 4. This appendix deals with the detailed organization and employment of the platoon.

2. Organization

The platoon consists of a platoon headquarters and three squads whose main armament is antitank missiles (fig. 40).

3. Duties of Key Personnel

Platoon headquarters.

a. The *platoon leader* is responsible for the platoon's training, control, tactical employment, and supply. He receives his orders from the battalion commander or from the commander of the unit to which attached. He makes recommendations for the employment of his platoon and selects and directs the preparation of firing positions and areas for the squads of his platoon which are not attached to other elements of the battalion. When he is not attached to a subordinate element of the battalion, he either remains with the battalion commander or is in communication with him at all times. He coordinates with rifle company commanders in whose area his units operate and locates himself where he can best influence the action of his units. He is a special staff officer under the unit staff supervision of the S3.

b. The *platoon sergeant* is second in command and assumes command of the platoon in the absence of the platoon leader. He supervises the platoon transportation and resupply of ammunition and supplies. He may be designated to accompany a portion of the platoon on a mission in order to assist the squad leaders in matters of fire control and coordination with supported units.

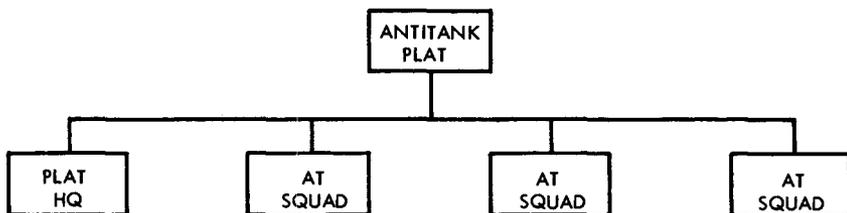


Figure 40. Antitank platoon.

c. The *squad leader* is responsible for all actions of his squad in tactical and technical operations. He supervises the organizational maintenance of squad equipment. He selects the exact position for the gunner, missiles, and missile launch site(s). He is responsible for correctly positioning control and launching personnel and for emplacing and displacing the missiles and related equipment. He controls his squad's fire through issuance of timely orders.

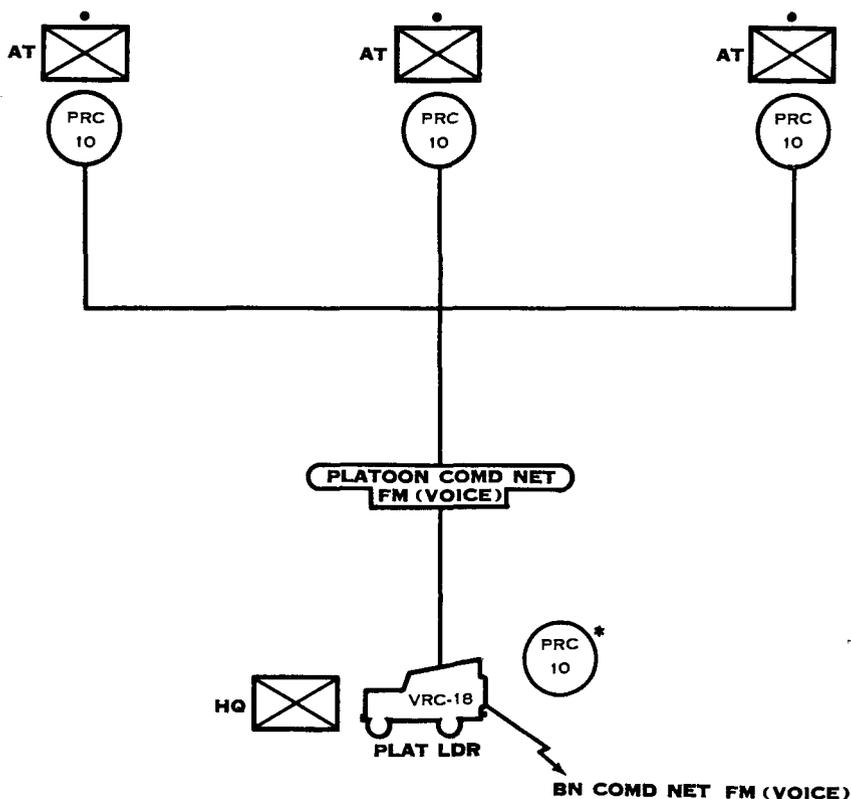
d. The *gunner* fires on targets as directed by the squad leader or as required by the situation. He performs first echelon maintenance of the missile system and related equipment. He must be capable of **assuming the duties** of the squad leader.

4. Signal Communication

(fig. 41)

a. Radio.

- (1) The AN/VRC-18 radio in platoon headquarters is mounted in the platoon leader's $\frac{1}{4}$ -ton truck. The platoon leader operates in the battalion command net and the platoon command net as required.
- (2) The AN/PRC-10 radio in platoon headquarters is used by the platoon leader for dismounted operations. It operates in either the battalion command net, the platoon command net, or any other net as required. This radio may also be used by the squad leaders in emergency operations until replacement can be effected.
- (3) The AN/PRC-10 radio in each of the squads operates in the platoon command net when the squad is under control of the platoon leader. When a squad is attached to a rifle company or other units of the battalion, it establishes communication with the supported units.



*DISMOUNTED USE

Figure 41. Antitank platoon command net, infantry battalion.

b. *Wire.* A limited amount of wire equipment is available for communication in the battalion command or other nets.

5. Basic Concepts

a. The squad is the basic unit of the platoon. If the situation permits, it is desirable to employ two squads in a mutual support

role. However, the number of armor approaches may preclude mutual support. In any event, employment of a squad(s) depends on the following considerations:

- (1) Minimum and maximum range of the weapon.
- (2) Terrain obstructions which may block the target.
- (3) Requirement for direct observation of the missile in flight by the gunner to hit the target. For use during periods of reduced visibility or darkness, illumination of the target is required.
- (4) Rate of fire of missile launching unit(s).
- (5) Method of launch (i.e. vehicle or ground or combination of vehicle and ground).

b. Enemy armor will often present multiple targets, thus requiring rapid target engagement. In this regard, ground employment of the maximum number of missiles is appropriate. The enemy's use of concealment and smoke and artillery delivered on the gunner's firing position may render the gunner (hence the weapon) ineffective. For this reason, maximum use should be made of the capability of the missile to be fired from defiladed positions while keeping the gunner in a covered and concealed position.

c. When the platoon leader receives the order, he coordinates with those elements affected by it. For example, if a squad is attached to a rifle company, he coordinates their movement, communication, and resupply with the appropriate company commander. If tanks are employed with the battalion, he effects coordination with the tank company commander in order to provide the most effective antitank plan.

6. Position of Leaders

a. When all units of the platoon are attached to rifle companies, the platoon leader and the platoon sergeant locate themselves where they can assist the rifle company commanders in the employment of the antitank missiles. While engaged in these functions, the platoon leader remains in contact with the battalion commander.

b. When the entire platoon or platoon (—) is attached to one rifle company, the platoon leader receives his orders from that company commander. He usually follows the procedure described in *c*, below.

c. When the platoon is placed in general support of the battalion, the platoon leader selects an observation post from which he can observe the avenues of enemy armor approach. If the terrain does not permit this, he places himself where he can best control

the squads covering the most dangerous armor approaches. He does not restrict himself to one location but moves wherever he is required to control the platoon. He follows this same procedure when his platoon is in a direct support role.

d. Based on directions from the platoon leader or the unit commander to which attached, squad leaders position themselves where they can best control their squad.

7. Selection of Firing Positions

a. The platoon leader or supported unit commander designates general firing position areas, and the squad leader selects the exact location for the missile and guidance station. Ideally, they select positions from which the squads can perform both their primary and secondary missions. If this is impossible, positions covering the most dangerous avenue(s) of armor approach take priority. Alternate and supplementary positions must be selected and prepared as soon as time permits. The positions should provide mutual support between squads of the antitank platoon whenever possible. Since the missile may be launched from the vehicle or ground, the squad should emplace sufficient missiles to cover all possible tank approaches.

b. The gunner is usually located at a vantage point from which he has good observation of the squad's assigned sector. The missile(s) may be offset from the gunner by 100 meters. The missile launching position should be in defilade if practicable, to provide cover, concealment, and protection for the crew, equipment, and missiles.

c. A firing position should provide—

- (1) Gunner observation of assigned sector.
- (2) Long-range observation and fields of fire.
- (3) Defilade for launching position.
- (4) Mask clearance.
- (5) Security (by being near friendly troops).
- (6) Good vehicle routes into and out of launching area.
- (7) Concealment from aerial observation.
- (8) Capability to employ flanking or oblique fire.

d. Ideally the gunner should remain as near the missile as possible to enable him to achieve a better control over the missile and a greater possibility of achieving a first round hit.

8. Occupation of Firing Positions

The platoon leader or supported unit commander designates when and how the squads move into position. It is imperative that

gunners and assistant gunners familiarize themselves with the location of all emplaced missiles so that, on order, they can place the best positioned missile into operation without loss of time.

9. Alternate and Supplementary Positions

a. Squads occupy alternate positions when hostile fire threatens to neutralize the firing position. The authority to occupy alternate positions is delegated to the squad leader. When alternate positions are occupied, the platoon leader or supported unit commander is immediately notified. In selecting alternate and supplementary positions, the squad leader must consider the minimum range of the weapon and therefore select other positions which may be occupied when targets come within minimum range of the primary position.

b. Movement to supplementary positions is made on order of the platoon leader or the supported unit commander. The possibility of targets appearing within minimum range of the weapons should be considered in all tactical actions, and timely displacement must be achieved to insure effective and continuous antitank coverage.

10. Security

Squad leaders are responsible for providing their own local security and utilize crewmen not engaged in firing and handling ammunition. Riflemen are used to supplement the squad's capability for close-in protection. Maximum use is made of deceptive measures to minimize the possibility of the enemy locating the position. Passive protection measures are taken to protect personnel and equipment from the effects of enemy weapons.

11. Ammunition Resupply

a. In a general or direct support role, ammunition resupply is a function of the platoon sergeant. Squad leaders coordinate with the platoon sergeant for the ammunition resupply for their squads. The $\frac{3}{4}$ -ton truck in each squad is utilized for resupply of classes III and V. The platoon sergeant may elect to use one of the squad $\frac{3}{4}$ -ton trucks to resupply squads or the squad leader of an individual squad may coordinate with the platoon sergeant to use one vehicle to resupply his squad.

b. In an attached role, ammunition resupply is the responsibility of the commander of the unit to which attached. The squad ammunition vehicle or any vehicle designated by the unit commander is used.

c. Resupply procedures are implemented whenever ammunition is expended. Normally, the $\frac{3}{4}$ -ton truck remains near the missile

launching site(s). If the situation allows, any remaining missiles on the $\frac{3}{4}$ -ton truck may be off-loaded to allow the vehicle to be returned to the battalion combat trains where additional missiles may be drawn. Because of possible damage when outside the container, missiles should remain in containers until prepared for launching.

12. Actions During Battalion Defensive Operations

a. The platoon may support any one or any combination of the three echelons of defense. When supporting the security echelon, elements of the platoon are disposed, with the security force, to cover avenues of approach likely to be used by enemy armor. They assist the security force in the accomplishment of its mission by taking the enemy under fire at maximum range. To limit the possibility of loss of vehicles, missiles may be launched from a ground position. Additional missiles may be maintained in a ready to fire position on the vehicle. These may be used during the withdrawal to the FEBA. When supporting the forward defense forces the platoon is disposed to cover the most dangerous avenues of approach consistent with the capabilities of the weapons system. If tanks are available, then the most suitable weapon (tank or missile) is positioned where best employed based on their capabilities. In any event, the antitank platoon's weapons are integrated into an antitank defense that incorporates every type of antitank weapon in the battalion. When the platoon is employed with the reserves, it may be disposed to add depth to the antitank defenses of the battle area, to protect a flank or to participate in the counterattack in a supporting role. Normally, if tanks are available for this purpose—to add depth and a counterattacking capability—the missiles are employed in an attached or supporting role with the forward companies.

b. To increase antitank coverage, ground employment of multiple missiles is often used. Although ground employment requires slightly more time, this employment reduces the possibility of loss of the vehicle. However, this ground employment also increases the possibility of abandonment of some missiles. The great advantage of ground employment is that several missiles may be employed in one general area, thereby providing selectivity since these missiles may be fired on a wide range of targets of opportunity. Additionally, ground employment allows retention of other missiles on the vehicle which may be moved to another area against targets of opportunity. In some situations the scheme of maneuver may dictate that units of the battalion withdraw to prepared blocking positions in the rear as in the mobile

defense. In this event, the platoon may be required to be employed entirely from vehicles. This reduces antitank coverage, but facilitates movement to the rear.

c. The preferred employment for squads in both types of defense is well forward covering dangerous avenues of enemy armor approach. Normally, the elements of the platoon are attached to the companies in whose area they are operating. This includes employment on the COPL as required. When tanks are attached to the battalion, the major portion are retained in reserve so as to capitalize on their offensive capabilities while at the same time providing the battalion with antitank defense in depth. When tank platoons are attached to forward rifle companies, they are employed to thicken the antitank defense and cover dangerous armor approaches. In determining how to best exploit the capabilities of each type weapon, the company commander considers METT, particularly the terrain as it applies to enemy armor approaches, available observation and fields of fire.

d. Antitank defenses are disposed both laterally and in depth. They are planned to separate enemy armor from accompanying infantry and to destroy it forward of the battle area. If enemy armor reaches or enters the battle area, it is destroyed by offensive action of armor reserves and antitank weapons positioned in depth.

13. Actions During Battalion Retrograde Operations

a. *General.* Antitank squads generally are attached to units in a retrograde movement. This employment simplifies command control, decentralizes fire support and provides antitank protection to units in the movement away from the enemy.

b. *Night Withdrawal.* To effectively employ antitank missiles at night, battlefield illumination is required. If squads have been attached to forward companies, they normally remain in this role for the withdrawal. In this way, antitank protection and fire support are provided to protect the withdrawal of the main body. These squads may be further attached to the detachment left in contact if illumination is provided and night employment is feasible. Plans for movement of the platoon (squads) must include measures to provide security and maintain secrecy.

c. *Daylight Withdrawal.* When the battalion plans to conduct a daylight withdrawal (under enemy pressure) squads remain attached to forward rifle companies. In this employment, they reinforce company covering forces (usually reserve rifle platoons) with fires to aid disengagement of forward units. When the forward rifle companies withdraw through the battalion covering

force, the platoon (or squads) is normally attached to this force. This attachment reinforces the fires of the covering force and provides the battalion commander with maximum antitank protection during a critical period. When a "withdrawal under pressure" is conducted during periods of reduced visibility, squads may remain attached to forward companies. However, consideration must be given to their effectiveness to provide fires as influenced by the degree of visibility and the minimum range of the weapon.

d. Delaying Action. Battalion units may fight delaying actions from a defensive position or from a delaying position. Based on the mission (which normally dictates a force to delay enemy forward of a specific position while other rearward defensive preparations are made), the squads are normally attached to the forward companies. As the frontages are much wider in a delaying operation, emphasis is placed on employing weapons from forward positions where they can place long-range fires on the enemy. Weapons are oriented astride the enemy armor approaches. Plans for employment of missiles should include reconnaissance of routes of withdrawal and occupation of covering and blocking positions in the rear. This is especially true when the battalion is executing maximum delay between successive delaying positions. When tanks are employed with the forward companies of the delaying force, a portion of the antitank platoon may be used in depth to protect the flanks and rear of the battalion. Squads may be "leap-frogged" from one delaying position to another to provide continuous antitank defense.

14. Relief in Place

During the conduct of the relief, normal activities are simulated. The outgoing force furnishes security, fire support and antitank protection until the responsibility of the position has been exchanged between incoming and outgoing commanders. Often, heavier supplies and equipment are left on position. Ground-emplaced missiles are normally exchanged on position. Vehicle-mounted antitank weapons are not exchanged on position. In the event of attack during relief, squads may be attached to the incoming force until such time as opportunity permits infiltration rearward.

15. Movement to Contact

a. When enemy contact is remote, the platoon normally moves in the formation under battalion control. It is positioned within the battalion formation to facilitate prompt employment to the front, flanks, or rear of the formation as necessary.

b. As the probability of contact changes from remote to imminent, the order of march assumes increased importance. Elements of the platoon may be relocated within the march formation to cope with armor threats as they develop. Attachments may be made if necessary.

c. When the advance and flank guards of the battalion do not have tanks attached and a tank threat exists, one or more squads are attached to these elements. The remainder of the platoon is held in general support, moving by bounds at or near the head of the main body or disposed throughout the column to provide anti-tank protection. The other squad(s) moves by bounds to positions providing coverage of dangerous armor approaches to the flank. When tanks are attached to the advance and flank guards, the anti-tank platoon is employed in general support under battalion control. Ideally, an antitank means (either antitank missiles or tanks) are provided for the rear guard.

d. Throughout the movement to contact, the platoon leader and squad leaders plan for the squads to occupy positions from which they could cover the most dangerous avenues of enemy armor approach and best support the rifle companies.

16. Actions During Battalion Attack

a. When the platoon is employed in the attack, the commander must determine whether the platoon's primary mission will be antitank protection or fire support. He considers METT in determining this and insures that the platoon is prepared to immediately switch from one mission to another if necessary. To engage targets as soon as they appear, the unit, or elements thereof, is employed from vantage points (using defilade as required) and positioned near or on the line of departure. Primary consideration is given to ground employment of missiles initially in order that vehicles may displace forward at the earliest practicable time.

b. When supporting an attack, squads are located to best support the attack and provide antitank protection. They continue to occupy initial positions until they can no longer perform their primary mission or until their fires become masked by the attacking rifle units. Squads engage enemy armor as soon as it comes within range and observation.

c. The antitank squads may have to displace to support a continuation of the attack or to support the consolidation on the objective. Displacement is not necessarily delayed until the squads can no longer provide effective antitank protection. Elements of the platoon may displace early to assist rifle units in repelling

enemy counterattacks. Antitank squads must retain the capability of providing antitank fires at all times.

d. Squads displace on order or by prearranged signal. The availability of new positions, routes forward, and the enemy armor threat influence the method of displacement. When displacement is by two or more squads, one squad retains the capability of continuing fire by remaining in the supporting position while the other squad(s) displaces.

e. Squads displace to positions previously selected by a visual or map reconnaissance. Upon arrival at the new position areas, the squad leader selects exact missile launching sites.

f. Squads employed in a general support role displace on order of the platoon leader. In a direct support role, displacement is by order of the squad leader, who in turn notifies the platoon leader and supported unit of the move. Squads displace as required to support the supported unit commander's attack. When attached, squads displace on order of the supported unit commander.

g. Plans are made for supporting the consolidation on objectives, and squads are positioned to cover the likely armor approaches into the area. They occupy positions that will also support a continuation of the attack.

17. Pursuit

When the battalion is engaged in a pursuit or exploitation, the squads are normally attached to an advance, flank and/or rear guard. The pursuit or exploitation usually dictates decentralization of control and requires initiative and aggressiveness on the part of the platoon leader and the squad leaders. When tanks are not attached to the battalion, one or more squads may be attached to the lead company. To facilitate movement and maintain momentum, they fire missiles from the vehicle. Radio is their primary means of communication.

18. Airmobile Operations

a. General. The combined weight of the missile system and platoon personnel permit employment in airmobile operations. The entire platoon plus its individual and unit equipment can be airlifted by medium transport helicopters to a deep objective. For short movements, the $\frac{1}{2}$ -ton truck with missiles can be air-lifted by light transport helicopter. Since weather, altitude and other technical factors affect the allowable cargo load of aircraft, each type load must be carefully computed before movement.

b. Offense (Assault). Antitank weapons are required early in the assault landing. Generally, they are attached to the assault

companies which are most vulnerable to enemy counteraction in the early stages. Based on the considerations of METT, antitank missiles may be employed initially on the security position(s). Subsequently, they may join and become attached to forward companies to increase their antitank capability.

c. Defense. Because of the immediate armor threat and the extended frontages in airmobile operations as well as the general enemy situation, antitank squads are normally attached to forward companies. This will generally hold true when the defense is of limited duration. If early linkup is anticipated or offensive operations are to be initiated, then desirably squads remain attached. However, if the defense is to be lengthy, or the enemy situation dictates, antitank protection in depth may be required. In this situation the battalion commander may desire to employ all or a portion of the antitank platoon under his control in support of the battalion to adjust quickly to armor threats as they arise.

d. Retrograde. When the battalion (or elements thereof) is preparing a withdrawal by air, the squads are employed essentially as in a normal withdrawal from action. The use of Army aircraft facilitates the conduct of any retrograde operation whether air movement is made from airmobile objective or from designated assembly areas in normal ground combat. Use of Army aviation permits timely dispersal and concentration of withdrawing forces as required. When withdrawing units at night by helicopter, night visual directional aids are necessary. Thus, secrecy and deception may be compromised if forward elements are withdrawn by aerial vehicle from their frontline position. Normally, night withdrawal by aircraft of antitank squads is initiated from positions in the rear (and/or) center of the battalion area so that any use of ground navigational aids does not compromise the withdrawal. In the daylight withdrawal, it is desirable to use aircraft to move antitank squads from the least engaged area of battle and reposition them within the withdrawal zone or on the new delaying position. When units of the battalion are fighting a delaying action between successive positions, helicopters and fixed winged aircraft may facilitate the repositioning of squads according to antitank and fire support requirements.

APPENDIX III

BATTALION MORTAR AND DAVY CROCKETT PLATOON

1. Mission

a. The platoon's mission is to provide close and continuous indirect nonnuclear fire support and nuclear fires for the battalion.

b. A general discussion of the missions assigned to the platoon is contained in chapter 4. This appendix deals with the detailed organization and employment of the platoon.

2. Organization

a. The platoon consists of a platoon headquarters, a heavy mortar section, a Davy Crockett section, a fire direction center, and three forward observer teams (fig. 42).

b. The main armament of the platoon in all battalions is four 4.2-inch mortars and three Davy Crockett weapon systems.

3. Duties of Key Personnel

a. The *platoon leader* commands the platoon and supervises the training of all elements. He makes full use of the chain of command to assist him in carrying out these responsibilities. Specifically, he—

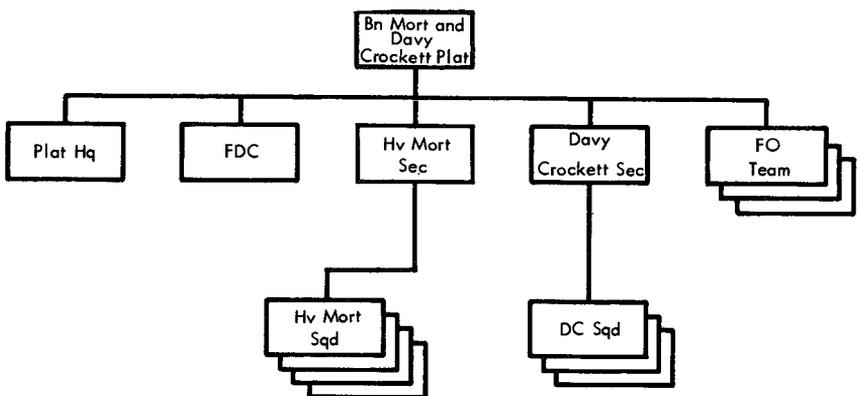


Figure 42. Battalion mortar and Davy Crockett platoon.

- (1) Makes recommendations for the employment of his platoon.
- (2) Is responsible for the employment of the platoon in accordance with orders received from the battalion commander or commander of the unit to which attached.
- (3) Assigns missions and issues orders to his leaders and supervises their execution.
- (4) Within guidance provided, selects position areas and controls the movement of all elements of the platoon not attached to other units.
- (5) Keeps informed of the enemy and friendly situation.
- (6) Establishes and maintains communication with the supported units through the forward observer team.
- (7) Establishes a fire control system within the platoon.
- (8) In coordination with FSC prepares a plan for heavy mortar and DC fire support.
- (9) Within guidance provided, plans, initiates and supervises the timely displacement of all elements of the platoon not attached to other units.
- (10) Maintains adequate security.
- (11) Supervises the supply of ammunition to each of the firing sections not attached to other units.
- (12) Supervises the platoon communication system.
- (13) Insures that liaison and communication are established and maintained with the fire support coordinator (FSC).
- (14) Performs other duties as a battalion special staff officer

b. The platoon sergeant is the principal enlisted assistant to the platoon leader and assists him in matters pertaining to discipline, training, and efficiency of enlisted personnel. In addition, he is in charge of ammunition resupply for the platoon and performs reconnaissance as directed by the platoon leader.

4. Fire Direction Center

a. Chief FDC Computer

- (1) Takes charge of the fire direction center (FDC) and the mortar section and plans, coordinates, and supervises their activities and training under the direction of the platoon leader. He keeps himself informed of the tactical situation and the maneuver plans of the supported units. He is responsible for the preparation of firing data for all mortar fires.
- (2) Makes the decision to fire mortars. When a target is reported, he examines its location relative to the for-

ward units, zones of fire, and reference points. Then, based on the nature of the target, ammunition available, and the policy of the battalion commander, he decides whether to fire the mission; the number of mortars to be fired; and the amount of ammunition to be used in engaging the target.

- (3) Is responsible for maintaining ammunition records and initiating ammunition resupply for the mortar section.
- (4) Is responsible for informing the battalion headquarters of all intelligence information received in the FDC.
- (5) Checks the accuracy of the computers and records and posts intelligence and tactical information.
- (6) Positions the FDC in the vicinity of the mortars where he can control the operations of the mortar section. He is responsible for the training, discipline, and tactical employment of the mortar section. He receives his orders from the platoon leader, platoon sergeant, or the commander of the unit to which attached. He informs the mortar squads how and when to fire and supervises the delivery of fires required by his mission.
- (7) Selects exact location of primary, alternate, and supplementary firing position within the position areas assigned by the platoon leader or the commander of the unit to which attached. He supervises the movement into position, the occupation and organization of the position, and displacement. He reorganizes the FDC and the mortar section as necessary to maintain maximum efficiency.

b. The Next Senior Fire Direction Computer.

- (1) Operates the FDC in the absence of the Chief Computer.
- (2) Is responsible for informing liaison personnel at battalion headquarters of all intelligence information received in the FDC.
- (3) Maintains a map firing chart from which he checks the accuracy of the computers, and records and posts intelligence and tactical information.
- (4) Moves with part of the mortar section when the section is deployed in two widely separated firing positions. At least one computer with a portion of the FDC equipment and vehicle(s) will move with each element (two squads) of the section.

c. The Computers—

- (1) Operate as chart operators to convert the forward observers' requests for fire into firing data for the mortars.

- (2) Formulate and issue fire commands for the mortars as directed by the chief computer.
- (3) Maintain firing and ammunition records.

5. The Heavy Mortar Section

a. Duties of the section leader are outlined in paragraph 4a above.

b. The heavy mortar squad contains the men and equipment needed to serve one heavy mortar. The *squad leader* is responsible for the training, discipline, control, and employment of the squad. He supervises the movement of the squad to designated locations, the preparation of the firing positions, and the delivery of fires by the mortar crew.

6. Davy Crockett Section

a. *General.* The section consists of three squads. The senior squad leader is designated as the section leader and is responsible for the training, discipline, control, and tactical employment of his section. Each squad contains a squad leader. For sustained operations or for dismounted operations of any duration, each squad must be augmented with four trained personnel to function as fire direction computer, gunner, assistant gunner and loader.

b. *Three Man Section.* Battalions having the three man organization may use all three men as a firing team for one weapon to provide an initial nuclear capability until the section is augmented. It is preferable to use one of the heavy weapons until augmentation is effected. Infantry and airborne infantry units must be additionally augmented by transportation for two of the men unless another of the section vehicles is utilized for transportation only.

c. *Nine Man Section.* Units receiving a six man augmentation from outside the battalion (per authority of the Department of the Army) have the capability of employing all three weapons simultaneously for short periods of time. This augmentation may or may not include additional vehicles and communication equipment. For sustained operations, dismounted operations of any duration, and for timely delivery of fires, two additional men per squad, or a total augmentation of twelve men for the section, is required. The six men, in addition to TOE and WAB DA augmentation, desirably should come from cross-trained mortar men of battalion mortar units.

7. Forward Observer (FO) Teams

Forward observer teams accompany the forward units and

advise the commander of the supported units of the capabilities of the mortar and DC weapons systems. They request fires for supported units, observe and adjust fire for the platoon, and may request and adjust artillery fires through the mortar platoon FDC. For a detailed discussion of the duties of the forward observers, see FM 23-92.

8. Communication

a. General. The ability of the platoon to render effective fire support depends on efficient communication. The means of signal communication used are wire, radio, messenger, visual, and sound. The communication plan should include the use of all available means of communication.

b. Radio.

(1) The platoon normally employs an internal FM radio nets, the fire direction net. The platoon also monitors the division warning/broadcast net, the supporting artillery battalion fire direction net, and the artillery metro net.

(2) The platoon leader is in the battalion command net and the platoon fire direction net.

(3) Radios located in the FDC are on the division warning/broadcast net, the artillery metro net, and the supporting artillery fire direction net. Platoon radio nets are shown in figures 43 and 44. The Davy Crockett radios shown are effective with the full augmentation discussed in paragraph 6c, above.

c. Wire. Wire for the platoon is installed as required. The complexity of the system varies with the employment of the platoon and the time available. When time allows, wire is installed prior to or during occupation of positions. The system is expanded as time permits. Wire systems cannot be installed in all situations, but should be employed whenever possible. The system should be extended, duplicated, and improved to meet the maximum requirements as time, personnel, and equipment become available. A platoon wire system is shown in figure 45.

9. Classification of Fires

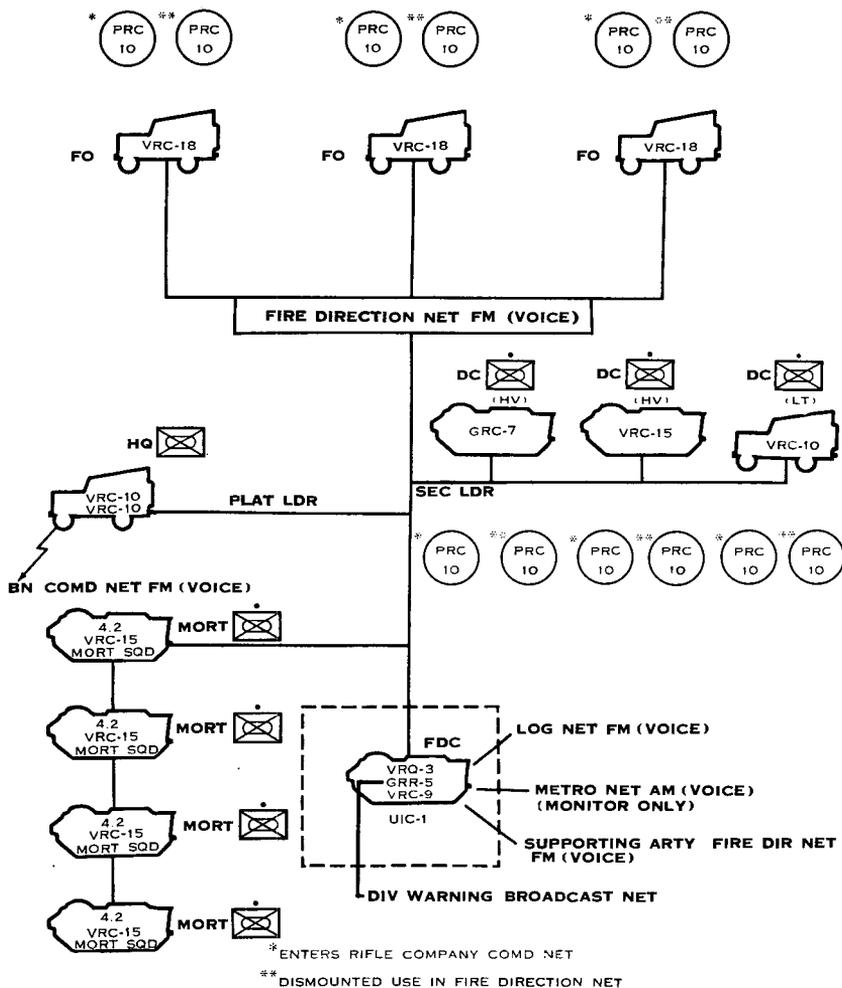
a. General. Mortar and Davy Crockett fires are classified according to type (effects desired), planned fires, fires which are not planned (fires on targets of opportunity) and observed and unobserved fires.

b. Type Fires.

(1) *Destruction*—fires delivered for the purpose of destroying material objects. Destruction fires may be accom-

panied by penetration, blast effect, or incendiary action, or by a combination of these actions.

- (2) *Neutralization*—fires delivered to screen; cause casualties; to hamper and interrupt the firing of weapons, movement, or action; and to reduce the combat efficiency of enemy personnel.
- (3) *Harassing*—fires of less intensity than neutralization, de-



NOTE: EQUIPPED WITH ARMOR BAND RADIOS WHEN ORGANIC TO ARMOR UNITS

Figure 43. Mortar and Davy Crockett platoon net, mechanized infantry battalion.

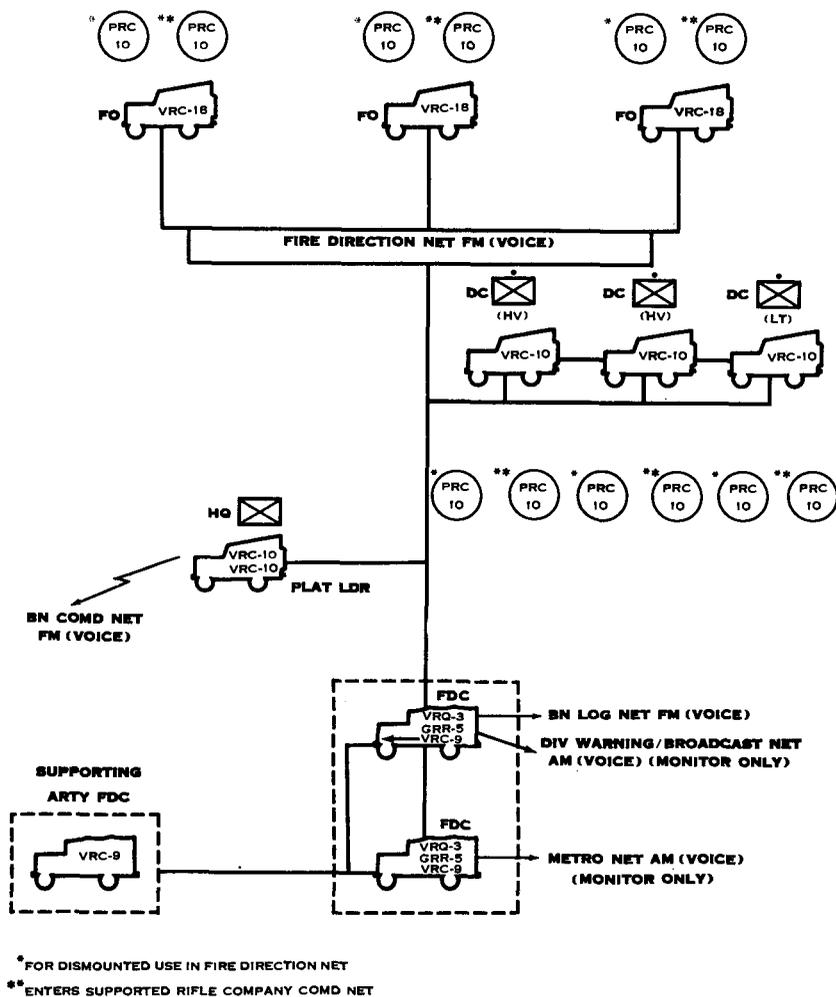


Figure 44. Mortar and Davy Crockett platoon net, infantry and airborne infantry battalion.

signed to inflict losses or, by the threat of losses, to disturb the rest of enemy troops, to curtail movement, and in general, to lower morale.

- (4) *Interdiction*—fires placed on an area or point to prevent its use. Interdiction fire is usually of less intensity than neutralization fire.

c. Planned Fires. Planned fires are those for which data has been prepared in advance. They may be planned as to both time

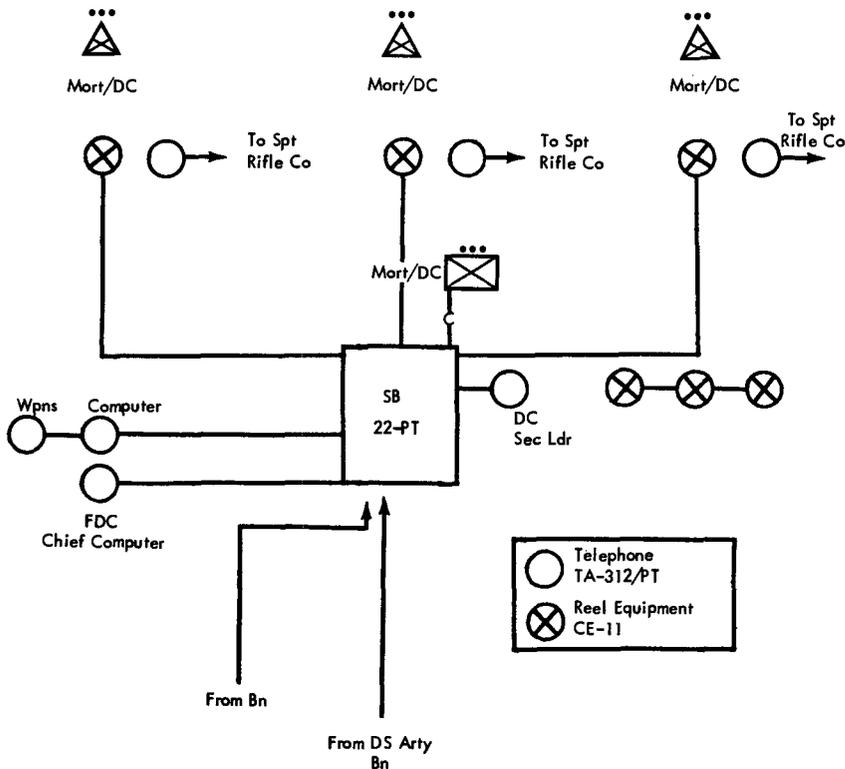


Figure 45. Battalion mortar and Davy Crockett platoon wire net, infantry and airborne infantry battalion.

and place (scheduled fires) or they may be planned as to location only and fired on request (on-call fires).

- (1) *Scheduled fires.* Planned fires which are to be delivered at a specific time during the maneuver or operation of the supported force. Time is specified in terms of before or after H-hour or on accomplishment of a predetermined movement or task.
- (2) *On-call fires.* Planned fires which are to be fired as requested. These fires may have fire data prepared or may be planned as to location only.
- (3) *Preparation.* Intense fire delivered in support of an attack. It is designed to disrupt the enemy's communication, disorganize his defenses, and neutralize his fire support means. Preparations commence prior to, at, or after H-hour and continue until lifted. They may be lifted at a prearranged time or on request.

- (4) *Counterpreparation fire.* A system of intensive fires delivered when imminence of the enemy attack is discovered. It is designed to break up enemy formations; disorganize the enemy's system of command, communication, and observation; decrease the effectiveness of his artillery preparation; and impair his offensive spirit.
- (5) A *concentration* is a volume of fire placed on an area within a limited time, or an area designated and numbered for future reference as a possible target. All fires except registration fires and barrages are termed concentrations and may be planned fires or fires on targets of opportunity. The actual area covered by any concentration depends on the nature of the target to be engaged.
- (6) A *barrage* is a planned barrier of fire designed to protect troops and installations by impeding enemy movement across defensive lines or areas. The heavy mortar section (4 mortar squads) can fire one barrage approximately 180 meters wide. The Davy Crockett weapons are not assigned barrages. The general location of the barrage is designated by the battalion commander. The exact location of the barrage is selected by the company commander in whose area it is to be located. These barrages are an integral part of the final protective fires. They are usually planned to cover dangerous avenues of approach. To give maximum protection against an assault, barrages are located not more than 200 meters forward of the FEBA. Some factors that influence the distance of barrages from forward troops are—
 - (a) Range from mortar to barrage location.
 - (b) Inability to survey in mortars or to register.
 - (c) Conditions that result in decreased accuracy of fires (e.g., worn weapons, changing weather conditions and the state of training of the crew).
 - (d) The degree to which friendly troops are dug-in and protected by overhead cover.
 - (e) The presence of terrain features that might increase fragmentation effect or decrease accuracy (woods or steep slopes).

d. Fires on Targets of Opportunity. *Targets of opportunity* are those targets located during the course of an action. They may be engaged at any time on request from anyone who can identify the target and adjust fire on it. If a target appears at a point for which no data has been prepared, it is engaged by adjustment following an estimation of the correction in range and

deviation from the nearest reference point or by determining its geographic location on a map.

e. Observed and Unobserved Fires. Fire is adjusted by observation wherever possible. Unobserved fires may be delivered on accurately located targets, but the effectiveness of unobserved fire depends on accurate map or survey data and firing corrections.

10. Observation

a. General.

- (1) Continuous observation affords flexibility of fires and serves as a principal means of gaining information about the enemy and our own units.
- (2) The forward observer's area of responsibility for observation is the zone or sector of the supported unit. He must maintain a close working relationship with artillery and rifle company forward observers. Together they cover the most critical areas within the battalion's sector. Mortar and artillery observers may request and adjust each other's fires through their respective FDC. For forward observer procedures and duties, see FM 6-40 and FM 23-92.
- (3) The forward observers of the mortar platoon are normally used to observe Davy Crockett fires. However, any commander, or mortar or artillery observer may observe and adjust the fires provided he can establish communication with the squad delivering the fire. Aerial observers in communication with a delivery squad can adjust spotting rounds and the major caliber round can be delivered after they have moved a safe distance or placed a mask between themselves and the target area.

b. Observation Posts.

- (1) Observation posts, to include alternate OP are established in the area of action of the supported unit to locate targets and direct fire for that unit and other units as may be required.
- (2) An observation post should have the following desirable characteristics—
 - (a) Afford the most favorable view of the target area and zone of action.
 - (b) Afford ease of communication with the supported unit and the FDC.
 - (c) Be away from outstanding landmarks.
 - (d) Afford cover and concealment.
 - (e) Afford covered routes of approach from the rear.

- (3) The observer selects alternate observation posts to be used when hostile fires force him to move or when the primary post is blinded by smoke or haze. When practicable, the alternate OP should have a covered route of approach from the primary OP.
- (4) The location of the observation posts must be coordinated with those of the 81-mm mortar and artillery observers to insure overlapping coverage of the area forward of and within the battle area.
- (5) The observer occupies positions and displaces to locations where he can best observe the zone of action of the supported unit.

c. Coordination of Observation. The battalion commander, through his S2, coordinates all organic observation to provide maximum coverage. Additional observation is provided by the supporting artillery. Heavy mortar and artillery units cooperate in fire control by using each other's forward observers to observe and adjust fires. This insures support by the weapon that will best accomplish the mission.

d. Reports. The platoon observers report significant enemy and friendly activities directly to the platoon FDC.

e. Aerial Observation. Army aircraft may observe and adjust mortar fires. Direct radio communication is established between the FDC and the observing aircraft (FM 1-100 and FM 23-92).

11. Liaison

The platoon establishes and maintains continuous liaison (wire and/or radio and/or liaison personnel) with the FSC. Wire and/or radio communication is maintained with the battalion headquarters and the supporting artillery FDC. During the planning phase and during critical phases of operations, the platoon leader remains with or near the battalion commander. The forward observer teams coordinate with artillery forward observers and the rifle company commanders in whose area they are working. The platoon leader coordinates with the artillery liaison officer of the DS artillery battalion at the infantry battalion CP.

12. Fire Direction

a. The definitions, objectives, techniques, and doctrine of fire direction for indirect firing and mortar gunnery are covered in FM 23-92. The purpose of fire direction is to achieve—

- (1) Continuous and accurate fire support under all conditions of weather, visibility, and terrain.
- (2) Prompt massing of fires.

(3) Flexibility of fires.

(4) Simultaneous placing of fires on numerous targets.

b. The FDC is that element of the platoon, consisting of personnel and fire direction and communication equipment, that the commander uses for fire direction and fire control. The FDC is normally located approximately 50 meters to the rear of the base mortar position where the fires of the platoon can best be controlled. FDC personnel help the commander to control the fire missions, translate target intelligence, fire missions of higher commanders, and convert observer's requests for fire into commands to the firing sections. The efficiency and speed of execution of fire missions depend on the skill of the personnel in the use of fire direction techniques and equipment. Fire direction personnel, their duties and functions are outlined in paragraph 4.

c. Davy Crockett fire direction computations are made at the weapon site by members of the Davy Crockett squad.

d. Mortar fire direction procedures and techniques are based on, but differ slightly from, those of the artillery FDC in that the mortar is normally fired with a constant elevation and variable charge. Vertical interval between the mortar position and the target is converted to a range or charge effect, and corrections for this effect are applied as charge corrections. These techniques are explained in detail in FM 23-92. Since there are no survey personnel or equipment in the mortar platoon, survey data must be provided by the artillery battalion in direct support of the brigade.

e. The platoon FDC monitors the supporting artillery FD net. To insure adequate coverage of targets and to avoid duplication of effort, the battalion fire support coordinator integrates the fires of the mortars and the supporting artillery both at the battalion CP and at the artillery battalion FDC.

13. Fire Support Planning

a. *General.* The general principles governing coordination of fire support described for higher command levels are applicable within the battalion.

b. *Mortar Fires.*

- (1) *Responsibility and control.* The battalion commander, or the commander of the unit to which mortar units are attached, is responsible for the planning, coordinating, preparing, and delivering of fires. The platoon leader performs these functions for the battalion commander. He gives priority to calls from his parent battalion; however, his platoon may, upon approval of the battalion commander, fire on call of division artillery or adjacent

units when such firing will not interfere with firing in support of the battalion.

- (2) *Characteristics of mortar.* The mortar has certain characteristics that must be considered in fire planning; for example, its—
 - (a) High rate of fire.
 - (b) Ability to fire in deep defilade.
 - (c) Steep angle of fall resulting in a large lethal area.
 - (d) Capability of employment close to mask for protection against enemy fire and observation.
 - (e) Relatively large dispersion pattern.
 - (f) Minimum range of 850 meters and maximum range of 5,425 meters.
 - (g) Displacement capability and limitations.

c. Fire Planning.

- (1) Fire planning involves the following principles—
 - (a) Close and continuous support of the attacking or defending troops.
 - (b) Maximum prearrangement of fires.
 - (c) Cooperation with adjacent units.
 - (d) Continuous planning.
- (2) The detail in which fire plans are made depends on the time available for planning, the extent and accuracy of target locations, the type of operation in which the supported unit or force is engaged, and the requirements of the fire support plan of the higher echelon. Fire planning for a specific operation begins at each level with the commander announcing his concept of fire support. At battalion level, the fire plan is based primarily on requests from rifle companies, battalion headquarters, and those generated from target intelligence. Coordination of heavy mortar fires is first accomplished at the mortar FDC. Coordination of heavy mortar and artillery fires is effected simultaneously at the battalion CP and at the supporting artillery FDC. The result is one fire plan containing all requisite information such as graphic layout, target lists, and schedule of fires.
- (3) To facilitate the compilation of planned fires, it may be desirable to arrange concentrations into groups, series, or schedules of fires. A system of numbers and letter prefixes should be used.
- (4) The fire capability of the platoon is the aggregate of the fire capabilities of its sections. The fire capabilities chart should show the area that can be covered by each section.

- (5) Decisions concerning the employment of nuclear weapons are made by the battalion commander when a weapon is allocated to him. The battalion commander, or the commander of the unit of which Davy Crockett is in direct support is responsible for the planning and coordination of Davy Crockett fires. Based on the guidance of the commander, the DC section leader performs detailed fire planning for those squads employed in general support. Squad leaders perform fire planning for direct support squads.
- (6) The Davy Crockett fire plan is submitted in the form of an overlay and becomes a part of the battalion fire support annex of the operation order. As a minimum, a target list is submitted to the commander for coordination with other fire support units.
- (7) Planned fires are coordinated by the battalion FSC as directed by the commander. Since the platoon leader has direct communication with the Davy Crockett section, he normally assists in this function.
- (8) Davy Crockett squads utilize the common numbering system for concentrations as prescribed in the unit SOP.
- (9) Fire planning is continuous. Fires are planned on likely avenues of approach, assembly areas, weapons positions, defiles and obstacles.

d. Davy Crockett Targets.

- (1) Targets are considered in their relationship to the commander's plan, other fire support means available, size and type of target, effects desired, and availability of ammunition. Generally, targets are selected which are vulnerable to the effects of the weapon and whose destruction or neutralization are critical to the commander's plan.
- (2) Type targets.
 - (a) Massed personnel targets of platoon or larger size.
 - (b) Mortar, artillery, and missile launching positions.
 - (c) Groups of vehicles.
 - (d) Command posts or logistical installations of battalion or larger size units.
 - (e) Fortified positions.

e. Rifle Company Fire Planning. The rifle company commander, through the mortar and artillery forward observers, requests the organic and nonorganic fire support desired. As a preliminary to formulating this request, the forward observer informs the rifle

company commander of the capabilities of the fire support available and obtains from him the following information—

- (1) Present location of forward elements.
- (2) Plan of attack or defense.
- (3) Known enemy locations, including probable avenues of approach, assembly areas, and weapons positions.
- (4) Protective fires desired.
- (5) Location of the company command post.

f. Processing Fire Plans.

- (1) Both the mortar and artillery forward observers send the rifle company commander's fire requests to their respective FDC for consolidation and coordination. Heavy mortar fires are integrated into the artillery fire plan at the supporting artillery battalion FDC.
- (2) The company fire support plans and the requirements from the battalion commander are integrated into the battalion fire support plan. This plan is prepared under the supervision of the FSC (normally the liaison officer from the artillery battalion in direct support of the brigade) and submitted to the battalion commander for approval. Davy Crockett fire plans are sent to the mortar and Davy Crockett platoon leader for coordination with the FSC prior to the submission to the battalion commander for approval.

14. Reconnaissance, Selection, and Occupation of Position

a. General. The purpose of reconnaissance, selection, and occupation of position (RSOP) is to facilitate rapid movement of mortars and Davy Crockett into position, insure close and continuous indirect fire support and to provide flexibility of movement. The platoon leader must keep himself informed of the current situation and anticipated future operations in order to effect timely RSOP. Position areas or routes selected are reported to the battalion S3 and FSC. Coordination of the platoon and supporting artillery positions is a responsibility of the FSC. Procedures to be followed by the platoon in the RSOP parallel those outlined in FM 6-140.

b. Reconnaissance.

- (1) Position reconnaissance involves a search for locations for the various elements of the platoon, to include firing positions, command posts, and observation posts. Mortar range limitations make it imperative that reconnaissance

for new firing positions be continuous. Position disclosing features of the backblast and enemy counterfire location of the Davy Crockett weapon by the distinctive trajectories of its piston and major caliber round will necessitate frequent shifting of position. In addition to the primary position, alternate and supplementary positions must habitually be reconnoitered and selected. If time permits, these positions, and the routes between them, are prepared. Reconnaissance parties should be limited to the personnel and vehicles actually required.

- (2) Section and squad leaders must be prepared to recommend position areas from which they can accomplish the desired fire support. Continuous reconnaissance is necessary to locate good positions. Davy Crockett squad leaders pick the exact location of the weapon within the area designated by the section leader or the supported unit commander. After informing the supported unit, the Davy Crockett squad leader orders displacement to an alternate position whenever the primary position becomes untenable due to enemy fire.

c. Selection. It is desirable to select position areas which provide concealment and defilade, sufficient space for dispersion, and terrain adaptable for defense of the unit. The only essential requirement of a position area is that it permits accomplishment of the mission.

- (1) The high angle firing characteristics of the mortar permit wider selection of positions than is normally considered for artillery weapons. Mortars can be positioned in small openings in woods and close to the base of hills or bluffs; ravines may also be utilized. These ground formations offer some protection from enemy observation. If necessary, the mortars may be hand-carried short distances to positions not accessible to prime movers. Desirable characteristics for mortar positions include—
 - (a) Dry, well-drained ground, accessible to weapons carriers and free from large stones and other obstructions.
 - (b) Availability of alternate positions.
 - (c) Location within or near reserve unit perimeter when such location would not interfere with the mission of either unit.
- (2) In addition to those listed in (1) (a), (b), and (c) above, desirable features of a good Davy Crockett position include—
 - (a) Mask and backblast clearance.

- (b) Routes to rear and flanks for rapid shifting of positions.
- (c) Free of materials contributing to the backblast cloud.
- (d) Near friendly units for security.
- (e) Hardstand nearby for vehicle. Desirably the squad APC (in the mechanized infantry battalion) is placed on the flank of the weapon to be used as a position for the crew during firing of the major caliber round and to furnish protection from artillery and mortar fires.
- (f) A piston-impact area clear of friendly troops or in which these troops have adequate overhead cover.

d. Occupation. When selecting a position, the platoon leader must formulate a plan for occupying the area selected, to include location of the weapons, vehicle park, wire routes, and routes into the position. Once he formulates his plan, he must issue necessary orders to execute it, including a general plan for communication and security. Since Davy Crockett sites will be prime targets for enemy weapons, special precautions may be required.

- (1) Positions may be occupied only long enough to adjust on targets, and the weapon and crew may then be moved to a covered and concealed area until a fire mission is requested. In open terrain, the primary position may be selected but not immediately occupied if enemy air is active. Fire data is prepared as completely as possible without registration. Unless required by restrictive terrain, the DC squads do not occupy positions in close proximity to each other.
- (2) In areas where terrain restricts movement and the weapon must remain in one position for an extended period, it may be necessary to construct a protective wall on each side of the weapon and dig emplacements for the ammunition and crew. An alternate solution is to dig emplacements for the disassembled weapon and its ammunition near the foxholes of crewmembers.

15. Security

a. Firing Positions. The platoon or firing sections must be so positioned as to best accomplish their mission. Within the requirements of the mission, mortar units normally are located adjacent to reserve elements, thus increasing their own security. In some instances, position areas cannot be located near reserve elements; therefore, mortar personnel must be trained to occupy, organize, and defend their positions when necessary. Positions are chosen which enhance local security by proximity to other friendly troops.

Commanders of nearby friendly units should be notified of the weapon position and its provisions for security.

b. Responsibility. Security is a responsibility of command, and measures to be taken are stated in orders. These orders outline adequate security for all elements of the platoon from ground, air, nuclear, nonnuclear, and CBR attack. When planning security measures, the platoon leader considers the orders of the battalion commander, the effectiveness of available weapons, the proximity of friendly troops, and the enemy's capabilities.

c. Organizing for Security.

- (1) The platoon habitually provides within its means a defensive perimeter which incorporates its organic weapons. Normally, the platoon organizes its defense in conjunction with infantry units near its positions. (See also *a* above.)
- (2) Air defense measures consist of passive means such as camouflage, concealment, and dispersion. During a motor march, an air guard is designated for each vehicle.

d. Ammunition Security. Peacetime security provisions for the Davy Crockett XM 388 warhead are contained in Department of Defense Directive _____: "Safety Rules To Be Observed for Peacetime Operations With Davy Crockett/XW 54 Atomic Weapons System" and TM 9-1000-209-12, "Operator and Organizational Maintenance Manual: XM 28 and XM 29."

16. Displacement

To carry out its mission of close and continuous fire support, the platoon must displace promptly from one position to another. Planning for displacement and reconnaissance for new positions is continuous. Effective planning and reconnaissance reduce the time that weapons are out of action during a displacement. The scheme of maneuver of the supported unit influences the time and method of displacement and the location of new positions. Units normally displace by vehicle. Under special conditions, it may be feasible to displace by Army transport aircraft.

17. Class V Supplies

a. General. Class V supplies as related to the platoon include ammunition, pyrotechnics, antitank mines, and chemicals. The platoon leader is responsible for the supply of ammunition to his platoon, except for elements attached to other units. In such cases, the commander of the unit to which they are attached is responsible for their ammunition supply. Heavy mortar ammunition is available with high explosive, smoke, illuminating, or gas fillings (FM 23-92).

b. *Ammunition Loads.* Replenishment of basic loads to keep pace with expenditure of ammunition is a command responsibility. Only that ammunition necessary to meet anticipated needs is unloaded at positions; the remaining ammunition is kept mobile.

c. *Resupply.* Resupply is effected as ammunition is expended. In the infantry and airborne infantry battalion, mortar squad vehicles will normally be used in obtaining ammunition from the combat trains by supply point distribution. In certain circumstances, (e.g., when a move is anticipated) distribution may be effected by using vehicles from the support platoon (unit distribution). In the mechanized infantry battalion, resupply is accomplished by using transportation from the support platoon (unit distribution). Ammunition is normally carried directly to the squad position.

d. *Ammunition Supply During Offensive Combat.* When heavy expenditures are expected because of preparation firing or other special firing missions directed by a higher headquarters, ammunition in excess of basic loads may be required. Only that ammunition required by the mission is obtained. Resupply may be effected by Army aircraft.

e. *Replenishment During Defensive Operations.* Ammunition requirements for defensive operations are estimated before the action. When heavy expenditures are anticipated, additional ammunition is prepositioned at the weapon positions. Ammunition placed at weapon positions must not exceed anticipated expenditures. Continuous replenishment of the basic load is accomplished throughout defensive operations.

f. *Replenishment During Retrograde Movements.* Resupply is seldom made to forward areas. Sufficient ammunition for contemplated action is left with each unit. The battalion S4 prepositions ammunition along routes of withdrawal. When vehicles are not available to establish mobile distributing points, limited amounts of ammunition may be placed on the ground. If for any reason ammunition placed on the ground is not expended or evacuated, and capture by the enemy is imminent, it is destroyed or rendered unserviceable before the position is evacuated.

g. *Davy Crockett Ammunition.*

- (1) The Davy Crockett section is dependent on other elements for its ammunition supply. The platoon leader is responsible for resupply of the squads employed in direct support or general support.
- (2) A prescribed nuclear load (PNL) for Davy Crockett rounds will be established by division for each operation.

The PNL specifies the number of nuclear rounds authorized to be carried by the unit and is based on the tactical situation and allocations made available to the battalion commander. Replenishment of the PNL is not made on an automatic basis as is normal with nonnuclear ammunition, but is a command decision.

- (3) Battalion ammunition personnel draw the XM 388 nuclear projectiles and nonnuclear components from the nearest ordnance special ammunition supply point (SASP). These projectiles are kept on vehicles at the battalion trains or at forward mortar platoon ADP. From the trains or ADP, unit distribution is effected as directed by the battalion commander.
- (4) Spotter rounds are drawn through normal ammunition channels and are distributed with the nuclear round.
- (5) The use of helicopters expedites resupply over long distances or difficult terrain. All components of the Davy Crockett weapon and its ammunition are transportable by Army aircraft.

APPENDIX IV
ARMORED CAVALRY PLATOON

1. Mission

a. The mission of the reconnaissance platoon is to perform reconnaissance and provide limited security for the battalion.

b. A general discussion of missions assigned to the platoon is contained in chapter 4. This appendix deals with the detailed organization and employment of the platoon.

2. Organization

The platoon (infantry and airborne infantry battalion) consists of a platoon headquarters, scout section, (three squads), tank section, and support squad (fig. 46). In the mechanized infantry battalion the platoon consists of a headquarters, a scout section, (two squads), a tank section, a rifle squad, and a support squad

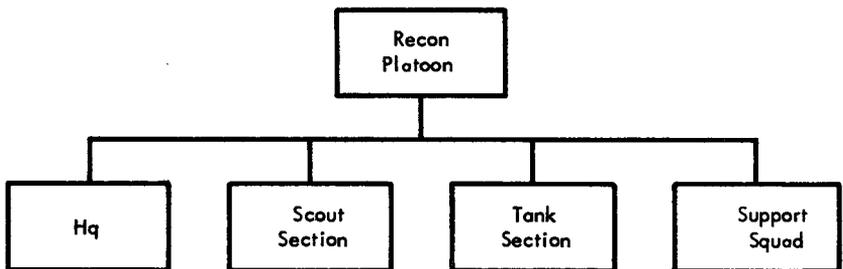


Figure 46. Reconnaissance Platoon, Infantry and Abn Inf Bn.

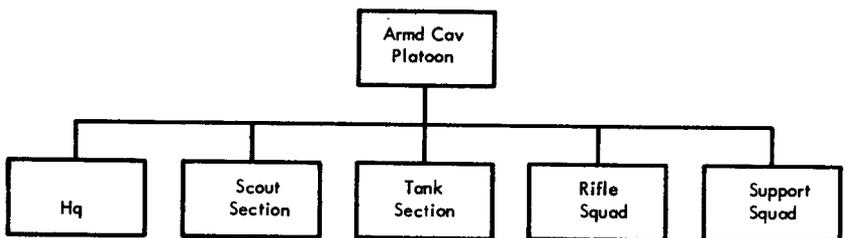


Figure 47. Armored cavalry Platoon, Mechanized Inf Bn.

(fig. 47). All platoon personnel should be cross-trained to function as a member of any of these elements.

3. Duties of Key Personnel

a. Platoon Headquarters. The *platoon leader* is responsible for the training, control, supply, and tactical employment of his platoon. He operates under the staff supervision of the battalion S2.

b. Scout Section.

(1) The section leader is responsible for the training, control, and tactical employment of the section as directed by the platoon leader. In the infantry and airborne infantry battalion, the section leader is also designated as platoon sergeant. In this capacity, he is charged with all administrative and logistical functions for the platoon. In the mechanized infantry battalion the section leader also commands one of the scout squads.

(2) The *squad leader* commands the squad and employs it as directed.

c. Tank Section. In the mechanized infantry battalion the *platoon sergeant* is second in command of the platoon and commands the tank section. He is charged with the administrative and logistical functions of the platoon, and performs other duties as directed by the platoon leader.

d. Rifle Squad. Same as *b (2)*, above.

e. Support Squad. Same as *b (2)*, above.

4. Signal Communication

(figs. 48 and 49.)

a. Mechanized Infantry Battalion.

(1) *General.*

(a) *Platoon headquarters.* There are two radios, one telephone, and two CE-11 reel equipment in the headquarters. One AN/VRC-18 radio is mounted on the platoon leader's $\frac{1}{4}$ -ton truck, and one radio set AN/PRC-10 is used for dismounted operations.

(b) *Scout section.* Two AN/VRC-10 radios and two AN/PRC-10 radios are in the section; the VRC-10 radios are mounted on the section leader's and squad leader's $\frac{1}{4}$ -ton trucks. Two AN/PRC-10 radios are provided for dismounted operations.

(c) *Tank section.* One AN/GRC-7 radio is mounted in the platoon sergeant's tank and one AN/GRC-8 radio is mounted in the other tank.

- (d) *Rifle squad.* Mounted in the squad's armored personnel carrier is one AN/VRC-15 radio; one AN/PRC-10 radio is to be used by the squad when dismounted.
 - (e) *Support squad.* One AN/VRC-15 radio is in this squad, mounted in the squad's mortar carrier. One AN/PRC-10 is also provided. Three TA-1/PT telephones are provided for wire communication.
- (2) *Radio nets.* The AN/VRC-18 in the platoon headquarters operates in both the battalion and platoon net. The AN/GRC-7 in the platoon sergeant's tank is used to monitor the battalion command FM net. Other radios in the platoon normally operate only in the platoon net (fig. 48).
 - (3) *Wire nets.* The telephone in the platoon headquarters operates in the battalion wire system.
- b. *Infantry and Airborne Infantry Battalion.*
- (1) *General.*
 - (a) *Platoon headquarters.* See a(1)(a) above. One AN/VRQ-3 is provided in place of the AN/VRC-18 radio.
 - (b) *Scout section.* One AN/VRC-18 radio, three AN/VRC-10 radios and four AN/PRC-10 radios are organic to the section. The vehicular radio sets are mounted in the section sergeant's and squad leader's 1/4-ton trucks. The AN/PRC-10 radios organic to the section are used for dismounted operations.
 - (c) *Tank section.* One AN/VRC-10 is mounted on each of the two 1/4-ton trucks organic to this section. Two AN/PRC-10 radios are also provided for dismounted operations.
 - (d) *Support squad.* One AN/VRC-10 radio is mounted in the squad's 3/4-ton truck. The AN/PRC-10 organic to the squad will be used for dismounted operations. Three TA-1/PT telephones are provided for wire communication.
 - (2) *Radio Nets.* Same as (2) above. (fig. 49).
 - (3) *Wire Nets.* Same as (3) above.

5. Basic Concepts

a. Reconnaissance may be performed by offensive or defensive action.

b. Security missions may be performed by patrolling, manning, ground or aerial observation posts, or by actively engaging the enemy when necessary. A degree of security is provided by reconnaissance.

c. In performing its missions, the platoon may require support

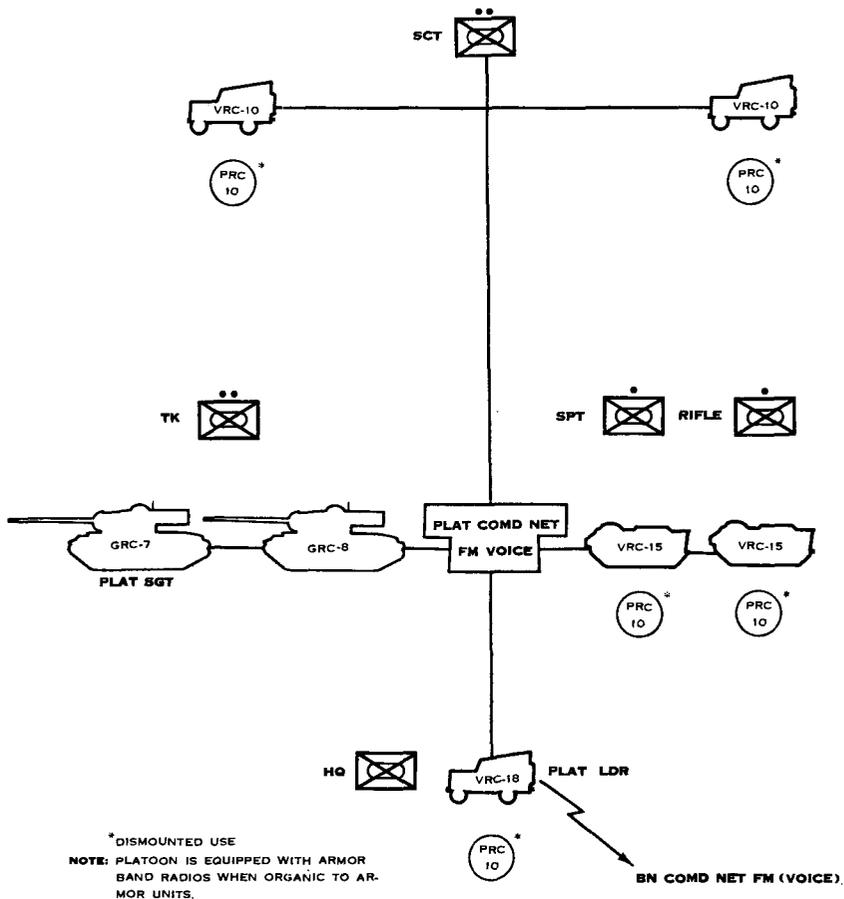


Figure 48. Armored cavalry platoon command net, mechanized infantry battalion.

from other units; i.e., engineers, Army aviation and artillery, and may have attached elements of the ground surveillance section.

6. Reconnaissance Operations

a. *Definition.* Reconnaissance is the directed effort in the field to collect information of the enemy and the area of operations.

b. *Fundamentals.*

- (1) *Orient on the movement or location of the objective.* Units performing reconnaissance orient their movement on the objective. The objective may be enemy troops, a locality or a terrain feature, based upon the mission. When the

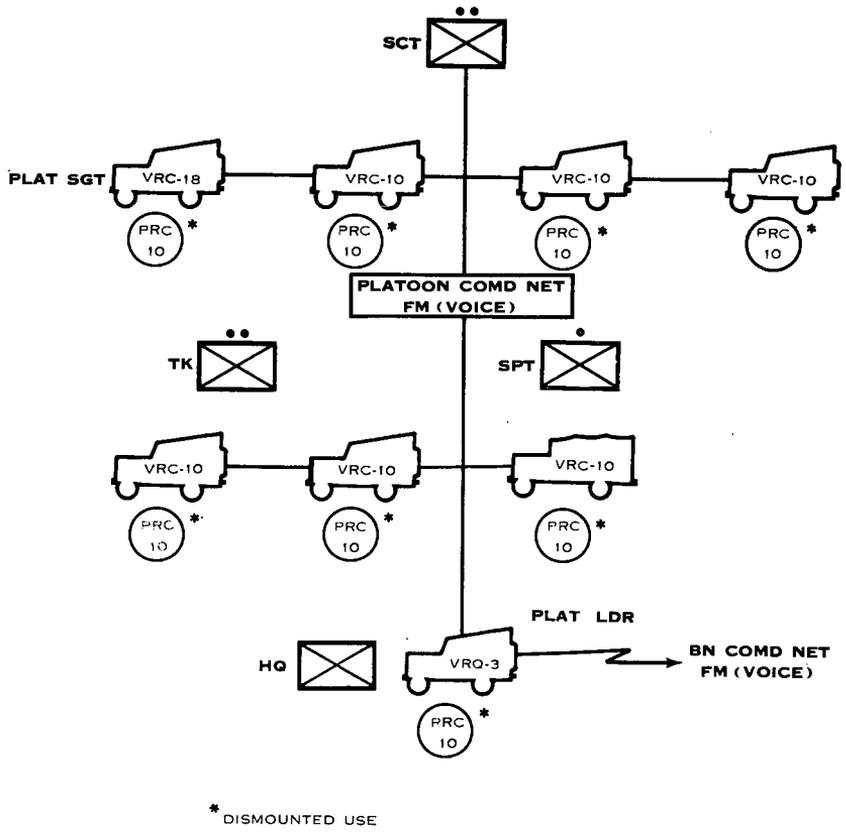


Figure 49. Reconnaissance platoon command net, infantry and airborne infantry battalion.

objective is enemy troops, the friendly unit maneuvers according to the static location or movement of the enemy.

- (2) *Report all information.* All information, positive and negative, obtained during the performance of a reconnaissance mission should be reported regardless of its apparent value. All reports must be accurate and answer the question *what, when, where, how many, and doing what?* Reports must be transmitted rapidly if the information is to be of value.
- (3) *Avoid decisive engagement.* The platoon secures information without engaging the enemy when possible, but fights when necessary to accomplish its mission. The

commander's decision to attack is based upon the considerations of METT. A unit must not become engaged to the point where the accomplishment of the reconnaissance mission is jeopardized.

- (4) *Maintain contact with the enemy.* Contact with the enemy is established as soon as possible. Once contact has been made, every effort is exerted to maintain it, either physically or visually. A unit does not voluntarily break contact with the enemy unless ordered to do so by higher headquarters.
- (5) *Develop the situation.* When the enemy contact is made or an obstacle is encountered, the situation must be developed quickly. The enemy's location, strength, composition, and disposition must be determined, with a special effort being made to determine the flanks of his position. A decision to attack or bypass the position must be reached quickly. When the terrain permits, the enemy position is reconnoitered by mounted reconnaissance and/or reconnaissance by fire. If the terrain restricts vehicular movement, the situation is developed with dismounted patrols. Other elements of the unit cover the movement of the dismounted patrols and assist in the reconnaissance by attempting to draw enemy fire.

c. Formations. The formation selected by the platoon leader is based upon the considerations of METT. The scout section normally leads when the situation is vague. This affords greater flexibility and freedom of movement and permits the development of the situation prior to committing other elements of the platoon. In the mechanized infantry battalion, the tank section may lead the formation with the scout section employed on the flanks when—

- (1) The platoon is approaching a suspected enemy position.
- (2) It is necessary to insure the uninterrupted advance of the platoon against delaying forces employing harassing smallarms and artillery fire.

d. Types of Reconnaissance Missions.

- (1) *General.* The platoon may be given the mission of reconnoitering a route, zone, or area. Factors to be considered in determining the mission to be assigned are the information desired, where the information is to be sought, the known enemy situation, the terrain, the weather, and the time available for completing the mission. The platoon is limited in the frontages over which it can successfully operate by such factors as road nets, mission,

terrain, and effective range of communication. The tank section normally supports the reconnaissance mission by over-watching the scout section and is prepared to support by fire or to attack as necessary. The platoon operates most effectively when employed as a unit. In performing its mission, the platoon is alert for the presence of unusual enemy activity such as CBR contamination in the battalion area. For a discussion of air mobility for land reconnaissance, see FM 1-100.

- (2) *Route reconnaissance.* Route reconnaissance is the directed effort to obtain information of the enemy and/or the terrain along a specific route and on the terrain features that dominate the route. The platoon conducts a route reconnaissance by moving on the route in column formation with the scout section reconnoitering the terrain features that dominate the route. It gathers such information as the nature of the terrain; the conditions of existing roads; the lengths, load classifications, vertical clearance and condition of bridges; location of other stream crossing sites or means; obstructions; vertical clearance of routes; and areas where traffic delays may occur (fig. 50). Route reconnaissance can be made faster than zone or area reconnaissance and may be employed when time is not available for more detailed reconnaissance.
- (3) *Zone reconnaissance.* Zone reconnaissance is the directed effort to obtain information of the enemy or terrain between two assigned boundaries. All major roads and terrain features within the zone must be reconnoitered. The same type information as listed for the route reconnaissance is obtained. The platoon minus the scout section may conduct a zone reconnaissance by advancing in column formation on the best road net within the zone. The scout section reconnoiters other roads and terrain features between the assigned boundaries (fig. 51). Zone reconnaissance is more time consuming than other types of reconnaissance.
- (4) *Area reconnaissance.* Area reconnaissance is the directed effort to obtain information of the enemy or the terrain within a definitely defined area (fig. 52). The platoon conducts an area reconnaissance by moving over the most direct route to the area to be reconnoitered. It then reconnoiters the area using the same technique

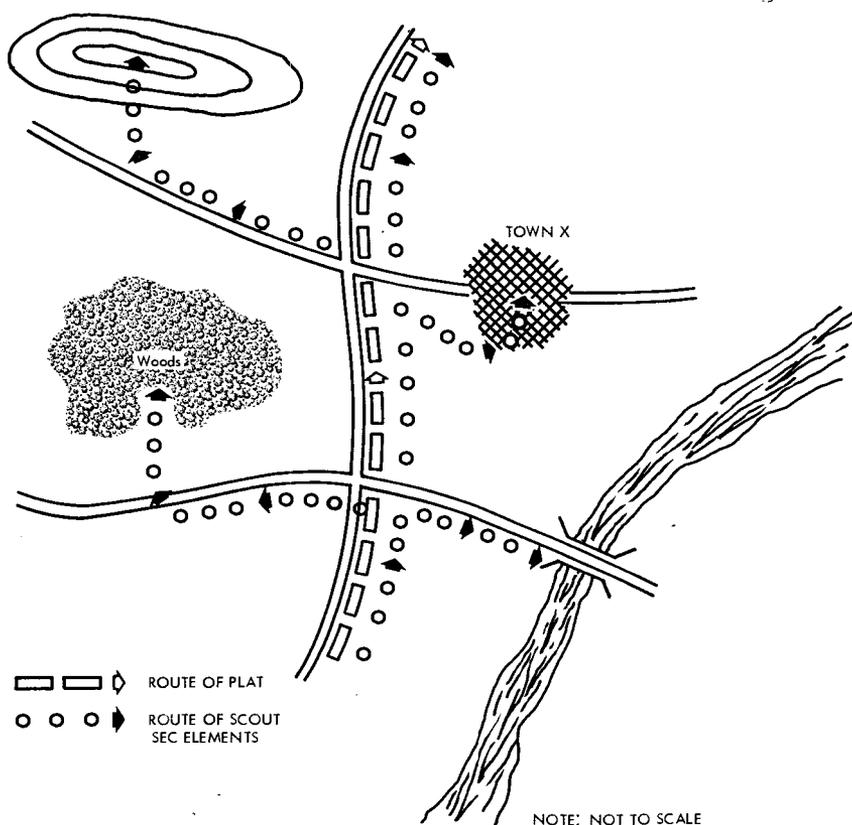
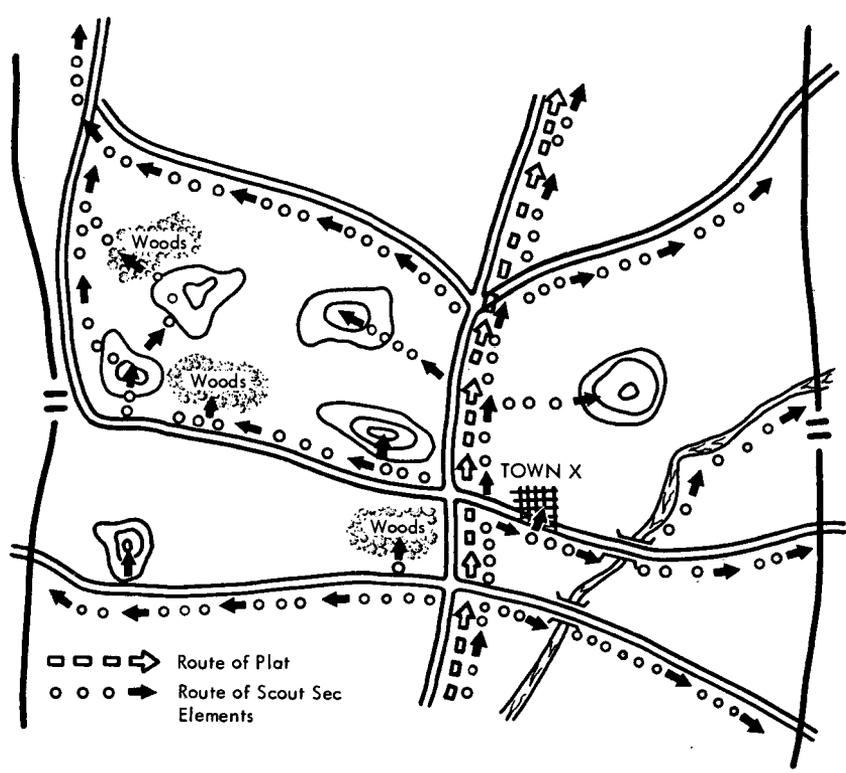


Figure 50. Route reconnaissance.

as that used for the zone reconnaissance. An example of such a mission is the reconnaissance of a bridge, town, possible enemy location, tentative assembly area, or possible contaminated area.

e. Reconnaissance by Fire.

- (1) Reconnaissance by fire is a technique used when time is critical or the terrain does not favor the employment of patrols. It is employed at the loss of secrecy because it discloses the platoon's location and alerts the enemy to its presence in the area.
- (2) Reconnaissance by fire is accomplished by firing into likely or suspected enemy positions in an attempt to cause the enemy to disclose his presence by movement or return fire. During reconnaissance by fire, personnel



NOTE: NOT TO SCALE

Figure 51. Zone reconnaissance.

with binoculars must continually observe the positions being reconnoitered so that any enemy movement or return fire is definitely located.

- (3) If the enemy returns the fire, the platoon proceeds to develop the situation. While reconnoitering, the platoon must exercise caution since reconnaissance by fire may fail to draw fire of seasoned troops.

f. Reconnaissance of a Bridge or Defile. Visual reconnaissance is made for enemy positions before the leading elements cross a bridge or pass through a defile. When mines, boobytraps, or ambushes are suspected, patrols from the scout section, covered by the tank section, reconnoiter the approaches, banks, and the bridge or defile. Reconnaissance of a bridge includes searching for demolition charges or weakened construction. Of particular importance in mechanized infantry units is the requirement

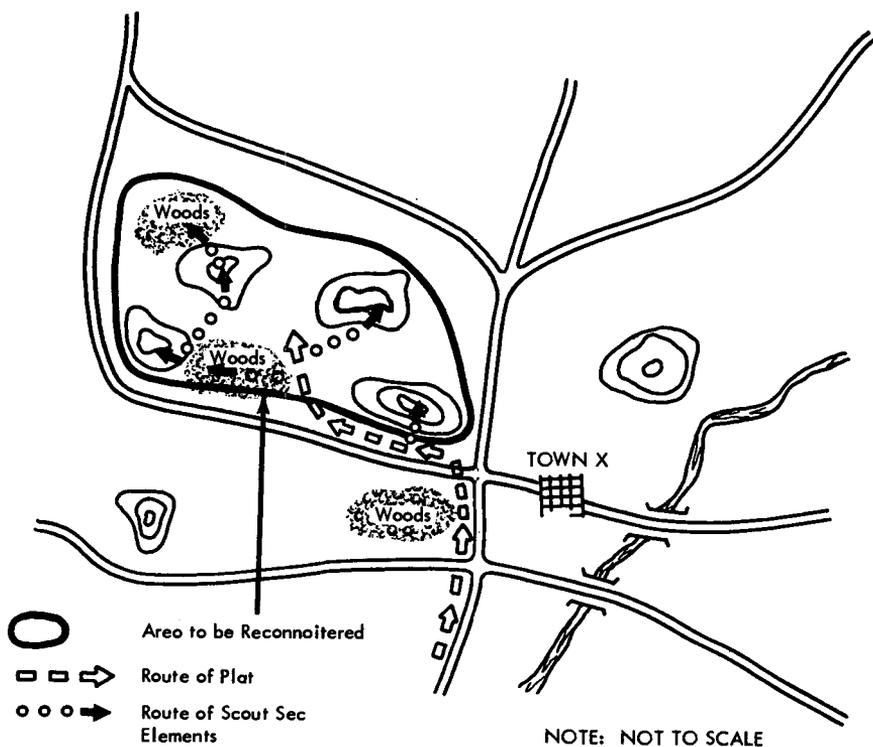


Figure 52. Area reconnaissance.

for determining weight classification of bridges. All personnel in the platoon must be proficient in this skill. Mines, boobytraps, or demolition charges must be removed or neutralized. Required technical assistance is obtained from direct support or attached engineer units if not within the capability of unit personnel.

g. Reconnaissance of a Town, Obstacle, or Enemy Position.

- (1) When the platoon has been assigned the mission of reconnoitering a town, obstacle, or enemy position, it makes an attempt to approach it from the flanks or rear. Where possible, detailed visual reconnaissance with binoculars precedes the actual reconnaissance.
- (2) When time is available, dismounted patrols from the scout section (or rifle squad in mechanized infantry battalion) move forward, covered by the remaining elements of the platoon. When patrols find the near edge of a town clear, the remainder of the unit moves forward. The dismounted patrols then continue the reconnais-

sance, over-watched and closely followed by the rest of the platoon.

- (3) When speed of advance is essential and time cannot be taken to approach towns from the flanks or to perform dismounted reconnaissance, the scouts accomplish the reconnaissance mounted. In this case, the scout elements, after a visual reconnaissance with binoculars and reconnaissance by fire, move forward rapidly, covered by the remainder of the platoon. If the near edge of the town is clear, the scout section moves forward and the advance continues. Vehicles move through the town by bounds in a staggered formation, close to the buildings, covering the buildings on the opposite side of the street by observation and fire.

h. Control.

- (1) The platoon leader controls and coordinates the movement of his platoon primarily by radio. He is prepared to move rapidly to any portion of his area to influence the action as required.
- (2) To assist in the control and coordination, the platoon may be assigned phase lines, check points, or contact points. Normally, the platoon reports but does not stop on reaching or crossing phase lines unless otherwise directed by the higher commander.

i. Reconnaissance Orders and Instructions.

- (1) Reconnaissance missions are assigned to the platoon as a unit. When more than one mission is assigned, a definite priority is established.
- (2) Instructions to the platoon leader must be complete and will include at least the following:
 - (a) Available information on the enemy and friendly troops in the area of operation.
 - (b) Plans of the higher commander.
 - (c) Specific information desired.
 - (d) Zone, area, or route to be reconnoitered.
 - (e) When, where, and how information is to be reported.
 - (f) Time of departure.
 - (g) Formations and control measures, such as phase lines, check points, and contact points.
 - (h) Time mission is to be completed.
 - (i) Actions upon completion of mission.
- (3) The platoon leader normally issues oral instructions to his platoon. Unless the immediate situation makes it impractical to do so, he assembles his squad and sec-

tion leaders to receive the order. After the reconnaissance begins, he disseminates necessary additional instructions by radio, messenger, or in person.

j. Reconnaissance at Night. Reconnaissance operations are slower and less effective at night. They are usually limited to dismounted patrolling, observation of routes, and the use of listening posts. Only against very light resistance and with favorable terrain and routes of advance can vehicular reconnaissance be used without being preceded by dismounted patrols. Except for short cross-country movements, night vehicular reconnaissance should be confined to the road net.

7. Security Operations, Reconnaissance Platoon

a. Definition and Purpose. Security includes all measures taken by a command to protect itself from enemy observation, sabotage, annoyance, or surprise. Its purpose is to gain and maintain freedom of action.

b. Fundamentals of Security.

- (1) *Orient on the main body.* A security force (i.e. the reconnaissance platoon or its elements) positions itself between the main body and a known or suspected enemy threat. This applies whether the main body is stationary or moving. In order for the security force to maintain this relative position, it must be provided maximum freedom of action. The security force orients its maneuver on the main body and regulates its rate of movement to that of the main body.
- (2) *Perform continuous reconnaissance.* Continuous and aggressive reconnaissance must be performed by all security forces. Through reconnaissance, the security force commander is able to keep the main body commander informed of the enemy encountered or observed as well as the condition of the terrain that may affect the overall mission of the main body. Such information enables the main body commander to revise his plans according to tactical requirements. Knowledge of the enemy location, strength, disposition, and composition will permit him to react to a threat. This same information is also used by the security force commander as a basis for adjusting his formation to position his units between the enemy and the main body.
- (3) *Provide timely warning.* The speed in which information of the enemy is reported by the security force is of primary importance. The main body commander must

have an early warning of the location and movement of enemy forces that constitute a threat to his mission. Timely warning permits the commander to choose the time and the place to engage the enemy.

- (4) *Provide space for maneuver.* A security force must operate at sufficient distance from the main body to provide maneuver space for the main body to react to an enemy threat. Two major considerations are—allowing the main body sufficient time to react to the threat; and sufficient space to accomplish the mission.
- (5) *Maintain enemy contact.* Once contact with the enemy has been gained, it must be maintained as long as the enemy presents a threat to the main body. The enemy forces must not be permitted to penetrate the security force unobserved and thus surprise the main body. If an enemy force moves out of the area of responsibility of a security force, action should be taken to inform the unit into whose area the enemy has moved. In such a situation, contact with the enemy force should be, whenever possible, maintained until the latter unit gains contact.
- (6) *Avoid decisive engagement.* The reconnaissance platoon avoids decisive engagements unless required as a part of its security mission.

c. *Security Missions.*

- (1) *General.* A security mission may include that of advance guard, rear guard, flank guard, screening force, covering force, maintaining contact or rear area security. These missions are accomplished by either offensive, defensive or retrograde actions.
- (2) *Advance guard.*
 - (a) An advance guard is a security detachment which operates ahead of the main body to provide early development of the situation; to insure the uninterrupted advance of the main body; to protect the main body against surprise; to cover the deployment of the main body if it is committed to action; and to facilitate the advance by removing obstacles, repairing roads and bridges, or locating bypasses.
 - (b) When the reconnaissance platoon acts as the advance guard alone, it employs a formation similar to the formation used in performing a route reconnaissance. The platoon is positioned in front of and along the route or axis of advance of the battalion. If the bat-

talion is moving on multiple axes, the platoon will normally move on the most dangerous axis.

- (c) The distance the platoon operates forward of the battalion is prescribed by the battalion commander. It is based on the known enemy situation, the terrain, the location of other friendly reconnaissance units, the rate of movement of the main body, and the mission of the battalion. The platoon performs continuous reconnaissance to the front and flanks. When the enemy is encountered, the platoon leader immediately deploys his platoon, reports the enemy contact to higher headquarters, develops the situation and takes appropriate action. The platoon leader must keep the battalion commander informed of the situation throughout the action.
 - (d) The platoon may bypass enemy resistance, depending on orders of the battalion commander. It may receive the mission of finding a bypass to be used by the remainder of the battalion.
- (3) *Flank guard.*
- (a) A flank guard is a security detachment that protects the flanks of the main body by a combination of visual reconnaissance, screening operations and delaying tactics within its capabilities, when required. It may be employed during offensive, defensive, or retrograde operations to protect the main body from ground observation, direct fire of hostile weapons, and surprise attack.
 - (b) The platoon provides flank security by occupying a series of screening positions that dominate likely avenues of enemy approach into the flank of the main body. The platoon regulates its rate of movement on that of the main body. The distance that the platoon is located to the flank of the main body is dependent upon the considerations of METT. If the area to be secured is too wide to be adequately covered by the platoon, the platoon leader should be permitted to cover part of the area by screening.
 - (c) When the platoon occupies a blocking position, the position is organized around the location of the tank section. The scouts provide additional security by establishing observation posts and/or patrols the area. Army aircraft may be assigned to ground security forces.

- (d) When conducting a flank guard mission, the area of responsibility of the platoon must be clearly delineated.
- (4) *Rear guard.* A rear guard is a security detachment that protects the rear of a column from hostile forces. The rear guard defeats or delays hostile forces attacking the rear of the main body, protects support elements, and collects stragglers. The rear guard follows the main body at a distance prescribed by the main body commander and usually moves on the axis of advance or route of the main body. The rear guard must not allow itself to be bypassed or driven in on the main body. The platoon performs reconnaissance to its flanks to insure that an enemy force does not envelop its flanks and attack the rear of the main body.
- (5) *Screening.*
- (a) A screening force is a security detachment employed when an extended front cannot be otherwise secured. It protects an area or a body of troops from surprise by observing and reporting enemy activity. Within its capability, the screening force destroys small enemy forces which enter its area of responsibility. The missions of the screening force are to—
1. Provide timely warning of enemy approach.
 2. Gain and maintain contact with, and report the movement of, enemy forces.
 3. Destroy or repel enemy patrols.
 4. Annoy and harass the advance of enemy forces.
- (b) A screening mission may be accomplished by aerial surveillance, a series of observation posts, electronic surveillance devices, and/or patrols employed to cover the approaches into the sector. When the reconnaissance platoon is employed as a screening force, the combat strength of the platoon is dissipated by nature of the mission. Consequently, the screening force is normally not able to offer strong resistance to the enemy. Although the primary mission is to provide timely warning and maintain contact with the enemy, it may attack to destroy or repel small enemy patrols that attempt to penetrate the screen.
- (c) In planning for, and conducting a screening mission, the reconnaissance platoon leader establishes a series of observation posts covering the area assigned. He employs patrols to cover the areas between the observation posts. Normally, the tank section is either

held in a central location, or positioned to block a likely avenue of enemy armor approach into the platoon sector. The tank section supports the observation posts by fire and assists in their withdrawal as required. Normally, the support squad is also centrally located where it can provide indirect fire support to the observation posts. The platoon accomplishes its mission by observing, reporting, and maintaining contact with enemy forces. The platoon leader moves his observation posts as required to maintain contact.

(6) *Covering force.*

(a) The mission of a covering force is to provide an early development of the situation, defeat enemy forces within its capabilities, and delay, deceive, and disorganize the enemy. A covering force operates beyond advance, flank, or rear guards and may be employed when the main body is engaged in offense, defense, or a retrograde movement.

(b) When the battalion is conducting a withdrawal and the reconnaissance platoon is acting as the reserve of the detachments left in contact, the platoon covers their withdrawal by blocking the most dangerous avenue of enemy approach. If the platoon is required to cover the entire battalion frontage, the techniques employed in a screening type mission are adopted. In this circumstance this type of mission is not considered a covering force mission as the platoon is not capable of fulfilling all of the requirements of a covering force.

(7) *Rear area security.* The platoon may be assigned a rear area security mission. It normally accomplishes this mission by establishing roadblocks and/or patrols to cover the critical approaches into the battalion rear area, as directed by the battalion commander.

(8) *Maintaining contact.*

(a) The platoon may be assigned the mission of maintaining contact with friendly or enemy units. Physical, radio, or visual contact may be prescribed for friendly forces.

(b) In a contact mission, the platoon uses the same techniques as prescribed for a reconnaissance or other security mission. The enemy situation, terrain, distances, involved, and the actions of the main body are

the factors determining which technique(s) it employs. Contact missions may be assigned in conjunction with reconnaissance or other security missions.

8. Movement to Contact

The reconnaissance platoon will normally be employed forward of the battalion in the movement to contact. The platoon will be used to locate enemy dispositions and reconnoiter routes or zones over which the battalion will advance. If a covering force is employed forward of the battalion, the reconnaissance platoon will maintain contact with that force, if practicable. Once the strength and location of enemy positions have been determined with a reasonable degree of validity, the battalion deploys for combat. The reconnaissance platoon then may be moved to a flank to provide flank security for the battalion.

9. Actions of Platoon Upon Contact

When the platoon makes contact, it follows four distinct steps.

a. Deploys. The vehicles move off the road and take up positions from which they can engage the enemy by fire.

b. Develops the Situation. The platoon leader proceeds to develop the situation as prescribed in paragraph 6b (5).

c. Chooses a Course of Action. After developing the situation, the platoon leader decides on a course of action. It may be to attack, delay, maintain contact, or bypass. The decision is based upon the considerations of METT.

d. Reports. The platoon leader makes a report to the battalion commander as soon as contact is made. In it he includes the enemy situation as it has been developed and the course of action adopted.

10. Platoon Plan of Attack

a. Essential Details. The plan of attack is designed to insure maximum coordination between the elements of the platoon throughout the operation. The plan must be simple but it must include certain essential details including the following, when appropriate:

- (1) The composition of the maneuvering force, the route it will follow to the objective, and its method of movement.
- (2) The composition and location of the fire support element, targets to be fired on, and control measures for lifting or shifting the fires.
- (3) Provisions for security during the attack, consolidation

of the objective, reorganization, and for resumption of the advance.

b. Maneuvering Force.

- (1) The maneuvering force advances rapidly and fires on all known and suspected targets when within effective range. Organic fires are reinforced by available supporting fires.
- (2) The scout section and/or rifle squad advances in vehicles as far as possible, dismounting when forced to by enemy fire or when dismounted action is required. Dismounted personnel mop up enemy elements not destroyed by fire. Dismounted personnel may advance ahead of the tank section to clear buildings or to locate well-hidden crew served weapons. Such personnel designates targets to the tank section commanders by the use of prearranged signals, radio, flares, smoke grenades, or traces; when tanks are employed, the external interphone located on the rear of the tank may be used.

c. Fire Support Element.

- (1) The fire support element opens fire on order on known and suspected enemy within the objective area. When the fire is masked by the maneuver force, it is lifted or shifted to the enemy flanks or rear. Fires are controlled by radio, wire, or prearranged signals.
- (2) The maneuvering force must be in position to fire on the objective before the supporting fires are lifted or shifted, and the maneuvering force moves directly onto the objective.
- (3) Direct fire weapons must be prepared to displace forward when their fires are masked.

d. Action on the Objective. When the platoon takes the objective, it consolidates it and reorganizes in preparation for future operations. The extent of consolidation and reorganization depends on the mission, time available, and losses suffered by the platoon. Reorganization includes making reports, evacuating casualties and resupply.

e. Command and Control. During the attack, the platoon leader places himself where he can best influence the action. Normally, this will be with the maneuvering force. The platoon sergeant controls those elements not directly under the control of the platoon leader.

11. Actions During Battalion Attack

- a.* The reconnaissance platoon does not normally operate for-

ward of the battalion in the attack, but is normally assigned a flank guard mission on the most dangerous flank. The platoon may also be given the mission of maintaining contact with adjacent units and manning ground and air observation posts.

b. When, after seizure of the objective, the battalion immediately resumes the attack toward a deep objective and no immediate enemy resistance is expected, the reconnaissance platoon normally functions as in the movement to contact.

c. When the battalion consolidates the objective prior to the continuation of the attack, the platoon may reconnoiter beyond the objective and maintain contact with the enemy, conduct screening missions to the front or flanks, or maintain contact with adjacent units.

d. When nuclear weapons are used by either friendly or enemy forces, the platoon may receive the mission of reconnoitering the area of detonation to determine the amount of damage and/or contamination in the area. Engineer and other personnel may be attached to the platoon for such a mission.

12. Pursuit

If the enemy resistance collapses, a pursuit may be ordered. When the battalion is engaged in the pursuit, the reconnaissance platoon functions generally as prescribed for the movement to contact. Every effort is made to gain and maintain contact with the withdrawing enemy.

13. Actions in Battalion Defensive Operations

a. The reconnaissance platoon normally operates initially with the security echelon. When a general outpost is established, it usually operates between the GOPL and the COPL. It maintains contact with the GOPL. While accomplishing this, the platoon reconnoiters the roads and trails in the area and establishes temporary observation posts to observe particular areas. It also reconnoiters for enemy approaches and possible locations of future enemy assembly areas and weapon positions. It recommends locations for concentrations as part of the long range defensive fires. It is capable of performing a combination of these missions simultaneously. Upon the withdrawal of the GOP through the COPL the platoon may operate battalion observation posts on the FEBA or COPL, provide additional security between the FEBA and COPL, maintain contact with adjacent units, conduct a flank guard mission on an exposed flank, or perform a security mission in the battalion rear area.

b. Its ability to perform more than one of these missions simultaneously is limited.

c. When there are no friendly forces operating forward of the battalion, the platoon may conduct a screening mission to the front, maintaining visual contact with the enemy as he approaches.

d. The reconnaissance platoon of a reserve battalion normally performs reconnaissance and security missions throughout the battalion area of responsibility. When the reserve battalion is committed to the counterattack, the platoon functions as prescribed for the attack.

14. Conduct of Platoon Defensive Operations

a. *General.* The platoon operating alone is extremely limited in its ability to conduct a prolonged defense. However, in the conduct of reconnaissance and security missions, it may be required to defend an area for a limited time. Defense may be an assigned mission for the platoon or may be forced by enemy action.

b. *Reconnaissance and Selection of Positions.*

- (1) When assigned a defensive mission, the platoon leader, accompanied by his section and squad leaders, should make a thorough reconnaissance of the area to be defended.
- (2) The platoon defensive position should control the area in which it is located; take maximum advantage of natural obstacles; afford good observation and fields of fire; offer concealment and cover; and have a concealed route for occupation from the rear. The terrain to the front should offer a minimum number of covered approaches for the enemy.
- (3) Detailed plans must be made to integrate all available fires. The platoon leader assigns sectors of fire to each segment of the platoon, and final protective fire to machineguns to insure that the entire platoon area of responsibility is covered.

c. *Occupation and Preparation of Platoon Defensive Position.*

- (1) The platoon leader assigns specific areas of responsibility to each element of the platoon. Local security to the front and flanks of the position is provided by establishing observation posts to give early warning of enemy approach. Listening posts may be used at night or when observation is limited. Patrols are used to cover areas not otherwise under observation or covered by fire.

- (2) The platoon defensive position is organized around the tank section. The primary position selected for the tank section covers the most likely avenue of enemy armor approach into the position. Supplementary positions are then selected to cover other possible approaches.
- (3) The rifle squad (mechanized infantry battalion only) is located to provide maximum firepower to the front and flanks of the position and to protect the tanks from hand-carried antitank weapons or devices. Fire teams are placed so they can fire across the front and flanks of the platoon defensive position. If hull defilade positions are available, the armored personnel carrier should be employed in the squad area in order that the vehicular-mounted machinegun can be used to increase the defensive firepower of the platoon. The organization of the squad position may change at night so as to provide better close-in defense and protection.

d. Platoon Order for Defense. The platoon leader issues his orders orally to the key noncommissioned officers of the platoon, preferably at the position to be defended. This enables the platoon leader and section and squad leaders to become thoroughly familiar with the area and reduces the possibility of misunderstanding. The order should be issued in time to permit the section and squad leaders to make a reconnaissance of their areas to be defended.

e. Conduct of the Defense. The enemy approach is detected as far forward of the defensive position as possible. Long range fires are normally brought to bear as he comes within range. As the enemy approaches the defensive position, he is brought under increasing volumes of fires. Each weapon takes the enemy under fire as he comes within range. If the enemy envelops the flanks of the position or succeeds in penetrating it, the platoon leader adjusts his forces as necessary. The platoon leader, throughout the conduct of the defense, keeps the battalion commander advised of the situation. The platoon defends its position until other action is directed by higher headquarters.

15. Actions During Battalion Retrograde Operations

a. General. When the battalion is conducting various types of retrograde operations; i.e., withdrawal, delaying action, or retirement, the platoon normally operates under battalion control. The techniques employed are usually determined by the enemy situation and the degree of visibility, i.e., whether the operation is conducted during daylight or the hours of darkness.

b. *Night Withdrawal.* The platoon normally is left as the reserve element of the battalion detachments left in contact. It patrols or blocks the most likely avenue of enemy approach into the battalion rear area. It may act as a security element to assist the withdrawal of the detachments left in contact. The platoon may perform the task of maintaining contact with the enemy during the withdrawal. The priority of these missions is determined by the commander of the detachments left in contact.

c. *Daylight withdrawal.* The platoon may perform the missions to protect a battalion flank; maintain contact with the enemy; give warning of hostile movement; and, within its capabilities, harass, delay, and destroy pursuing forces. It may be attached to the battalion covering force to perform similar missions.

d. *Delaying Action.* In the conduct of a delaying action, the platoon will initially perform missions as indicated in a withdrawal. After the withdrawal of the detachments left in contact or the covering force, the platoon may assume the role of rear guard, execute demolitions, direct fires, and delay the enemy within its capabilities.

e. *Retirement.* The platoon may be directed to perform any of the normally assigned reconnaissance and/or security missions.

16. Conduct of Platoon Retrograde Operations

a. *General.* The platoon frequently conducts delaying actions in accomplishing a reconnaissance or security mission. The action is conducted on a series of delaying positions.

b. *Selecting Delaying Positions.* Whenever possible, the delaying positions should be on commanding terrain. They should have good observation and fields of fire, concealment and cover, obstacles to both front and flanks, and routes of withdrawal. The platoon leader reconnoiters the initial delaying position and normally sends the platoon sergeant to reconnoiter each succeeding position.

c. *Organizing the Position.* A delaying position is organized in generally the same manner as prescribed for the defense. The platoon is positioned on commanding terrain that covers one likely avenue of enemy approach, preferably with only one avenue leading into the position.

d. *Conduct.* The action on the delaying position is similar to that prescribed for the defense, except that the platoon avoids close combat. When the position is in danger of being overrun, or at a specified time, the platoon withdraws to the next delaying position.

e. Withdrawing to Subsequent Positions. The platoon holds each delaying position until forced to withdraw or to comply with orders from the battalion commander. In either case, the platoon must have prior permission to withdraw. If the platoon is forced to withdraw by enemy action, the platoon leader must inform the battalion commander in sufficient time to obtain authority to withdraw before becoming decisively engaged. He must keep the battalion commander informed as the situation progresses. The platoon may withdraw from the delaying position as a unit or by squads and sections. In either case the platoon leader normally withdraws with the last element to leave the position.

APPENDIX V
BATTALION COMMUNICATION SYSTEM AND
COMMUNICATION PLATOON

Section I. GENERAL

1. Introduction

a. The battalion commander is responsible for communication within the battalion and for the battalion functioning as part of the brigade and division signal system. All subordinate commanders of the battalion are responsible for the communication systems within their commands.

b. A properly established communication system provides the commander with parallel means of communication for efficient command, control, and administration of his unit. The system provides the commander with the capability to control the actions of his units; to coordinate his supporting fires; to receive and transmit orders and information; to maintain contact with higher, lower, attached, supporting, and adjacent units; and to coordinate administrative support matters.

c. Establishing and maintaining communication between units is governed by the following rules:

- (1) The superior unit is responsible for establishing and maintaining communication with the subordinate (including attached) units and units under operational control.
- (2) A unit supporting another is responsible for establishing and maintaining communication with the supported units.
- (3) Lateral communication between adjacent units is established and maintained as directed by the next higher common commander. In the absence of specific instructions, the commander of the unit on the left establishes and maintains communication with the unit on his right. Lateral radio communication among battalions within a brigade is undertaken without prior arrangement on the brigade AM and FM command nets.
- (4) Although one unit is specifically charged with establishing communication with another unit if communication is lost, all affected units try to regain it immediately.

2. Organization and Functions in the Battalion

a. The communication platoon and communication personnel organic to the headquarters company install, operate, and maintain all communication facilities within the battalion headquarters. In addition, these elements establish and maintain communication to the rifle companies, elements of the headquarters company and attached and supporting units. They provide continuous communication for the battalion headquarters by using all means of communication.

b. *The infantry and airborne infantry battalion communication platoon* consists of three sections and is commanded by the battalion communication officer. The sections may be made up into the following teams of varying personnel strength, depending on each team's mission, the priority of the operation, and the type of terrain over which the unit is operating.

- (1) The platoon headquarters consists of the communication chief, two senior radio mechanics, two radio mechanics, and one light truck driver.
- (2) The message center section consists of a chief message clerk, one senior message clerk, two message clerks, and two motor messengers.
- (3) The wire section consists of a wire foreman, three wire team chiefs, three senior wiremen, three wiremen, one senior switchboard operator, and one switchboard operator.
- (4) The forward air control team consists of two intermediate speed radio operators.

c. *The mechanized infantry battalion communication platoon* is also commanded by the battalion communication officer. The platoon is *not sectionalized* as in the infantry and airborne infantry battalions but is organized as a single element to perform communication functions. Included in the platoon are the following:

- (1) One communication chief.
- (2) One senior radio mechanic.
- (3) Two radio mechanics and one radar mechanic.
- (4) One senior message clerk.
- (5) Two message clerks.
- (6) Two motor messengers.
- (7) One senior wireman.
- (8) One switchboard operator.
- (9) Two wiremen.
- (10) One APC driver.
- (11) Two intermediate speed radio operators.

d. In addition to those personnel organic to the communication platoon, the battalion headquarters is provided communication personnel organic to the battalion headquarters section who operate as part of the S3 and S4 staff sections. A team chief and two radio teletypewriter (RATT) operators are provided for each of the two RATT stations at battalion. Two intermediate speed radio operators are also provided for the S3 Air's AM radios.

e. The general functions of the platoon are as indicated below:

- (1) *Maintenance.* In the infantry and airborne infantry battalion, all second echelon maintenance of signal equipment organic to the battalion is performed by the radio mechanics in the communication platoon. In the mechanized infantry battalion radio mechanics in the communication platoon perform second echelon maintenance of signal equipment organic to the battalion headquarters company. They also provide some backup second echelon maintenance for the mechanized rifle companies which have an organic radio mechanic. Evacuation of signal equipment from battalion elements is processed through this platoon.
- (2) *Message center.* The message center functions as the battalion communication center. It includes all message handling facilities and cryptographic facilities. In the mechanized infantry battalion, the message handling personnel may also be required to monitor FM radio nets using the set mounted in the APC.
- (3) *Forward air control.* Two intermediate speed radio operators in the platoon operate the AM radios as a part of the forward air control team. The forward air controller (FAC) is an Air Force officer normally attached to the battalion and supervises team operations.
- (4) *Wire.* In the infantry and airborne infantry battalions, the wire section (three teams) installs the wire system of the battalion. This system includes lines to the commander, staff, elements of headquarters company, subordinate companies, and attached units. In the mechanized infantry battalion a limited wire system may be installed. Since only three wiremen are available in the mechanized infantry battalion, assistance may be required from the switchboard operator, motor messengers, and message center clerks.
- (5) *Radio.* The communication platoon operates a station in the battalion FM command net as required. For other

radio communication within the battalion headquarters see *c* above.

3. Duties of Communication Chief and Mechanics

a. The *communication chief* is the principal enlisted assistant to the platoon leader. His duties include—

- (1) Organizing the advance echelon for displacement of the command post.
- (2) Coordinating the work between the elements of the platoon.
- (3) Supervising the selection of locations for communication installations.
- (4) Supervising ground-to-air communication.
- (5) Insuring that records are properly maintained.
- (6) Insuring that assigned vehicles and equipment are maintained and dispatched correctly.
- (7) Supervising the activities of the assigned radio mechanics.
- (8) Keeping the platoon leader informed as to status of maintenance of all equipment and vehicles.

b. The *senior radio mechanics'* duties include—

- (1) Second echelon maintenance of radio sets and other signal equipment organic to the battalion headquarters.
- (2) Maintaining records of maintenance and of modifications performed on each item of signal equipment in the battalion headquarters.
- (3) Maintaining the authorized level of repair parts for signal maintenance and keeping the communication chief informed of the status of signal maintenance and the supply of authorized repair parts.
- (4) Coordinating with the radio team chiefs for the prompt repair of any radio or radioteletype equipment requiring repair beyond the capabilities of organizational maintenance. This repair work may be completed by the mobile signal repair team of the forward support company from the maintenance battalion.
- (5) Supervising the radio mechanics.

c. The *radio mechanics'* duties include those duties listed in *b*(1) through (3) above. In addition, one mechanic performs the duties of a light truck driver for the $\frac{3}{4}$ -ton truck of the platoon headquarters.

d. The *radar mechanic* performs 2d echelon maintenance on all surveillance radar equipment in the battalion.

4. Duties of Message Center Personnel

a. The *chief message clerk* (communication chief in mechanized infantry battalion) is responsible for the discipline, training, and operation of the message center element. His duties include—

- (1) Selecting the exact location for the message center and messenger station and establishing the message center facilities.
- (2) Processing, filing, servicing, and selecting the method of transmission for outgoing messages.
- (3) Supervising the operation and first echelon maintenance of message center equipment.
- (4) Checking the flow of message traffic and reporting to the originator when a message cannot be delivered within the prescribed time.
- (5) Supervising cryptographic procedures of communication clerks and manual teletypewriter operators.
- (6) Maintaining a status log on the effectiveness of each means of communication.
- (7) Signing for messages delivered by scheduled or special messengers.
- (8) Keeping the official time.
- (9) Supervising messenger communication.
- (10) Posting message center signs or guides.
- (11) Maintaining a record of the locations of command posts of units with which the battalion maintains communication, including the best routes to them.
- (12) Maintaining a supply of message center forms.
- (13) Scheduling of message center personnel to provide operations on a 24-hour basis.

b. The *senior message clerk's* duties include—

- (1) Assisting the chief message clerk and/or communication chief.
- (2) Supervising one of the message center teams during displacement of the command post.
- (3) Encrypting and decrypting messages as required.
- (4) Receiving, recording, and dispatching incoming and outgoing messages and documents.
- (5) Maintaining a code file of processed messages.
- (6) Processing encrypted messages, to include insertion of call signs when messages are to be transmitted by electrical means.

c. *Message clerks*—assist the senior message clerks in the duties indicated above.

d. *Messengers'* duties include—

- (1) Carrying oral or written messages showing all conditions of visibility, terrain, weather, and enemy activity.
- (2) Driving and performing required driver maintenance on the messenger vehicles.
- (3) Performing other communication duties as directed.

5. Duties of Wire Personnel

a. The *wire foreman* (communication chief in mechanized infantry battalion) is responsible for the discipline, training, and operation of the wire section. His duties include—

- (1) Selecting the exact locations for wire installations.
- (2) Supervising the wire team chiefs (senior wiremen in mechanized infantry battalion) in the installation, operation, and maintenance of the wire system within the command post and to all subordinate or attached units.
- (3) Selecting general routes for wire lines.
- (4) Preparing and recording line route maps, circuit diagrams, and traffic diagrams.
- (5) Keeping the communication chief informed of the status of wire communication.
- (6) Maintaining a sufficient supply of wire and other necessary supplies to permit continuous wire operations.
- (7) Keeping records such as status of wire supply and the maintenance forms on wire equipment.
- (8) Supervising the driver maintenance of the vehicle in the section.
- (9) Allocating wiremen to the wire teams based on the current mission of each team.
- (10) Supervising the first echelon maintenance of wire equipment.

b. Duties of the *wire team chief* (senior wireman in mechanized infantry battalion) include—

- (1) Assisting the wire foreman.
- (2) Supervising the wiremen, as organized into teams, in the correct techniques of laying and maintaining the wire lines.
- (3) Selecting wire routes and assisting in the preparation of line route maps and circuit diagrams.

- (4) Insuring that wire lines are policed so as to minimize their damage by traffic and enemy fire.
- (5) Informing the wire foreman (or communication chief in mechanized infantry battalion) of the status of wire supply and the serviceability of wire circuits.

c. *Wiremen's* duties include—

- (1) Installing, testing, and maintaining wire circuits and telephones.
- (2) Tagging, testing, and splicing field wire lines.
- (3) Locating and correcting trouble in wire lines.
- (4) Operating switchboards.
- (5) Keeping the wire team chief (senior wireman in mechanized infantry battalion) informed of the status of wire communication and wire supply.
- (6) Driving and performing proper driver maintenance of wire section vehicles.
- (7) Performing other communication duties as directed.

d. The *switchboard operators'* duties include—

- (1) Installing, operating, and performing first echelon maintenance on switchboards.
- (2) Preparing and maintaining traffic diagrams.
- (3) Routing traffic and rerouting calls when normal circuits fail.
- (4) Supervising traffic to insure satisfactory service to the user.
- (5) Performing other communication duties as directed.

6. Duties of Radio Personnel

a. The *radioteletypewriter team chiefs'* duties include—

- (1) Supervising the installation, operation, and first echelon maintenance of radioteletypewriter equipment.
- (2) Preparing operators' work schedules to provide operations on a 24-hour basis.
- (3) Performing duties of radioteletypewriter operator as required.
- (4) Informing the communication chief and section chief of the current status of radioteletypewriter communication.
- (5) Coordinating with the radio mechanics for the repair of radioteletypewriter equipment.
- (6) Informing the communication chief of the status of parts supply.
- (7) Assisting in operations and other functions as directed.
- (8) Insuring that visual signaling equipment is available.

b. The *radioteletypewriter operators'* duties include—

- (1) Setting up and operating manual and radioteletypewriter equipment.
- (2) Transmitting messages, correcting message errors, and obtaining receipt for completed transmission.
- (3) Receiving and processing incoming teletypewriter messages and preparing such messages in proper format for delivery.
- (4) Performing first echelon maintenance on radioteletypewriter equipment.
- (5) Establishing and posting station logs.
- (6) Driving and performing driver maintenance on assigned vehicles.
- (7) Performing other communication duties as directed, particularly during periods when radio stations are under silence or in standby status.

7. Duties of Light Truck or APC Driver

(TM's 21-300, 21-301, 21-305, 21-306.)

Duties of the light truck or APC driver include—

- a.* Driving and performing driver maintenance on assigned vehicles.
- b.* Operating and performing first echelon maintenance on radio as required.

8. Duties of Intermediate Speed Radio Operators

Duties of the IS radio operators include—

- a.* Installing and operating AM radio sets.
- b.* Performing first echelon maintenance on AM radio sets.
- c.* Performing first echelon maintenance on assigned vehicles as required.
- d.* See paragraph 2*d* and *e*(3) above.

9. Means of Signal Communication

a. Signal communication includes all means of conveying information of any kind from one person or place to another except by direct conversation and mail. In this manual, the term signal communication is abbreviated to communication except where misunderstanding might result.

b. The means of communication available to the battalion are wire, radio, messenger, visual, and sound. The composition of the means in each unit is limited by the personnel, equipment, and transportation provided by the TOE and the unit or higher com-

mander. The various means have different capabilities and limitations. They are used so that they supplement each other, and entire dependence is not placed on any one means. The reliability of communication systems is greatly increased by the use of all practical means. The means used most in a given situation is the one that provides maximum reliability, flexibility, secrecy, and speed with a minimum of effort and material.

10. Wire Communication

a. Wire is a principal means of communication and includes the use of field wire, wirelaying and recovery equipment, battery-operated and sound-powered telephones, switchboards, teletype-writers, and associated equipment. Except for the transmission of messages such as maps and documents, wire communication is highly effective. It affords person-to-person conversation with break-in operation (capability of interrupting the conversation) and is more secure than radio communication. However, security is never assured when transmitting in the clear. The decision to establish wire communication depends on the need for it and the available time to install and use it. The supply of wire on hand, the expected resupply, and the future needs also are considered. Wire communication can be used in most terrain and situations. Tables of organization and equipment provide the units with the equipment to install and maintain their wire communication systems.

b. Using battery-operated telephones, the maximum operating range of field wire circuits is approximately 37 kilometers. Using the sound powered telephone TA-1/PT, the dependable range is from 6 to 13 kilometers. The range of wire communication varies, depending principally on the weather and the condition of the wire. (Wet weather, poor splices, and damaged insulation reduce the range appreciably.) The operating range can be increased by using electrical repeaters or amplifying telephones. Cable is used to increase the telephone range and the available number of circuits, but it is issued only to the division signal battalion and higher echelons.

c. It takes longer to install wire communication than any other means. The time for installation depends mainly on the length of the line and the method of laying it (aircraft, vehicle or man-pack). Wire can be laid by men on foot at about 3 kilometers per hour and by vehicle at 5 to 8 kilometers per hour. In estimating the required time, it is necessary to consider the number of available personnel, their training, the terrain, routes, weather, enemy action, and visibility. One man can lay a wire line by using a

wire dispenser or light reel. When the terrain or the tactical situation precludes conventional methods of wire laying, Army aircraft (both fixed- and rotary-wing) can be used for this purpose. Wire from dispensers can also be cast a short distance over an obstacle (such as a stream) by attaching it to a rifle grenade or rocket fired from a launcher.

d. Wire lines are laid off roads with 15 to 20 percent slack. They are placed overhead in command posts, mechanized unit operating areas, or other areas where it is impracticable to bury them or leave them lying on the ground. In crossing roads, wire may be buried, placed overhead, or run under bridges and culverts. Areas are avoided where wire is likely to be damaged by traffic or enemy fire. Part of a wire team lays the wire and the remainder of the team polices it (throws it off the road, makes road crossings, splices, etc.). The laying of wire lines is not delayed for policing it.

e. Switchboards are used to increase the flexibility of wire systems and to reduce the number of lines needed. Party lines may be used to expand the subscriber capacity of the various switchboards in the battalion.

f. The number of telephone messages that can be transmitted simultaneously over a wire system is limited. For this reason, calls are kept brief; the telephone is reserved for occasions when there is need for discussion, speed, and relative secrecy. During critical periods, the telephone may be restricted to designated personnel, except for emergency calls. Telephones are not used for long reports or orders when other means can be used effectively. To reduce the time the telephone is in use and to facilitate entry in the unit journal, messages are written or notes are prepared before a conversation begins.

g. Manual teletypewriter service is not available at battalion level; however, it is at brigade. Teletypewriters provide both division and brigade headquarters with a written record of messages exchanged. Teletypewriter equipment in the brigade communication platoon increases substantially the volume of messages that can be handled by the brigade.

11. Radio Communication

a. Radio is a principal means of communication within the battalion. Radios are provided for all commanders including squad leaders. Additional radios are provided for command posts, fire control, and other uses. All sets issued within the battalion are capable of voice operation. This affords person-to-person communication between ground stations and between ground stations and aircraft. Radio communication is less vulnerable to enemy

fire than wire, but it is subject to interference from static, jamming and other radio stations. Its reliability is limited by the skill of the operators. Security requirements may restrict its use in certain operations, and need for encoding messages slows down the delivery time.

b. Radio equipment issued to the battalion includes portable and vehicular radio sets. Portable sets can be carried and operated by one man. Since vehicular sets are normally operated from vehicular power sources, their use is limited to situations and terrain where vehicles can be utilized. To permit proper siting of vehicular sets, remote control equipment must be used extensively. Modification kits are available as auxiliary equipment to permit the use of certain vehicular set components in a dismounted role.

c. The tactical use of a radio set depends on its characteristics. To be capable of operating together, radio sets must have a common or overlapping frequency range, transmit and receive the same type of signal, be located within the operating range of the weakest set in the net, and be of the same type modulation. The operating range given in technical manuals pertaining to an individual radio set is for average conditions; the range obtained may be more or less, depending on the operator's skill, weather, terrain, interference, use of proper antennas, and location of the set. Power lines and steel structures located close to operating sites reduce operating ranges. The greatest ranges are obtained between sites affording line of sight operation, including siting by means of Army aircraft radio relay.

d. Radio is the least secure means of communication. It must be assumed that interception takes place every time a transmitter is placed in operation; therefore, communication security is a constant consideration when using radios. The enemy obtains valuable intelligence information merely by knowing that friendly radios are operating, by analyzing the number of radios in operation, the volume of traffic, and by determining the locations of the sets. The use of radio may be restricted or prohibited for security reasons. Important measures for defense against enemy radio intelligence are listening silence and cryptography. Normally, messages are encrypted before being sent by radio. The decision to silence radios or to send messages in the clear is made after all the factors have been carefully considered. For example, radios are not silenced when the commander determines that the need for radio communication outweighs the value of the information that the enemy might gain. Usually they are not silenced within units in contact with the enemy. A message is sent in the clear when prompt action is called for and the urgency of sending the

message in the clear outweighs the value of the information to the enemy.

e. Since only one station can transmit at a time, the message-handling capacity of a radio net is limited. The time required for a message transmission to its addressee is primarily dependent on whether it is encrypted or sent in clear text and on the volume of traffic of similar or higher precedence awaiting transmission. The speed and message handling capacity of a radio net is increased by training all operating personnel in radio procedure and net discipline, and by training the using personnel in message writing. Messages that are written before transmission can be sent more efficiently.

f. The power supply is an important factor in radio communication. Used dry batteries, when approaching the end of their service life, reduce the range of the sets and may render them inoperative at a crucial moment. An adequate supply of serviceable batteries should be maintained for dry battery-operated sets. Every effort should be made to obtain maximum service from the batteries through operator training and supervision, and by maintaining a log of hours and conditions of use for each battery pack.

g. By using certain types of remote control equipment, a radio operator may be located at a distance from the set he operates. Other remote control units connect a radio set to a switchboard, which makes the radio available to commanders and staff officers through their telephones. Remote control facilities are normally established at the battalion CP.

h. The battalion maintains communication to higher and adjacent headquarters over telephone circuits provided by the brigade and division area communication system and by direct lateral telephone circuits between battalions whenever possible. Battalions also operate subordinate stations in the following brigade and division radio nets:

- (1) *Brigade command net RATT* (Radio teletypewriter). The battalion operations section operates in this net from the command post area. This net is used to extend the communication range for the battalion and to transmit situation and other detailed reports to the brigade operations section. When authorized, it may be used for communication to other battalions and supporting units in the net.
- (2) *Division administrative/logistical net RATT*. The battalion logistics officer (S4) and his section operate one medium power RATT station in this net. This radio is located in the combat trains (under control of the S4),

or at the field trains (controlled by the support platoon leader as the assistant S4). This net provides a means for transmission of administrative and logistical information to the division support units. When authorized and when the traffic load permits, this net may be used for communication with attached and supporting logistical elements of the brigade.

- (3) *Division air request net AM*. The battalion S3 Air operates a subordinate station from the command post area in this net, using voice or CW.
- (4) *Division warning AM broadcast net*. An AM receiver is monitored by the S3 Air in this voice net, which is used to transmit alerts, warnings, and CBR data.

i. The battalion maintains the following radio nets to subordinate units:

- (1) *Battalion command net FM* (figs. 53 and 54). Tactical command and control from the battalion commander to commanders of subordinate and attached elements and staffs is provided by this net. Battalion staff members also operate in this net, which is controlled by the S3 for operational interstaff coordination and communication to subordinate and attached elements. Support elements such as artillery, engineer, and tactical air representatives may enter this net.
- (2) *Battalion logistical net FM* (figs. 54 and 55). This net is used for the transmission of administrative and logistical messages, primarily between rifle companies, the support platoon of battalion headquarters company, and the command post and combat trains areas. The battalion S4 operates the net control station and uses the net to contact the field trains. The rifle company executive officers and certain staff members also operate in this net for coordination of administrative and logistical matters. Elements of attached and supporting units may also maintain a station in this net for coordination of administrative and logistical matters.

j. The battalion organized for combat includes supporting elements that enter either the battalion command or logistical net. These elements also maintain communication with their parent organization and may include artillery, engineers, medical, ordinance, and other elements.

12. Messenger Communication

a. Messenger, the most secure means of communication, is flexi-

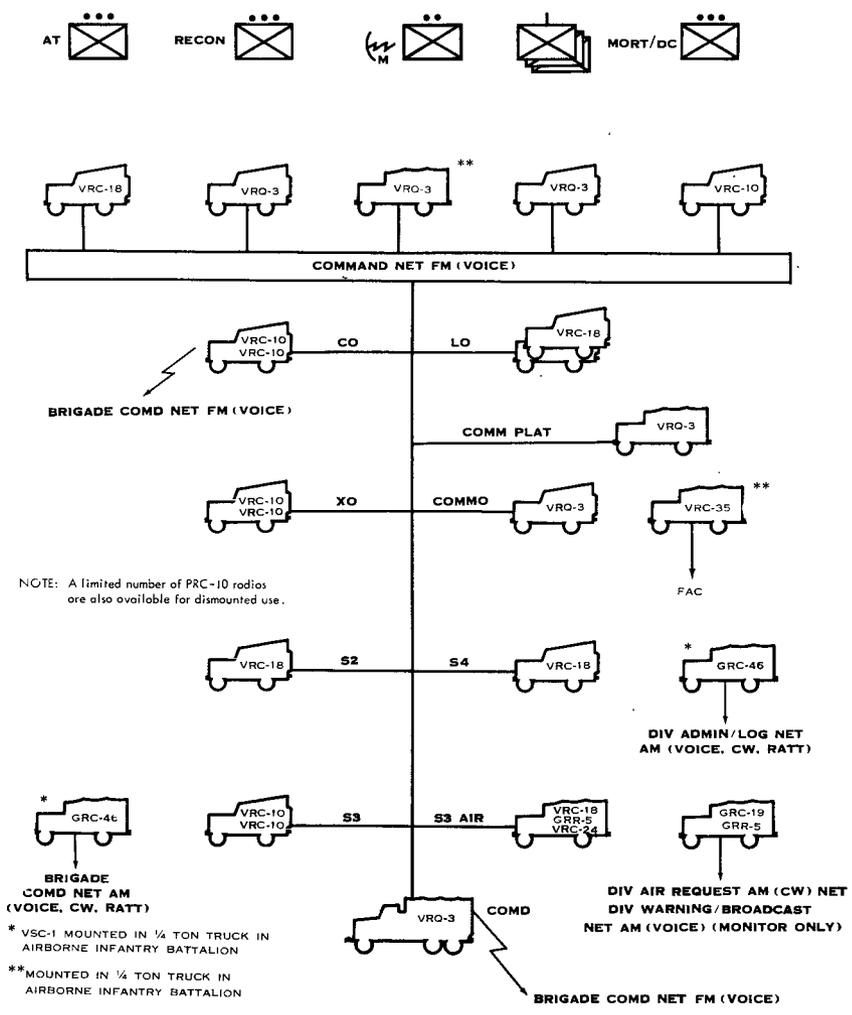


Figure 53. Command net FM (Voice), infantry and airborne infantry battalion.

ble and reliable. Messenger service has some limitations in that it is vulnerable to enemy action in forward areas and does not permit conversation between the originator and the addressee. It is the only means available within the battalion for transmitting messages such as maps and documents. Messengers are used when security is required and when the time of delivery by messenger is less than that required for message preparation and transmission by other means. Messengers are the best means for trans-

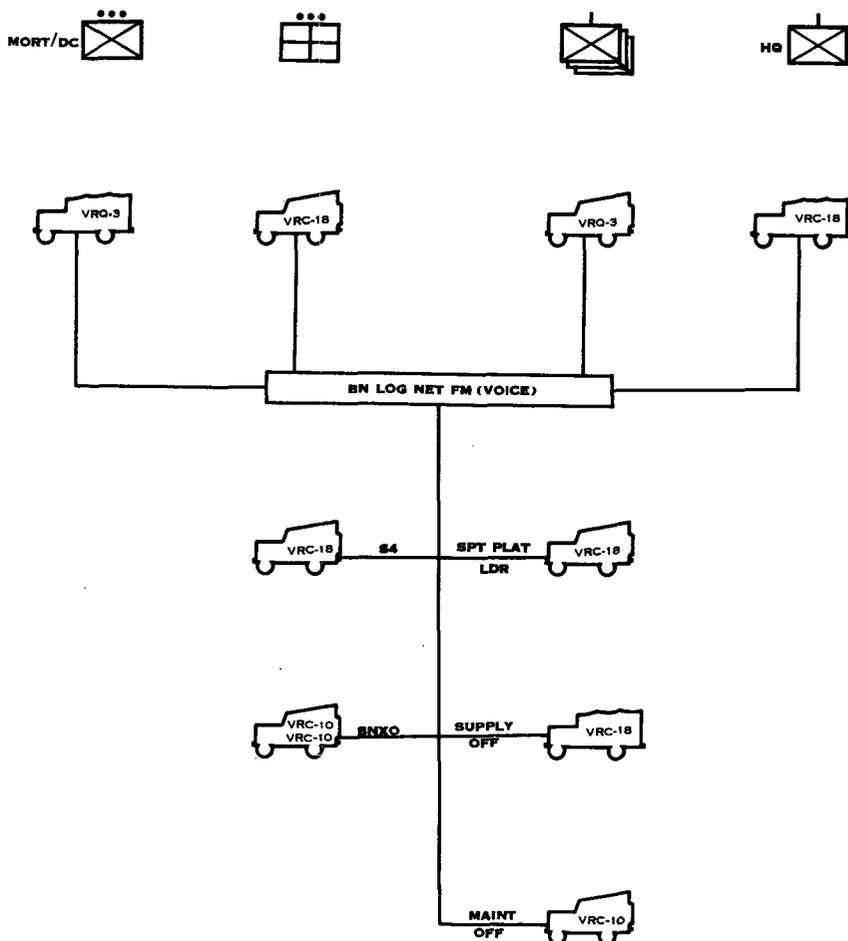


Figure 54. Logistical net, infantry and airborne infantry battalion.

mitting long messages over short distances. They may travel by foot, motor vehicle, or aircraft. The efficiency of messenger service is improved by the proper selection and training of the messengers.

b. Double messengers are used when the missions involves great personal risk. They keep within sight of each other, but far enough apart to avoid simultaneous ambush or exposure to the same shell or burst of fire. Very important messages may be sent over two different routes utilizing either single or double messengers. Messengers are briefed on their route, rate of travel, and the location of the delivery points. They are told if an answer is expected. If a messenger cannot locate his destination or become

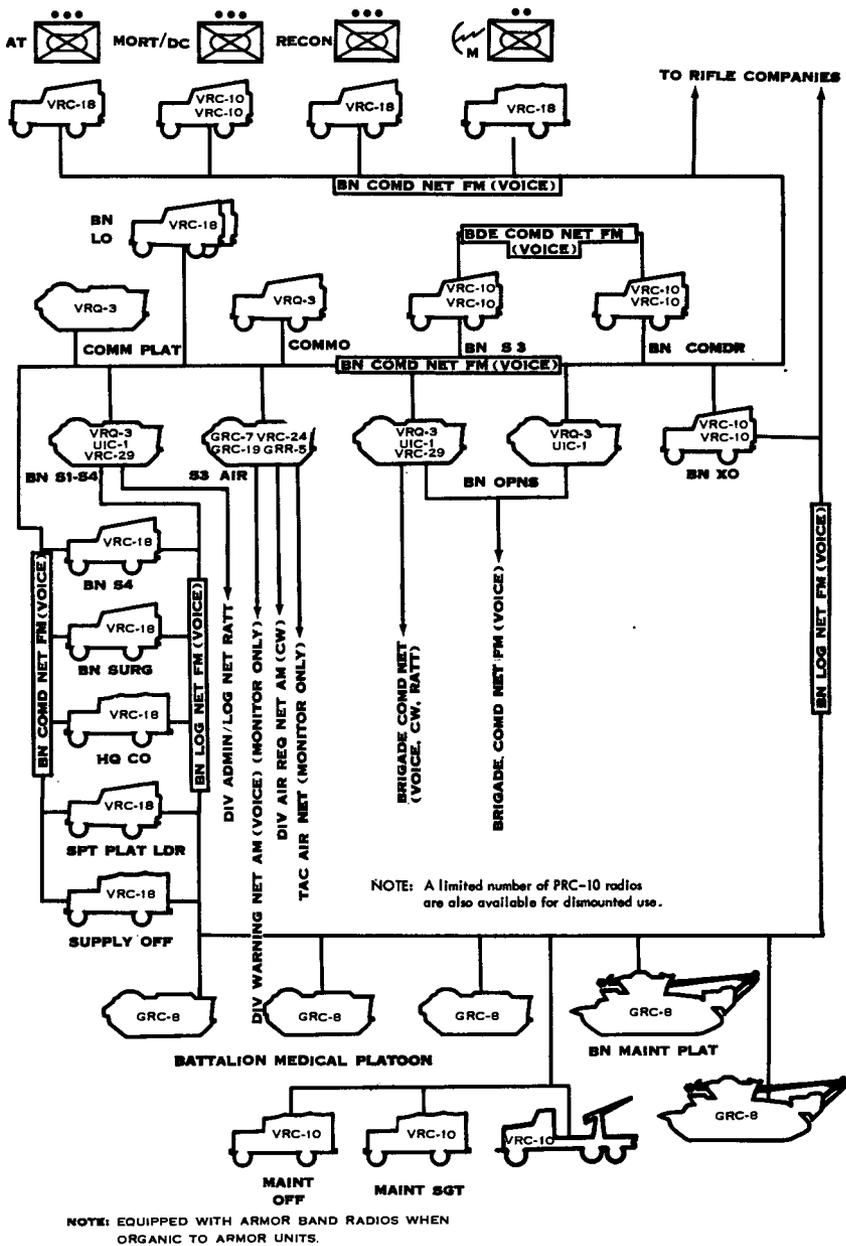


Figure 55. Command/logistical net, mechanized infantry battalion.

lost, he reports to the nearest command post and requests assistance. When practicable, a daylight reconnaissance is made of the routes that are to be traveled at night. Oral messengers are kept short and simple. They are not used when time and security permit their being written.

c. When required by the urgency of the message, special messengers are used. When locations are fixed and the amount of traffic warrants a fixed schedule, a scheduled messenger service is established. Messenger relay posts may be established when messages are carried frequently between the same points or units, and when distances, difficult terrain, and hostile activity make them desirable.

13. Visual Communication

a. The use of visual signals is a supplementary means of communication. Visual signals are transmitted by flags, lights, pyrotechnics, panels, arm-and-hand, and other prearranged visual means. They are suitable for transmitting prearranged messages rapidly over short distances when their use is not prohibited for security reasons. The enemy may use similar signals for deception and confusion. Visual signals are easily misunderstood. They cannot be used during poor visibility or when line of sight locations are not available.

b. Improvised signaling lights such as flashlights may be used to send prearranged messages. The meanings are given in the SOI or prescribed by the commander. Messages may be transmitted by lights, using the Morse code.

c. Pyrotechnics, including smoke, are issued in various colors and types. The meanings of certain signals are given in the SOI. Signals are included for identifying units as friendly, lifting or calling for fire, marking targets, and reporting an objective reached. Transmission and reception of pyrotechnic signals are preplanned. Pyrotechnics can be used for communication within and between ground units, between ground units and aircraft, and between ground units on shore and ships.

d. Two general types of panels are issued for communication with aircraft: marking and identification panels, which are made in bright fluorescent colors; and black and white panels, which are used on light and dark background, respectively. The marking and identification panels can be used to mark positions and to identify friendly units. The black and white panels are used to transmit brief messages or to identify a particular unit. This is done by using the combined panel system and panel recognition code.

e. Infrared devices are used for signaling and as landing and assembly aids. In amphibious operations, they are used as landing aids. Airborne units use them as assembly aids.

f. Aircraft maneuvers, such as zooms, rocking of wings, or alternate opening and closing of throttle, can be used for limited air to ground communication. Prearranged signals from aircraft to ground units, used primarily for emergencies or aircraft identification to radar operators, should be included in the SOI.

14. Sound Communication

Sound is a supplementary means of communication and is available to all units. Sound signals are transmitted by whistles, bugles, horns, gongs, klaxons, weapons, and other noisemaking devices. They are used chiefly to attract attention, transmit prearranged messages, and spread alarms when their use is not prohibited for security reasons. Sound codes are kept simple to prevent misunderstanding. The range and reliability are greatly reduced by battle noise. Sound signals and their meanings are prescribed in the SOI or are assigned by commanders. Three long blasts of a whistle, horn, siren, or klaxon repeated several times or three equally-spaced shots or short bursts of fire normally are used to warn of an air or mechanized attack. Rapid and continuous precussion sounds made with the standard gas alarm or improvised devices (iron rails and empty shell cases) normally are used to warn of CBR attack.

15. Radio/Wire Integration System

a. An FM-voice radio/wire integration station is operated at each division forward area signal center to connect mobile FM radio stations into the division area communication system on a push-to-talk basis. This is one of the more important features of the area system.

b. This system of integration stations is used to establish communication between mobile FM radio stations and elements connected to the area communication system by telephone. It is also used in lieu of FM radio relay stations to establish communication between FM radio stations operating beyond their rated range. Typically, this system is used—

- (1) By the division commander and his staff, when traveling, to contact division elements connected to the area communication system by telephone and for use as relay stations in the division CG/Comd Net (FM-voice).
- (2) For establishing initial telephone service from the division area communication system to the using units (in-

cluding brigade headquarters) until wire links are established.

- (3) For voice communication between mobile combat elements in the division forward area and those supporting division logistics elements in the rear area which may be connected to the area communication system by wire or radio/wire integration links.
- (4) For communication between low-flying Army aircraft operating in remote portions of the division area and the airfields (or flight control elements connected to the area communication system), in the event direct FM radio contact is impossible.

16. SOI and SSI

a. The *signal operation instruction (SOI)* is a type of combat order issued for the technical control and coordination of communication within a command. It includes items covering codes and ciphers, radio call signs and frequencies, telephone directory, and visual and sound signals. Current items are listed in the index to the SOI. The division SOI is prepared by the division signal officer and distributed to the brigade. The brigade receives enough copies of the appropriate items of the division SOI for distribution to the attached battalions. Extracts are prepared by the battalion communication officer and issued as required.

b. Standing signal instructions (SSI) may be issued in a separate publication, or the information can be included in the SOI. The SSI includes items of operational data not subject to frequent change and instructions for the use of the SOI. The SSI is prepared by the division signal officer and distributed to the brigades. The brigade receives enough copies for distribution to attached battalions.

17. Standing Operating Procedure

An SOP is a set of instructions prescribing the manner in which routine jobs are done within a particular unit in the absence of other instructions. In the battalion the communication SOP is based on and conforms to the brigade SOP. The battalion communication officer prepares the communication SOP for the commander's approval. Periodic revision of the SOP is necessary for its effectiveness and conformance with the next higher unit's SOP. An SOP is particularly applicable to the communication platoon because many of its operations are the same regardless of the type of tactical operation. The platoon is not bound to its SOP to the extent that flexibility and individual initiative are destroyed.

18. Signal Supply

a. Authorized items of signal equipment are prescribed in tables of organization and equipment. Additional equipment may be authorized by higher commanders. Initial supply and replacement is made through normal supply channels. Requests for replacement and supplies are submitted through normal supply channels. The battalion S4 consolidates these requests and requisitions the equipment and supplies. The battalion communication officer assists in preparing these requests and requisitions. Signal supplies are delivered to the battalion field trains. Unserviceable signal equipment that cannot be repaired or replaced by the signal repair sections of the forward support company of the division maintenance battalion is normally replaced by direct exchange for serviceable items from the maintenance float at the division maintenance battalion. In an emergency, the battalion communication officer may obtain signal supplies directly from a signal supply unit (ch. 3).

b. Repair parts consist of any parts, assemblies, or components required for installation in the maintenance of an end item. Allowances for stockage of repair parts at the various echelons are established by repair parts and special tools lists in the equipment technical manual. Quantities of repair parts authorized for first echelon maintenance are issued initially with the equipment and are authorized to be kept on hand by the operator. Repair parts for second echelon maintenance are authorized for stockage or for requisition as required, whichever is appropriate. Signal mobile repair teams will normally issue repair parts for organizational maintenance.

19. Maintenance of Signal Equipment

See chapter 3.

20. Communication Security

a. Communication security is the protection resulting from all measures designed to prevent or delay unauthorized persons from gaining information of military value from communication sources. It includes physical, cryptographic, and transmission security. Officers and enlisted men who personally transmit radio messages are concerned particularly with security. The commander must insure that communication security orders and regulations are understood and observed. He establishes security by stating general principles in the unit SOP, by announcing before an operation the extent to which security is to be practiced in that operation, and by making security decisions during an operation.

When prompt action is called for, he considers the time in which the enemy can act on the information contained in a clear-text message. He then decides whether the urgency of sending a message in the clear outweighs its value to the enemy. Messages that compromise plans, operations, or cryptosystems of other units are not transmitted in the clear. Messages to be transmitted in the clear by radio operators (including those sent through message center) are marked "send in clear" over the signature of the commander or his authorized representative. They are signed by the commander or his authorized representative.

b. Physical security protects the signal equipment and classified documents (including plain-language copies of messages and carbons) from capture, damage, or loss. Complete items such as SOI codes and ciphers are limited in distribution. Before a command post is vacated, it is inspected for messages, carbons, cipher tapes, and copies of maps or orders. Wire lines are patrolled to prevent the enemy from tapping them. When SOI, codes, or cryptographic equipment are lost or captured, the facts are reported promptly to the next higher commander. Instructions are issued on how to destroy equipment and classified documents to prevent their capture or use by the enemy.

c. Cryptographic security means technically sound cryptosystems and strict observance of instructions to prevent or delay the enemy from reading messages. Time spent in encrypting gives a high return in security. The use of cryptosystems other than those authorized by the unit SOI compromises security. Most unauthorized systems are susceptible to easy solution and give the user a false sense of security. Security hazards may be minimized by being brief and avoiding stereotyped phraseology (particularly at the beginning and end of a message). Identical messages are not sent in both clear and encrypted text. When using clear text, landmarks that can be associated with encrypted map locations are avoided as references. When messages cannot be sent in the clear, individuals and small units that do not have cipher devices use rearranged message and operations codes. When using security codes, clear and encrypted text (except coded map locations) are not mixed in the same message. When authorized, a reasonable degree of security can be obtained by using codes prepared locally, according to the SOI, and frequently changed.

d. Transmission security limits the enemy's ability to intercept transmissions and prevents him from using our communication

systems for deception. A message is transmitted by the most secure means available, consistent with its precedence. Radio is particularly susceptible to interception, position-finding, traffic analysis, and deception. The radio operators are warned of the dangers of giving information to the enemy through faulty operating procedures or techniques. Operators and men preparing radio messages must be aware of the enemy's ability to gain information from radio traffic. Those transmitting clear-text messages by voice radio use prescribed radiotelephone procedure and preplan the content and wording of each transmission. They use prescribed authentication systems and eliminate unnecessary transmissions. A high standard of net discipline among operators is essential in maintaining communication security. Training in the correct procedure is continuous. For additional information on communication security, see AR 380-5, ACP 122 and FM 32-5.

21. Training

a. Communication training is conducted in these phases: individual, unit, and combined. During basic military training and advance individual training, communication personnel are trained in basic military subjects. They also receive some specialist training in their primary duties. Each man is taught how to fight as an infantryman. Specialist training is conducted best in division and lower unit schools (particularly applicable to radio operators). Certain specialists, such as battalion communication officers, communication chiefs, and radio mechanics, should receive their training at service schools.

b. During basic and advanced unit training, specialist training is completed and communication personnel are trained in the communication technique for all types of tactical operations. Before participating in exercises involving entire units, command post exercises are conducted with commanders and staffs present. These exercises develop skill in procedure for the installation, operation, and movement of command posts. The personnel are trained to install, operate, and maintain communication systems in fast-moving situations, during all conditions of weather, visibility, and terrain.

c. In the field exercise and maneuver phase (combined arms training), tactics and techniques of communication units working with higher, supporting, attached and adjacent units are perfected. As specialists become proficient in their primary duties, they are rotated to learn the duties of other selected key members of their unit.

Section II. COMMUNICATION AND THE COMMAND POST

22. Selection of Command Post Location

The battalion communication officer and the S1 make the recommendations to the S3 for the general location of the CP. The S3 makes the final recommendation to the battalion commander. When recommending the location, the communication officer considers the following factors:

a. Type of Tactical Operation. During movement to contact, the command post moves by bounds along a designated route, or it is located at a designated place in the formation. In offensive operations, it is located well forward to avoid early displacement. In defensive operations, it is located so that local enemy penetrations will not cause displacement. In other types of tactical operations, it is located at the place from which the commander can control his battalion most effectively.

b. Requirement for an Alternate Command Post, (par. 48). The battalion facilities available and general location of the battalion command post should be considered when selecting the location of the alternate-CP. The same considerations apply when selecting the general area for the alternate command post as are considered when selecting the primary area. The alternate CP must be so located in relation to the primary command post that it will not be affected by an enemy nuclear strike in the primary command post area.

c. Signal Communication Requirement. Command posts are located to facilitate signal communication. An improperly located CP may delay the establishment of communication at a critical time or make maintenance of effective communication impossible. The principal considerations for the command post location with respect to signal communication include—

- (1) Effect of distance and terrain (on wire and messenger communication).
- (2) Necessity for wire routes to the front and rear (permitting the prompt establishment of wire communication when possible).
- (3) Effect of power lines, electrical stations, hill masses, dense woods, and distance (on radio communication).
- (4) Proximity to suitable terrain for airfield. Minimum requirement is proximity to open terrain for use of air-drop and pickup of messages and ground-to-air panel display.
- (5) Necessity for line of sight locations visible only to friendly troops (for use of visual communication).

d. Routes of Communication and Traffic Conditions. Since all communication facilities center at the command post, roads into and out of it and the traffic to be expected on these roads influence its location. Messengers, wire teams, command vehicles, and other vehicles constantly use the communication routes from the command post forward to lower units and back to higher units. The absence of suitable communication routes causes delays and makes tactical control difficult. When practicable, messengers and wire teams use roads.

e. Space. The various installations within the CP are given enough space to operate efficiently and avoid unnecessary casualties from enemy action. Space is provided for any other CP that may be located in the vicinity and for liaison and other personnel from other units.

f. Concealment, Cover, and Security. Consideration is given to the availability of natural concealment, cover, and defensive positions. The CP should not be located near a landmark or terrain feature likely to attract hostile fire or air attack. A location that cannot be seen from main roads is preferable. For security reasons, the CP may be located with a lower unit. If practicable, it is dug in or located below the surface of the ground to reduce the effects of nuclear weapons. Consideration must be given to its location with respect to other installations or units to avoid creating a nuclear target.

23. Communication Considerations for CP Interior Arrangement

a. The battalion adjutant (S1) is responsible for the interior arrangements of the command post. He selects the locations for all activities except the communication installations. The battalion communication officer selects the locations for these. During training, an SOP for the CP arrangement is given in schematic form to show the location of command post installations and activities in their relationship to each other. This SOP is used as a guide; modifications are made as required by the terrain and the tactical situation.

b. The commander and his staff are conveniently situated to permit efficient operations. The characteristics of the means of communication are considered in locating communication installations to serve the commander and staff in the best possible manner. Since the operations center is the hub of the command post, its location should be selected for the best communication possible.

c. The message center is at the natural entrance to the command post so that incoming messengers may find it easily and outgoing

motor messengers can be dispatched quickly. A messenger station is nearby. Motor vehicles used by the messenger are located conveniently with respect to the message center and messenger station.

d. The radio stations are located at a site that provides the maximum efficiency in transmission and reception. Other considerations include: location of the panel display, message-drop and message pickup area; mutual interference between radio sets; and the possibility of radios being located by enemy direction-finding equipment. Sets used with remote control equipment are located without regard to the user.

e. The panel display, message-drop and message pickup area should coincide, when practicable, and be near the radio station whose personnel are used for their operation. Level, open ground, free from high weeds and brush and removed from bodies of water, is preferable. The panel display area should be situated so that observers can read displays at side angles from the vertical. Shadows are avoided, where possible. An unobstructed approach to the message pickup area is required. This field may also serve as an emergency landing field for Army aircraft.

f. The switchboard is installed in a location convenient to incoming wire circuits and as free from noise and interference as possible.

g. Telephones are installed as required, according to the priority established in the battalion SOP.

24. Communication Operations in Command Post

a. The CP is organized for 24-hour operation. During less active periods, the personnel take every opportunity to rest and prepare for more active periods. The personnel on duty are rotated so that they have an opportunity to rest. Communication personnel are continuously prepared to establish new channels of communication and maintain existing channels. Wire lines are particularly vulnerable to enemy fire and are repaired promptly when damaged. Sufficient means of communication must be available at all times to transmit and receive messages rapidly and efficiently.

b. All incoming messengers deliver their messages to the message center; the messages are signed for and delivered to the sergeant major by message center personnel.

c. Outgoing written messages are usually sent through message center. The message center record include a message log (a listing of all outgoing messages and messages coming in by mes-

senger), a means chart (a record of the electrical means of communication available), a live file (duplicates or skeleton copies of outgoing messages), and a crypto file (a clear text copy of all outgoing encrypted messages and the encrypted copy of all incoming encrypted messages). A dead file is turned over daily to the adjutant for disposition. Normally, logs are closed out as of 2400 hours. Officers who send or receive written messages that do not pass through the message center must see that a synopsis of each message is made available without delay for entry in the unit journal.

d. Vehicular traffic in and out of the command post is controlled. Visitors are stopped at a dismount point and directed to walk to their destination. Their vehicles are sent to the parking area. The communication vehicles required in the CP, travel at reduced speed and use existing roads and trails.

25. Displacement of Command Post

Displacement is coordinated to avoid disrupting communication and losing control. Before a location is changed, the minimum communication facilities required at the new CP are established. This requires that the communication officer be notified well in advance of the estimated time of displacement. Other units concerned are notified of the contemplated change. The battalion communication officer coordinates the displacement of the CP with the brigade communication officer to insure continuous communication during displacement.

Section III. COMMUNICATION IN TACTICAL OPERATIONS

26. Communication in Movement to Contact

a. Communication in route column is limited to that for transmitting orders. During movement in tactical column, communication is provided between the battalion march CP and the brigade commander, adjacent columns, reconnaissance and security elements, lower unit command posts within the column, and the battalion trains. Communication also is maintained within units in the column. The principal means are radio and messenger (foot, motor, and air). These are supplemented by visual and sound signals. When secrecy is necessary, the radios are restricted or silenced. Orders for the march cover the axis of the command post displacement, use of the means of communication, and command post locations. When information required in the order is covered in the unit SOP, the order merely refers to appropriate parts of the SOP.

b. Radio is an effective means for controlling units during a march. Command nets may be organized, to include platoons. Some secrecy of movement is achieved by using codes and by reporting positions in reference to phase lines, check points and march objectives. Radio nets are organized so that the operating ranges are not exceeded. All commanders and operators familiarize themselves with the details of the net organization and codes. The radio ranges are reduced during movement and when line of sight locations cannot be selected. Army aircraft radios and radios with liaison officers are helpful in establishing radio communication with adjacent columns.

c. Messengers are used by all units during a march. Foot, motor, and air messengers are used from front to rear and between adjacent columns. Messages can be exchanged between moving vehicles. Army aircraft messengers facilitate communication between adjacent columns, to the distant command post of higher commanders, and within extended columns. Before the march begins, messengers are informed of the route, the information to be delivered, the locations of CP's, and special vehicular markings.

d. Pyrotechnics are used for prearranged messages. A common use is for reporting when units reach march objectives or check points or cross phase lines. They may also be used as messages between ground units and aircraft, and as air defense or antitank warnings. When prearranged pyrotechnic messages are to be used, lookouts are assigned areas of responsibility in which to watch for them. Panels are kept ready to identify friendly columns, vehicles, command posts, and message-drop and pickup fields to friendly aircraft. Panel teams may leave the column temporarily to communicate with aircraft.

e. Wire normally is not laid during a march. However, commercial wire systems and existing field wire circuits may be used after coordination with the approval of higher headquarters.

f. Command posts are located to facilitate column control. Their locations in the column are prescribed and announced in orders. During motor marches, the battalion command post normally travels at or near the head of the battalion main body. Command posts of other units in the main body are located at or near the heads of their respective units. During foot marches, command posts may be motorized/mechanized and move by bounds between units. A motorized/mechanized command post consists of only essential command and communication vehicles. Communication vehicles includes those used for messengers, panel teams, and radios. A few wire vehicles required during or immediately after

the march may also be included. Communication personnel not required during the march travel in the headquarters company serial.

g. In the approach march, the means of communication used in tactical column are continued. Radio and messenger are the principal means. Army aircraft, when appropriate, and visual and sound communication are used to supplement these. Communication security is continued. Prearranged message and operations codes are used extensively except when clear-text messages can be transmitted without violating security.

27. Communication in the Attack

a. Radio in a daylight attack is a principal means of communication. Once the leading companies cross the LD, wire lines become difficult to maintain. As a minimum, wire circuits between the battalion CP and heavy mortar platoon and battalion OP are maintained. The trunk-line between the battalion switchboard and brigade are installed and maintained by the brigade communication platoon. This service integrates the battalion into the brigade communication wire system. Special emphasis is placed on installing and maintaining the battalion OP line. Normally, lateral communication is effected by radio. Radio is used as much as possible, but for secrecy and surprise its use may be restricted until a prescribed time.

b. The extent of communication required by the battalion during the offense depends on its assigned mission. The battalion communication officer, in close coordination with the battalion commander and staff, insures that provisions for communication are complete, including the communication required between all combat, combat support, and administrative support units.

c. As soon as the battalion communication officer is informed of the attack plan, he makes a map reconnaissance and a tentative plan. When possible, he discusses this plan with the S3 and then makes a ground reconnaissance, accompanied by wire personnel and other platoon members. He submits his recommendations to the S3 for paragraph 5 of the operation order.

d. Following the issuance of the attack order, the battalion communication officer completes the coordination of his plans with the S1, S2, S3, and S4, the mortar and Davy Crockett platoon leader and commanders of organic, attached, and supporting units, as appropriate. He then proceeds to the designated command post area with the S1 to determine its exact location and interior arrangement. As soon as possible after the location has been ap-

proved, he contacts the communication chief and has the bulk of the communication platoon sent forward. He then contacts the brigade communication officer and notifies him of the exact location of the battalion command post. The battalion communication officer, communication chief, and section chiefs may precede the platoon to the designated CP location to receive orders and to reconnoiter before the platoon arrives. The remainder of the platoon continues to provide communication in the assembly area until the command post for the attack is occupied.

28. Communication in Defense

a. Advance planning and reconnaissance by communication personnel are essential in the defense. Actions and duties are similar to those for the attack, but the communication system is generally more elaborate. All possible steps are taken to insure uninterrupted operation.

b. The communication officer recommends the method of establishing and maintaining communication with the combat outpost. The communication system within the outpost is similar to that established by units on the FEBA.

c. Wire is a principal means of communication during defense. It is installed as rapidly as time, personnel, and equipment permit, and is continuously improved during the conduct of the defense. Wire teams from the brigade communication platoon lay and maintain at least two wire lines from the brigade switchboard to the battalion switchboard. The battalion communication platoon lays two or more lines over different routes between the command posts of the battalion and all companies and two or more lines to the elements of the headquarters company as required. This platoon also lays wire to the battalion observation post and to adjacent units wherever possible. Attached and supporting units are included in the wire system. Local telephones are installed as prescribed in the battalion SOP.

d. Radio communication normally is restricted for security reasons until contact has been made with the enemy. When adequate wire communication is available, radio is not used, but radio nets remain open in case wire communication is interrupted or becomes inadequate.

e. Messengers are a primary means of communication during the defense; scheduled messenger service may be established.

f. Visual signals requiring line-of-sight between observation posts and rear installations can be used to advantage in defensive actions. They are used in accordance with the SOI and SSI.

29. Communication in Retrograde Operations

Radio is the primary means of communication during a retrograde movement; supplementary means are used whenever possible.

a. Daylight Withdrawal. Since a daylight type withdrawal is conducted under pressure, time is seldom allowed for much detailed planning and preparation. However, to the extent possible, the communication officer anticipates and plans for communication requirements in the withdrawal.

b. Night Withdrawal.

- (1) In a night-type withdrawal (not under pressure) time is usually allowed for deliberate planning, reconnaissance, and execution. Plans are made to maintain communication on the old position as long as necessary and to provide communication during the movement to the rear and within the new position or assembly area. The communication officer reconnoiters routes of withdrawal to determine what existing wire circuits can be used to provide communication. He also reconnoiters the rear position with a view to installing a communications system there as soon as practicable. The reconnaissance is normally conducted by day, and critical points are marked (or guides are posted) so they can easily be identified at night.
- (2) Existing communication facilities and a minimum of communication personnel are left in the old position for the detachments left in contact. The communication officer remains to supervise communication. Unused wire lines are recovered or destroyed. Deceptive measures include the use of dummy radio stations to maintain normal radio activity in the old position. During movement to the rear, messenger and existing wire are the principal means of communication. Radio listening silence is maintained within units. If secrecy becomes unimportant, the higher commander directs the lifting of radio silence.
- (3) The majority of the communication platoon precedes the main body to the rear position, if practicable, to establish communication facilities. Radios in the rear position listen on assigned frequencies but remain silent until the battalion commander orders them into operation. If the tactical plan is to renew the defense at the rear position, a complete defensive wire system is established there. If the withdrawal is to be followed by some other type of

operation, only essential communication facilities are established within the assembly area. Reconnaissance and plans for communication in the next operation are begun immediately.

c. Delaying Action. In a delaying action, emphasis is placed on speed and mobility in establishing communication. Existing wire lines are used along the axis of operations. A minimum lateral wire system is installed on each delaying position to include one line to each rifle company and the mortar and Davy Crockett platoon. Visual signals and motor or air messengers are used. Communication to distant, detached, and motorized or mechanized units usually is limited to radio and messenger. Timely reconnaissance and planning are necessary for communication on successive delaying positions. New wire lines usually are not laid for communication between successive positions.

d. Retirement. Communication during a retirement is similar to communication during movement to contact. When the enemy attempts to pursue vigorously, a series of delaying actions may be necessary to assist the retiring force. Communication is then maintained in the same way as described for a delaying action.

30. Communication in Relief Operations

When a battalion relieves another unit, the communication officer, accompanied by key communication personnel, precedes the battalion to become familiar with the communication system already in operation. He makes arrangements with the unit being relieved concerning the equipment and wire to be left on the position. During the reconnaissance, wire personnel familiarize themselves with all wire routes. The communication officer of the unit being relieved furnishes the incoming communication officer with a line-route map and circuit traffic and radio net diagrams. The incoming communication officer obtains as much information as possible about road conditions and routes for messengers. He evaluates conditions that may affect uninterrupted radio and wire communication. The relieving unit takes over the communication system when its commander assumes responsibility for the area. When secrecy is imperative, the relieving unit adopts all measures necessary to prevent the enemy from discovering any change in the tactical situation. These measures include continuing the use of the call signs, frequencies, codes, and ciphers of the unit being relieved.

31. Communication in Attack of River Line

a. Communication during an attack to force a river crossing is

similar to that required in other attacks. Command posts are located close to the river to avoid early displacement and facilitate control. A minimum wire system may be installed for use during occupation of assembly areas and attack positions. The use of motor messengers in the forward areas may be restricted for security reasons.

b. Wire circuits are established across the river as soon as practicable, but the nature of river crossings requires an almost complete reliance on radio during the assault. Radio is preferable because it requires no physical links between stations and can be used over long distances between moving units. It provides tactical control, fire control, and control of aircraft, and is used for administrative purposes and liaison between the various units. The heavy load placed on radio communication necessitates the establishment on the far shore of telephone (wire and radio relay) communication as soon as possible after the assault. Other means are exploited, including sound, visual, and messenger.

c. The commander of a unit may place security restrictions on radio and visual communication prior to a river crossing. This is done to conceal the operation from the enemy as long as possible. As soon as security restrictions are removed, all means of communications are used. Wire lines are extremely vulnerable to enemy artillery fire and to friendly tank and vehicle traffic. For this reason, wire lines should be buried at all crossing sites or be placed across the river below or above the crossing sites when time allows.

32. Communication in Airmobile Operations

a. During a battalion airmobile operation, radio is the principal means of communication. It is supplemented by messengers and other means to a lesser degree. The installation of the wire system is started as soon as practicable. To facilitate and expedite the establishment of this system, wire laying teams and their equipment from the communication platoon may be landed with the rifle companies. Portable radios are habitually carried into the landing area to facilitate prompt opening of radio nets on landing. Command radio nets usually are opened immediately after landing to help control the operation. Radio communication to the next higher commander is established immediately. Communication with close air support aircraft and naval forces, if appropriate, are provided through the air control team and naval liaison personnel. When an airmobile operation is near the seacoast, naval gunfire teams also may accompany the landing and provide communication with naval support craft.

b. The size, weight, and amount of equipment landed with the battalion during the assault is limited. Only equipment that is carried with the men in their transporting aircraft is available in the early part of the assault. This equipment includes portable voice radios and batteries, field telephones, light wire, panels, and small switchboards. Larger reserves of communication supplies and equipment are necessary to compensate for losses during the landing. Resupply plans include equipment and supplies to meet communication requirements.

c. Communication personnel are assigned throughout air serials. A radio operator assigned to a unit commander or staff officer accompanies the officer in the same aircraft. Communication vehicle drivers land with their vehicles.

d. To acquaint himself with the tactical situation and to receive additional information and orders, the battalion communication officer assembles with the commander and staff. He makes his plans flexible to meet any requirement of rapidly changing situations. See FM 57-35.

e. *The communication chief assembles his platoon.* The platoon, less radio operators, wire teams, and messengers on special assignments, normally assembles with the headquarters' company. The communication chief reports the status of his men and equipment to the communication officer as early as possible. He directs the implementation of the communication plan and maintains contact with the communication officer to execute orders. The battalion CP is established immediately after the landing.

33. Oral Communication Orders

In all tactical operations, the battalion communication officer issues oral orders to the communication chief after his communication plan is approved. The installation of the communication system may be expedited when available section chiefs also are present. The urgency of the situation may require the communication officer to issue orders directly to the section chiefs. In this case, the communication chief is informed of the situation as early as possible. His oral orders to the section chiefs may be supplemented by an operation map. Detailed orders for routine operations governed by the SOP are not included. The communication officer's oral orders include—

a. Information of the enemy and friendly forces as required for the efficient operation and security of the communication system.

b. The platoon's mission.

c. Instructions to each section chief, which may include any or all of the following:

- (1) Instructions to the message center and wire section chiefs concerning the location of the message center and messenger station; schedules and routes; uses of codes and ciphers; and command post location of lower, attached, supporting, adjacent, and next higher headquarters, and routes to them. Instructions to the wire team chiefs concerning the switchboard location; number and location of local telephones (including long locals such as the line to the observation post); number and routes of trunk-lines; and other applicable special instructions.
- (2) Instructions to the radio operators and team chiefs concerning the location of radio installations, as appropriate; operation instructions and schedules; use of voice radios; location of panel display, message-drop and message pickup areas; and restrictions, if any, on using radio and visual means.

d. Administrative details such as location of the motor park and bivouac area.

APPENDIX VI

GROUND SURVEILLANCE SECTION

1. Mission

a. The mission of the ground surveillance section is to provide ground radar surveillance for the battalion.

b. A general discussion of the missions assigned to the section is contained in chapter 4. This appendix deals with the detailed organization and employment of the section.

c. Medium range radar equipment provides the battalion with an added all-weather capability for battlefield surveillance. The employment of this equipment is closely coordinated with the employment of patrols, listening posts, observation posts, company short range radar equipment, and with infrared and other sensory devices. Ground surveillance radar can provide observation from a given vantage point 24 hours a day and can detect targets and provide a much more accurate range and azimuth reading than is possible by eye estimate. By utilizing this all-weather, 24-hour capability inherent in ground surveillance radar equipment, the battalion commander can appreciably increase the effective use of fire support means.

d. While the radar equipment is an excellent means of obtaining information, it does not replace other surveillance means. Its primary advantage lies in its ability to complement these other means and to detect information with accuracy when other surveillance means cannot detect the same information. Although radar is used primarily for operations at night or under conditions of poor visibility (haze, fog, smoke, etc.), the radar equipment may also be used effectively during daylight as well. The capability of this equipment is such that its employment should not be restricted to a certain type of terrain, a rigid set of conditions, or to a few functional operations.

2. Organization

The ground surveillance section consists of a section headquarters and two medium range radar teams (fig. 56). Each team is equipped with a $\frac{3}{4}$ -ton truck with trailer, Radar Set AN/TPS-33, and associated equipment.

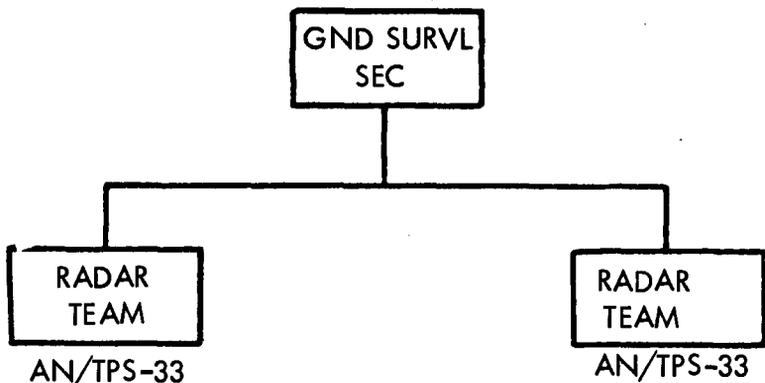


Figure 56. Ground surveillance section.

3. Duties of Key Personnel

a. Section Headquarters. The *section sergeant* is responsible for the section's training, control, tactical employment and supply. He also acts as a team leader of one of the radar teams. He recommends methods of employment of his section and receives his orders from the battalion commander. Within guidance provided, he selects the positions and surveillance areas for the radar teams retained under battalion control. He insures that adequate orientation of the radars retained under battalion control is accomplished to provide the required electronic surveillance data. He insures that radar surveillance cards for each device retained under battalion control are prepared, utilized, and distributed to the battalion S2 and FSC. He coordinates with unit commanders in whose area his radar teams are operating on matters of communication, security, and administrative support. He locates himself where he can best influence the action of his unit and performs such other duties as the battalion commander may direct.

b. Medium Range Radar Team.

- (1) The *team leader* is responsible for all tactical and technical operations of his team. He is responsible for establishing the site, operating the radar equipment, and for preparing an appropriate radar surveillance card. He insures that specific areas are kept under surveillance as prescribed in the ground surveillance plan and that timely reports are submitted to the appropriate unit or agency. He supervises the organizational maintenance of team equipment and maintains records of the length

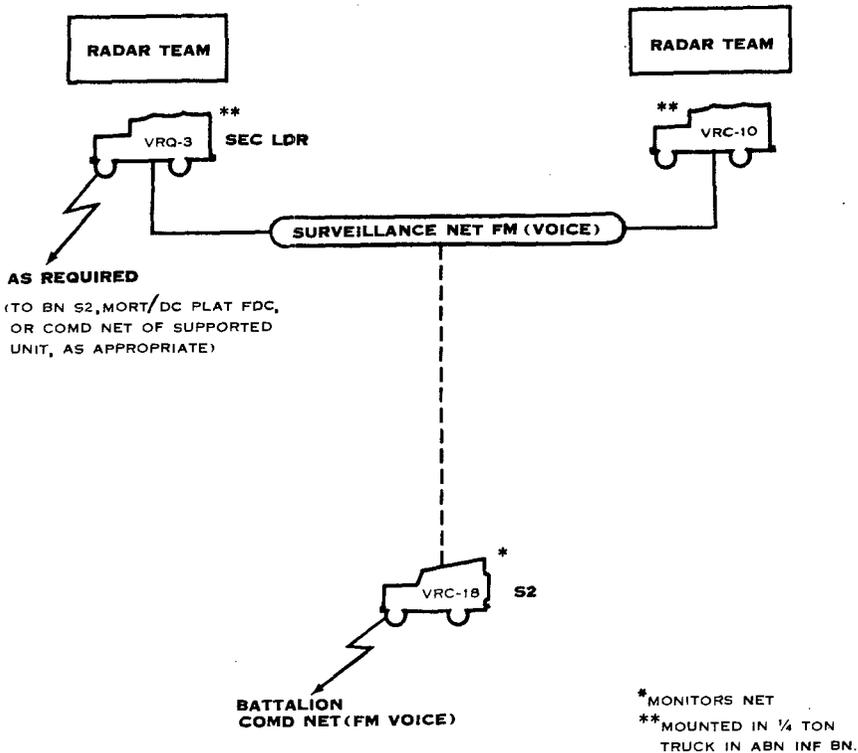
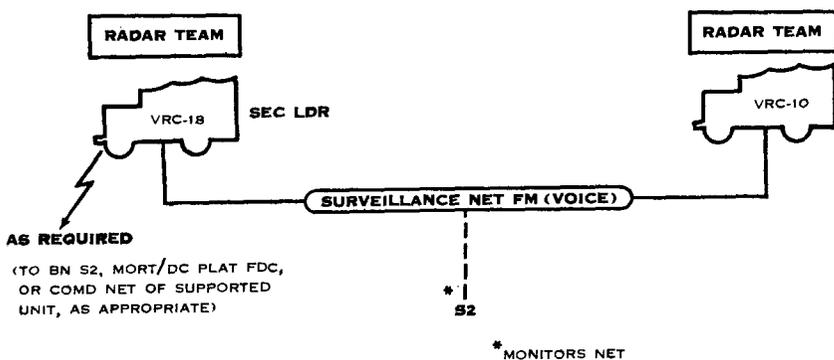


Figure 57. Ground surveillance section net, infantry and airborne infantry battalion.



NOTE: EQUIPPED WITH ARMOR BAND RADIOS WHEN ORGANIC TO ARMOR UNITS.

Figure 58. Ground surveillance section net, mechanized infantry battalion.

of operation of equipment to insure timely resupply for the power source and timely maintenance.

- (2) The senior *radar operators*, assisted by the radar operators, operate the radar equipment on site. They also operate the communication equipment and perform other duties as required by the team leader.
- (3) The radar operators assist the senior radar operator in operation and maintenance of radar and communication equipment and in operation and maintenance of the team vehicle, as required.

4. Signal Communication (figs. 57 and 58)

The section sergeant and one radar team will be equipped with one $\frac{3}{4}$ -ton truck ($\frac{1}{4}$ -ton truck with trailer in airborne infantry battalion). One AN/VRQ-3 (or AN/VRC-18 for the mechanized infantry battalion) radio will be mounted in this vehicle to provide the section sergeant with communication with battalion or other units and the other radar team. The second radar team will also be mounted in a $\frac{3}{4}$ -ton truck and is provided an AN/VRC-10 radio for communication with the section sergeant. The section is provided both telephones and wire to establish a wire net between the teams when possible. The section sergeant is also provided a TA-312/PT telephone to tie into existing wire systems where possible.

5. Capabilities of Equipment

a. The medium range radar set AN/TPS-33 is a lightweight, man-portable radar capable of searching for, detecting, and identifying moving ground targets within radii of approximately 90 to 17,275 meters. Moving targets are detected by means of the Doppler Effect, which is a varying pulse-to-pulse relationship of echoes received simultaneously from a moving target and stationary objects near the target.

b. Power for the radar set is provided by a 28-volt DC gasoline engine generator which is mounted in an acoustical case to suppress noise and inhibit detection. On an average still, quiet, night, when the generator is dug in or placed behind a hill, its noise cannot be heard beyond approximately 50 meters. However, adequate ventilation must be provided for the generator.

c. The radar team can place the set in operation within 15 minutes and out of action ready to move within 10 minutes. To attain desired efficiency of operation, operators should alternate every 30 minutes. The cabling system of the AN/TPS-33 permits

installation of the radar 100 feet from the generator. The control indicator and "A" scope can be emplaced to allow remote control of the radar up to a maximum distance of 150 feet. This allows operators to provide more dispersion, cover, and concealment for their position.

d. Visibility, terrain and weather have no significant effect on the range capabilities of the radar set. However, rain and wind may cause an increase in background noise which makes detection of single personnel targets more difficult. The range capabilities of the AN/TPS-33 are as indicated below:

<i>Target</i>	<i>Maximum (meters)</i>	<i>Reliable (meters)</i>
Crawling man	3000	1600
Walking man	6500	4420
Walking squad	6500	6500
Running squad	14,000	7820
Moving ¼-ton truck	17,275	17,275
Moving 2½-ton truck	17,275	17,275

e. The minimum range of the AN/TPS-33 is approximately 90 meters. The radar sets are line-of-sight devices and are effective only where terrain does not mask the radar beam. Although the radar energy can penetrate light camouflage, smoke, haze, rain, snow, darkness, and light foliage to detect targets, it will not penetrate dense undergrowth, trees and heavy foliage. Ground surveillance radar is generally ineffective against aerial targets unless they are flying low enough so that background clutter is provided by trees or terrain. The radar is vulnerable to jamming and electronic and other deception means.

6. Staff Supervision

The battalion S2 has primary staff supervision over the tactical employment of the ground surveillance section. He coordinates with the FSC to insure that firing data is prepared on critical areas under surveillance. Based upon recommendations of the section sergeant, the S2 prepares a tentative ground surveillance plan and recommends to the battalion commander the method of employment of the section. Once the decision has been made, appropriate plans are prepared and orders issued for employment of the ground surveillance section.

7. Missions Assigned

a. Surveillance missions assigned by the battalion are normally assigned by an annex to the operation order or as part of the tactical mission assigned to a unit. When the battalion commander desires that a radar team attached or organic to a unit be employed in a specific mission or area, he will indicate this in

appropriate orders to the unit. In the absence of such orders, the unit commander may employ the organic or attached radar team in any manner he deems necessary.

b. The attachment of a team to a unit or the assignment of a tactical mission to a team delineates several areas of responsibility. Listed below are those responsibilities inherent in each mission assignment which may exist between the ground surveillance section, battalion and company.

<i>Employment</i>	<i>Report information to</i>	<i>Prescribes area and method of surveillance</i>	<i>Prescribes displacement & general loc</i>	<i>Responsible for administration & security</i>
Attachment	Co*	Co*	Co*	Co*
Direct support	Co* **Bn	Co*	Team Chief Coord w/Co,* Reports to Bn	Section
General support	Bn	----- Bn	Bn	Section

* or unit to which attached or in support.

** EEI Items.

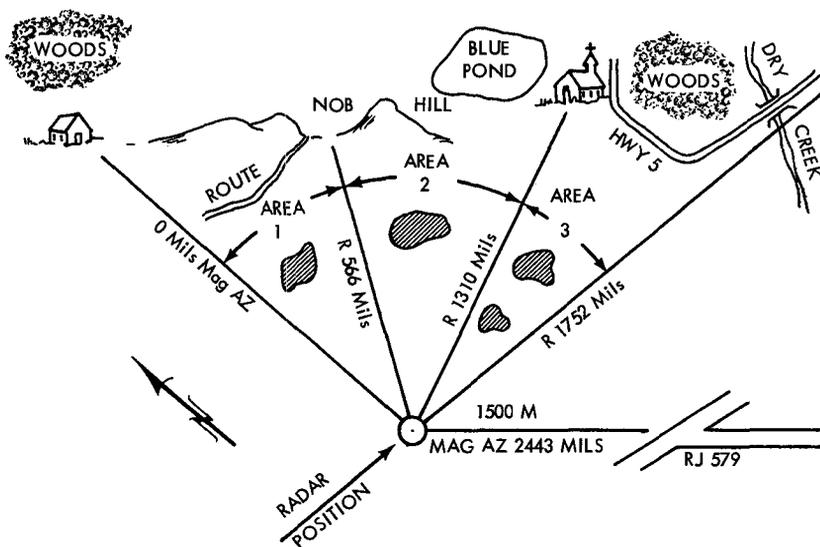
8. The Ground Surveillance Plan

a. The S2 will incorporate the employment of the ground surveillance section in the ground surveillance plan which he prepares after coordination with the ground surveillance section sergeant, FSC and S3. In this surveillance plan, the use of all combat surveillance means (patrols, sensory devices, observation posts, listening posts, etc.) are integrated to provide timely information for tactical ground operations. When other units (e.g., a tank company) having a radar capability are attached to the battalion, the S2 may recommend the employment of these teams and incorporate their use in the surveillance plan.

b. The S2 normally designates for radar units retained under battalion control the general site locations, areas of surveillance, type of surveillance to be conducted (scan, search, or monitor), how and when information is to be reported, and the frequency of coverage desired. This information will normally be based upon recommendations of the ground surveillance section sergeant.

9. Radar Surveillance Cards

To insure proper surveillance coverage of the battalion area, subordinate units will normally submit overlays indicating the area of coverage of surveillance means organic or attached to them. Radar surveillance cards (fig. 59) may assist the commanders in preparation of these overlays. Such cards will normally be prepared by the senior radar operator immediately after the equipment is placed in position and will be distributed to appropriate fire support agencies. Radar surveillance cards are prepared for primary, alternate, and supplementary positions.



PRIORITY AREAS OF SEARCH

TIME	AREA	PRIORITY	RANGE	FREQUENCY OF SEARCH
0 TO + 15	3	1	6000 M	AS ANNOUNCED
+15 TO +25	1	2	5000 M	" "
+25 TO +45	2	3	4000 M	" "
+45 TO +60	3	1	6000 M	" "

NOTE: NOT TO SCALE

NOTE: AREAS OF DEAD SPACE 

Figure 59. Radar surveillance card.

10. Information for the Ground Surveillance Section

All information concerning friendly forces, the enemy, weather, and area of operations should be disseminated to the section prior to and during a tactical operation. If it can be determined in advance what type of target is most likely to appear in a given area, this information can be of great significance in aiding the radar operator to interpret the signals he receives. Information of the area of operations and the weather will further aid in interpretation of signals. Similarly, the ground surveillance section should be made fully aware of the tactical plan to include movement of friendly units through the surveillance area.

11. Selection of Radar Sites

The specific location of the radar equipment site is designated

by the section sergeant or, in the case of attachment or direct support, by the senior radar operator. This specific location must be within the general location designated by the appropriate commander. The radar site should have as many of the following characteristics as possible :

- a. Permit maximum radar coverage of the assigned area.
- b. Provide concealment for the team vehicle and equipment.
- c. Facilitate communication with the required units or agencies.
- d. Take advantage of security provided by other units while avoiding interference with their operations. If possible, a position should be selected within a well established defense perimeter; however, since the enemy may have the capability of detecting radar signals and firing in that area, the location of radar equipment in the immediate vicinity of troop dispositions or key installations may be undesirable. In each case the considerations of METT must be weighed in positioning radar equipment.

12. Positioning of Equipment

a. Radars are normally positioned on dominating terrain. A radar site and an observation post may be located together; however, radar personnel should not be detailed as ground observers except in emergencies. To take advantage of the maximum range of the set, radars are employed as far forward as possible. Radar equipment is dug in and camouflaged, as in the case of a crew-served weapon, consistent with the requirements for operating the equipment. In addition, the remote control operation is employed whenever practicable. Radar equipment is positioned so that its employment is closely tied in with the disposition and employment of other surveillance means and agencies.

b. The radar is located in areas relatively free of close ground clutter such as trees, bushes, or buildings. This clutter tends to distort the radar beam and will result in inaccurate range, azimuth, and resulting map elevation data.

13. Orientation of Radar Set

a. After the site is occupied, the radar set is immediately oriented and placed in operation. Then the site is improved and a radar surveillance card is prepared as time permits. The set must be oriented in azimuth and range and its position must be plotted on a map before the operator can pinpoint targets geographically. Orientation may be accomplished by inspection, resection, or intersection much as a soldier would orient himself on a map.

b. By a proper orientation of the set and coordination with fire support elements, moving targets detected by radar can be taken under fire by fire support elements using preplanned concentrations. Orientation and coordination of surveillance areas will be accomplished during daylight hours when feasible. In some instances, however, it may be more desirable to move radars into previously prepared positions under cover of darkness or poor visibility.

14. Operation of Equipment

a. Each radar team is assigned a specific area of surveillance. In assigning sectors, consideration is given to terrain, enemy capabilities, equipment capabilities, and desired degree of sector overlap. Sector surveillance assignments, type of surveillance to be conducted (scan, search, or monitor), how and when information is to be reported, and frequently of coverage must be included in the instructions to the radar team. The technique of scanning an area by radar is generally comparable to the scanning technique of a ground observer.

b. If enemy activity is detected in an area not included in the surveillance plan, a new mission may be prescribed redirecting the efforts of the radars. When such a mission is completed, the operator returns to the prescribed area of surveillance. The radar should be operated at irregular intervals to provide some security from detection and subsequent jamming by the enemy.

15. Reporting Information

Ground radar surveillance reporting procedures should be incorporated in the unit SOP. Depending upon the specific requirements, positive and negative information obtained by the radar will be reported by the operator immediately or at prescribed intervals. The operator will transmit the information by using coordinates, distance from a known reference point, or range and azimuth of the activity located, and, will state what he determines the target to be, i.e., dismantled personnel, wheeled or tracked vehicles, etc. The specific reporting details will be prescribed by the commander assigning the surveillance mission to the radar team. The requirement for immediate reporting of enemy activity must be stressed at all echelons.

16. Alternate and Supplementary Positions

Alternate and supplementary positions are selected and prepared as time permits. When the mission cannot be accomplished from the primary position, the senior radar operator may displace

the equipment to an alternate position. Prior to movement to such positions, the section sergeant or supported unit commander is notified. Movement to supplementary positions is accomplished only on order of the section sergeant or supported unit commander.

17. Employment in the Offense

Radar teams may be profitably employed in a penetration or envelopment. In a penetration they may locate enemy defenses to the extent that the attacking commander may avoid enemy strengths and capitalize on enemy defensive weaknesses discovered by radar and other surveillance means. Gaps between enemy units may be detected and, to facilitate the envelopment, assailable flanks may be located. In the conduct of an envelopment, radar teams may be employed to detect enemy forces which have been diverted to meet the threat of the enveloping force.

18. Infiltration

When gaps in enemy defenses have been located, the attacking force may infiltrate through the enemy position. Radar teams may be profitably employed in conjunction with infiltration by surveying infiltration lanes for enemy activity and/or to determine the progress of infiltrating units. When radio silence is necessary, radar may be used to determine time of passage through phase lines and/or check points.

19. Movement to Contact

a. During the movement to contact, radar teams may be attached to security elements to protect an exposed flank or provide additional observation and security. Since radar sets which are not vehicle-mounted are nonoperational during movement, it may become necessary to employ teams in pairs and move them alternately to provide continuous surveillance. When elements of the battalion are moving forward on two widely dispersed axes, radar teams may be employed with forward elements and/or between axes as a means of security and to assist in coordinating and controlling forward movement of battalion elements.

b. Use of radar teams with security elements may facilitate the forward movement of units by locating enemy ambushes or other enemy activity and allowing friendly units to deploy for action. By furnishing a timely warning of enemy activity, radar teams employed with security elements enable the commander to react in adequate time to an enemy threat. Moreover, such a timely warning may allow the battalion commander to choose the time and place to engage the enemy.

20. Actions During Battalion Attack

a. Once contact has been established, radar teams may be employed in the following ways: (1) to provide surveillance forward of the line of contact or on an exposed flank; (2) to provide surveillance over critical areas or avenues of approach into the zone of attack of the battalion; (3) to locate enemy activity to facilitate use of preparatory fires; (4) to survey enemy positions in order to establish whether any reinforcement, shifting, or withdrawal of enemy units is effected after the attack has begun; (5) to determine the result of effects after nuclear fires.

b. During darkness or poor visibility, radar teams may be employed as a means of vectoring or guiding friendly attacking elements. They may be used in tracing the movement of forward friendly units in order to establish and/or confirm their specific location at any given time and to coordinate supporting fires with the advance of friendly elements. To facilitate location of friendly elements, a pattern of signals may be established to assist the operator in identification. This may consist of swinging a canteen or helmet in rotary fashion, using a corner reflector (which is issued with the set) or using any pattern of movement which can readily be identified by the operator of the radar equipment. When other means of communications fail and pyrotechnics are not visible, coded signals may be sent to radar teams to request lifting or shifting of supporting fires.

21. Displacement

a. Radars should be kept as far forward as the tactical situation and terrain will permit. Teams displace to support a continuation of the attack or when they can no longer provide effective support for a unit making the attack. Displacement may also be required to support the consolidation on the objective. For this reason displacement should not be arbitrarily delayed until the teams can no longer provide effective support. The commander must weigh the immediate loss of a surveillance capability against the requirement for immediate surveillance during the consolidation.

b. When intermediate objectives have been assigned, it may be desirable to displace teams to the objective immediately after it is seized. When a closely coordinated attack is to be made from an intermediate objective against a strong enemy position, plans must be made for early displacement to the intermediate objective.

c. Displacement should be accomplished so that teams are in position on the objective immediately following its seizure. Timely displacement will enable forward units to continue destructive

fire on withdrawing enemy units or to detect enemy activity indicating a counterattack. Whenever feasible, teams displace by bounds so that some radar surveillance is available at all times.

22. Consolidation and Reorganization

Radar teams displace on order to positions previously selected by a visual or map reconnaissance. During the consolidation and reorganization, primary emphasis is placed on immediately placing the equipment in operation to obtain information of the enemy. Thereafter, positions are improved and equipment is dug in and camouflaged as the situation permits. Since the radar teams on the objective will be surveying the area beyond the objective, they must be fully informed of friendly patrols and other elements sent forward to maintain contact with the enemy.

23. Pursuit or Exploitation

a. In the pursuit or exploitation, radar teams are employed essentially as they are in the movement to contact. They may be attached to security elements to provide surveillance on an exposed flank or may otherwise provide observation and security for the battalion. Radar teams may be moved by bounds with rapidly advancing elements to provide information of enemy activity. By detecting the presence or lack of enemy activity in an area, the ground surveillance section may appreciably speed up pursuit operations.

b. When pursuing forces are lifted by fixed- or rotary-wing aircraft to seize key objectives which block enemy routes of withdrawal, radar teams may be attached to such forces.

c. Radar teams attached to an enveloping force may be sited to locate withdrawing enemy elements and thereby facilitate their destruction. Radar may also be used in identification of friendly units to facilitate the linkup with friendly elements.

24. River Crossing Operations

Radars are used in a river crossing as in normal offensive operations. In addition, radars placed on dominating terrain on the near bank may confirm the extent of progress of friendly units on the far bank. When smoke is used by friendly forces engaged in a river crossing, radar may be used to detect enemy troop activity including withdrawal, reinforcement or shifting of troop units.

25. Airmobile Operations

a. The ground surveillance section can be delivered into combat by assault aircraft or transport helicopters. The section is delivered

into the objective area as early as practicable to provide maximum time reconnaissance and preparation of radar sites. Radar teams normally land with the main body in the assault echelon. Generally, teams will be employed with forward units or security elements in the assault where early enemy action is anticipated. Because of the weight of the radar equipment and the normal limitation on vehicular transportation early in an operation, teams should be landed as close to the area of intended employment as possible. When equipment must be hand carried considerable distances, additional personnel may have to be provided to facilitate early employment of the radar. Helicopters may be profitably used in this phase of the operation in movement of radar teams to dominating terrain to gain an early surveillance capability.

b. When a ground linkup is planned, ground surveillance radar may be used as a means of signaling and coordinating the linkup with friendly forces. In such a case, prearranged codes or signals may be established to facilitate linkup.

26. Actions During Battalion Defensive Operations

a. In the defense, the surveillance effort is not only directed forward of the FEBA, but also in depth throughout the battle area. Particular attention is given to gaps between units, exposed flanks, possible helicopter or parachute landing or drop zones within the battle area, and other critical areas. To this end, alternate and supplementary positions for radar teams are established to provide complete surveillance coverage of the battalion area. The priority for surveillance coverage of the battalion area is established by the commander based upon recommendations of the S2.

b. Radar teams may support any one or any combination of the three echelons of defense. Teams may be employed with the security echelon (GOP, COP, etc.) to extend its surveillance capability; these teams normally revert to their primary mission when the security echelon is withdrawn.

c. Radar teams may be employed in conjunction with barrages and final protective fires by determining when enemy strength is located in these areas. Radars may be used in conjunction with emplaced Claymore anti-personnel weapons in determining when such weapons can best be detonated. They may be used to determine the optimum time for detonation of explosives, chemicals, or atomic demolition munitions.

d. Since the enemy may often attack at night, during poor

visibility, or with use of heavy smoke screens, radar will be of great use in defensive operations. When an enemy attack is made on a broad front, the amount of enemy activity in a given area may indicate the location of the possible enemy main effort. When radar sightings are used in conjunction with knowledge of enemy tactics, specific enemy maneuvers may be anticipated. Radar sightings may be used to establish the depth of the enemy offensive effort and to indicate whether a feint or demonstration is being conducted in the area.

27. Patrols

a. Plans for the employment of radar are closely coordinated with patrol plans to enable the radar operators to distinguish between movement of friendly elements and enemy infiltration of personnel or vehicles. To assist in this identification, a set of signals (swinging a canteen or helmet, use of corner reflectors, etc.) may be established for the specific action. Patrols may also send messages to the radar team by use of a corner reflector.

b. When a radar team is used in surveillance of an area in which friendly patrols are operating, the radars may locate enemy activity (e.g., an ambush) which may be detrimental to the friendly patrol. In such a case a radio message to the patrol or use of pyrotechnics may direct the patrol to avoid the discovered enemy activity. In other circumstances, friendly patrols may be vectored toward enemy activity discovered by radar equipment. Again, use of radio messages or pyrotechnic signals may guide the patrol toward the enemy activity in the area.

28. Ambushes

Radar teams may locate enemy patrols moving toward friendly defensive positions and thereby allow friendly units to ambush such patrols and take prisoners.

29. Action During a Counterattack

During a counterattack, radar teams will continue to report information of enemy activity. By prior arrangement, radar teams located to the rear may also be used to establish the precise location of friendly units on the periphery of an enemy penetration. This identification and location of units may be a critical element in the counterattack, particularly when nuclear fires are to be employed. In the counterattack, radars may assist in furnishing information of the strength and depth of the enemy penetration. Teams employed with forward companies in or adjacent to an enemy penetration may shift their area of surveillance on order to the area

of penetration to provide the battalion commander with this information.

30. Actions During Battalion Retrograde Operations

The radar section can provide significant information of the enemy which, coupled with information obtained from other sources, may enable a commander to decide upon the best method of withdrawal and the time to initiate the retrograde action. The commander must therefore weigh the requirement for maintaining surveillance equipment on position as long as practicable. Radars may aid in the timely withdrawal of a unit by detecting the enemy advance and allowing friendly units to withdraw without becoming decisively engaged. Radar teams may assist the retrograde action by surveying gaps, critical areas and avenues of approach and by furnishing target information to facilitate the use of long range fires. Premature withdrawal of radar teams should therefore be avoided.

31. Movement to Subsequent Positions

a. The decision as to when to displace radar equipment involves a consideration of many factors. In most retrograde operations, secrecy will be a primary consideration. Since radar emissions may be detected by the enemy, any premature withdrawal of radar equipment from the present position may compromise this secrecy. The commander must also consider the amount of time required to take the equipment out of action. Under normal circumstances this will require approximately 10 minutes for the AN/TPS-33.

b. Because of the weight of the equipment, motor transportation should be used to facilitate a rapid withdrawal. If the radar equipment must be man-carried to transportation located in the rear, additional personnel must be provided for the carrying of such equipment. Normally it will require at least three additional men for the medium range team to man-carry this equipment.

c. During the course of movement to the rear, the enemy may interdict road nets along the routes of withdrawal. To counter this, radar teams may be employed with security elements to accomplish surveillance over friendly rear areas and along the routes of withdrawal to discover enemy elements which might interfere with the movement of friendly units to the rear. Radar may also be employed with the rear guard to assist in maintaining contact with the enemy and to determine the extent of aggressiveness of the enemy pursuit.

32. Night Withdrawal

In a night withdrawal teams are retained in position as long as

practicable to simulate normal activity and to maintain continuous surveillance over the enemy. These radar teams are normally attached *for the withdrawal only* to the nearest company and move to the rear with that unit.

33. Daylight Withdrawal

a. In a daylight type withdrawal (under pressure) radar teams attached to forward units or covering forces remain with those units and continue to provide target information as long as practicable. When it is determined that the radar teams under battalion control can continue to provide significant target information, they may be attached for the withdrawal to forward or covering forces. When the radar information acquisition capability is no longer significant, or in the event of strong enemy pressure, it may be more desirable to retain these teams under battalion control and displace to the rear immediately prior to withdrawal of the forward forces.

34. Delaying Action

In a delaying action, forward units are normally employed on a greater frontage with less depth to the position and with increased gaps between units. In such an action, more emphasis is placed on forward disposition of radar teams to cover these gaps and provide early information of enemy activity. A delaying action normally envisions continuous fighting to the rear in order to trade space for time. In view of this, frequent displacement of radar teams may be necessary with increased emphasis on reconnaissance of routes of withdrawal and of radar sites to the rear. Because of the decentralized nature of these operations, radar teams are frequently attached to units participating in the delaying action.

35. Relief in Place

During the relief, normal activities are simulated, and the outgoing force furnishes security and surveillance during the conduct of the relief. Incoming radar teams are provided with radar surveillance cards and are oriented on the enemy and area of operations. While most other equipment is exchanged on position, radio and radar sets are not in this category. As a consequence, incoming radar teams will orient their equipment and establish communication prior to relief of the outgoing teams. Every effort is made to maintain secrecy and prevent the enemy from learning of the operation.

36. Withdrawal by Air

Since communication security is critical in this type of opera-

tion, radars may be used in lieu of radio reports to determine when the main body and detachments left in contact withdraw. Radars not employed with the reserve or detachments left in contact may withdraw early to dominant terrain near the loading area where they provide additional security to the loading operation.

APPENDIX VII
SAMPLE SOP FOR CBR DEFENSE

Section I. GENERAL

1. Purpose

To establish standing operating procedures for defense against chemical, biological, and radiological (CBR) attack.

2. Unit Procedures

a. Subordinate units issue SOP to conform.

b. Use of CBR agents by the enemy will be reported to this headquarters by FLASH procedure.

c. Higher, lower and adjacent headquarters alerted by the most expeditious means.

d. Company size units use the cry "Gas" or "Spray" and provide an improvised percussion-type alarm to warn of chemical attack.

Section II. ORGANIZATION AND RESPONSIBILITIES FOR CBR DEFENSE

3. Organization

The normal command and staff structure is used to implement CBR defense measures.

4. Responsibilities

a. Each commander is responsible for the readiness of his unit to participate in CBR warfare with maximum individual and unit effectiveness. Each officer and noncommissioned officer must possess that knowledge of CBR defensive measures which is commensurate with his level of command.

b. Personnel must be proficient in decontamination of individual weapons and equipment, vehicles, crew-served weapons, and unit equipment.

c. Each company-size unit will organize and train CBR teams for chemical and radiological monitoring and survey. For guidance see FM 21-40.

Section III. PERSONNEL

5. Casualty Estimates

Senior survivor in each unit affected by CBR attack will submit casualty estimates through command channels as soon as practicable.

6. Prisoners of War

Prisoners of war will be afforded available protective facilities.

Section IV. INTELLIGENCE

7. General

All units and agencies will constantly be alert for information relative to enemy capabilities in CBR warfare.

8. Indications

a. Chemical.

- (1) Issue to enemy troops of protective masks and clothing.
- (2) Special training of enemy troops in chemical defense.
- (3) Smokes and mists sprayed from aircraft.
- (4) Appearance of enemy troops wearing protective masks and clothing.
- (5) Actual enemy use of chemical agents.

b. Biological.

- (1) Appearance of disease unusual for location or time of year (crop and animal disease, as well as human).
- (2) Records of unusual or intensive immunization of captured PW.
- (3) Unusual types of weapons; smokes or mists sprayed from aircraft unusual types of shells and bombs, particularly those which appear to have little or no immediate effect.
- (4) Issue to enemy troops of protective masks and clothing.
- (5) Unusual appearance and taste of food and water.
- (6) Location of large quantities of pigeons, monkeys, guinea pigs, mice, or other small animals.

c. Radiological.

- (1) Appearance of unusual aircraft, weapons, or instruments (very heavy artillery pieces, missile launchers, survey meters, etc.).
- (2) Special types of protective equipment (film badges, dosimeters, shoe coverings, protective masks, etc.).

Section V. OPERATIONS

9. Operations

When CBR warfare has been initiated, or is imminent, the following procedures will be followed.

a. *Individual Defense.*

- (1) All individuals will have protective masks available at all times.
- (2) All low-flying aircraft (25'–300') will be suspected of CBR attack, until determined otherwise. Personnel will mask.
- (3) Artillery, rocket or mortar concentrations placed directly on your unit position will be assumed to include CBR agents until determined otherwise. Personnel will mask.
- (4) Boots will be treated with protective dubbing as required by FM 21–40.
- (5) Each individual will carry one set of protective clothing (permeable) in his pack, to be worn when directed by this headquarters.
- (6) Unit commanders will insure that every individual has complete and up-to-date immunization.
- (7) Each individual will apply Detector Crayon as follows:
 - (a) Helmet-cross strips on each side 1" x 4".
 - (b) Rifle-single strip along top center of handguard 1" x 4".
- (8) All individuals will observe optimum personal hygiene.
- (9) Survey meters and dosimeters will be issued.
- (10) Guidance on radiation exposure will be announced by this headquarters.

b. *Collective Protection.*

- (1) Detector crayon and paper will be applied or used as required.
 - (a) Detector crayon will be applied as follows:
 1. Vehicle-strip $\frac{1}{2}$ " x 12" on each fender.
 2. Track Vehicle-strip $\frac{1}{2}$ " x 12" on forward and rear of hull.
 3. Automatic weapon-strip $\frac{1}{2}$ " x 12" at top center of receiver.
 4. Recoilless weapon-strip $\frac{1}{2}$ " x 4" at top center of tube.
 5. Artillery-strip $\frac{1}{2}$ " x 12" on top center of each fender.
 6. Tents—2 parallel strips 1" x 12" above each entrance.
 - (b) Detector paper will be staked on the ground, in the open, in static situations.

- (2) Unit CBR survey teams will each have available at all times, in operating condition, Chemical Agent Detector Kit, Radiation Survey Meter and Dosimeter.
- (3) All guards and sentinels on duty will also be gas sentinels. Sentinels will awaken all sleeping personnel when CBR attack is detected.
- (4) Decontamination apparatus and materials will be maintained at unit CP's.
- (5) Supplies will be kept under cover whenever possible.
- (6) S2 disseminates Effective Wind Message as received from Div.

c. Procedures During CBR Attack.

(1) *Individual defense.*

- (a) All individuals except those in gas-proof shelters will wear protective masks.
- (b) The protective mask will not be removed from the face except on the order of the unit commander.
- (c) At the cry "Spray," or when spray from aircraft is observed or suspected, the individual poncho will be worn over the body, the protective mask will be adjusted to the face, and the alarm will be sounded. When spray has ceased to fall, the poncho will be discarded.
- (d) Guards, sentinels, or any other individual detecting gas will immediately cry "Gas" and sound the alarm. The protective mask will be adjusted to the face.
- (e) Casualties showing symptoms of nerve-agents will be treated by use of atropine injection IMMEDIATELY (maximum of three injections by nonmedical personnel).

(2) *Collective protection.*

- (a) All CBR survey personnel will give priority to CBR duties.
- (b) Unit CBR survey personnel will identify any chemical agent(s) present with the Chemical Agent Detector Kit and will determine when it is safe to remove protective masks.

d. Procedures After CBR Attack.

- (1) Senior survivor of each unit affected by CBR attack will take immediate action to reorganize the unit and continue the assigned mission or alternate mission as directed.
- (2) Unit CBR survey personnel will determine the degree and extent of chemical/radiological contamination and post contaminated areas when appropriate.

- (3) The S2 will maintain CBR situation maps.
- (4) Radiation monitor reports will be submitted by available communications on initial contact with radioactivity of 1 rad/hr or higher. Subsequent reports will be submitted at specified time intervals or at dose rate intervals while the dose rate in the area is rising; at the first indication the dose rate is beginning to decline; and thereafter as directed by higher headquarters.

Section VI. REPORTS

10. Reports

Report of enemy use of CBR agents. Use DA Form 890.

APPENDIX VIII
CHECKLISTS FOR COMMAND ACTIONS

Following are checklists to assist battalion commanders in attack, defense and retrograde operations. These checklists are neither all-inclusive nor inflexible rules but are guides which should be modified to fit the situation. They must not become substitutes for thinking.

1. After Receiving the Warning Order

- a. Whom will I take with me to receive the brigade order?
- b. What action can I initiate based on the information furnished me in the warning order?
- c. What information can I furnish my subordinate commanders and staff?

2. After Receipt of the Brigade Order

a. General.

- (1) What are the stated and implied tasks in my mission?
- (2) What information is required to complete my estimate of the situation?
- (3) How much time do my subordinate units and I have for reconnaissance, planning, and issuance of orders?
- (4) What coordination can I undertake now? Have I arranged for final coordination with adjacent and supporting units?
- (5) How can I best employ my supporting elements?
- (6) Have I furnished my commanders and staff with adequate planning guidance?
- (7) How, when and where should I issue my order?
- (8) Have I properly planned my reconnaissance to include best use of available time, assignment of reconnaissance missions to subordinates, and designation of time(s) and place(s) to receive recommendations?
- (9) Who will go with me on reconnaissance?
- (10) Can I use aircraft to make my reconnaissance?
- (11) Has liaison been established with delivery unit (airborne operations)?

- (12) Are there any special administrative support requirements peculiar to this type of operation (POL for mechanized/motorized operations; parachutes or other equipment for airborne operations)?
- (13) What fires, including nuclear fires, are available? How can I best employ them?
- (14) What is my tentative plan?
- (15) Have I announced my reconnaissance route and schedule?

b. Attack.

- (1) What is the mobility of my command?
- (2) What formation(s) are feasible?
- (3) Are communication facilities adequate to communicate with my command?
- (4) How can I best control the attack?
- (5) What must I be prepared for when I have seized and secured the objective?
- (6) Does my plan lend itself to future operations?

c. Defense.

- (1) How many companies will I employ on the FEBA?
- (2) What unit(s) will I designate to establish the COP?
- (3) In an airborne operation, will responsibility for the COP change after the defense has been established?

d. Retrograde. Does my plan include—

- (1) Designation of assembly areas?
- (2) Routes and alternate routes or zones?
- (3) Initial points?
- (4) Release points?
- (5) Delaying positions?
- (6) Specification of the command and composition of detachments left in contact?
- (7) A schedule of movement?
- (8) Appropriate considerations for withdrawal under enemy pressure?

3. While on Reconnaissance

a. Attack.

- (1) What approaches are available into the enemy position? Will they permit the use of my scheme of maneuver?
- (2) Are there any obstacles to movement? How much concealment and cover is available? Can I adequately disperse my forces?
- (3) Are forward assembly area or attack positions required for the attack? If so, where?
- (4) Where is the line of departure? Is it appropriate?

- (5) What additional objectives are required?
- (6) What effect will nuclear weapons have on the terrain over which I am attacking? Contaminated areas? Secondary fires? What effect will rubble or tree blowdown have on movement, particularly in a mechanized attack?
- (7) Are there large numbers of civilians in the area? Will they hamper my operation and/or my use of nuclear weapons?
- (8) In an airborne assault, does my plan include consideration of landing, assembly, and reorganization?

b. Defense.

- (1) What are the avenues of approach available to the enemy?
- (2) What natural obstacles exist?
- (3) What is the general trace of the COPL?
- (4) What areas within the battalion area are exposed to enemy observation?
- (5) What terrain must be defended?
- (6) Where should the forward companies be disposed?
- (7) Where should the reserve be located?
- (8) Are there civilians in the area? Should they be evacuated? Partially? Totally?
- (9) What general locations are available for supporting weapons?
- (10) If tanks or APC are available, can they be positioned in hull defilade or otherwise located to facilitate conduct of the defense?
- (11) Have I provided for routes of ammunition resupply?
- (12) Have I completed my coordination with adjacent units?

c. Retrograde.

- (1) What positions are available from which units can gain good observation and long range fields of fire?
- (2) What natural obstacles exist in front of, within, or near these positions?
- (3) Do covered routes of withdrawal exist?
- (4) Where should I locate my units on the position?
- (5) What general locations are available for supporting weapons?
- (6) Where can I best locate my command installations and combat trains?
- (7) Have I coordinated with adjacent units?
- (8) Having selected the delaying positions, where can I best locate my security force?
- (9) Where can my reserve be located if it must cover the withdrawal of forward units?

4. Upon Completion of Reconnaissance

a. *General.*

- (1) Have I received recommendations from my staff and the commanders of organic, attached, and supporting units?
- (2) Does my estimate need revising?
- (3) What is my plan?
- (4) Have I based my plan on knowledge gained through active ground, map, and aerial reconnaissance and knowledge of the enemy situation?
- (5) Have I planned for maximum exploitation of all my resources, including organic and attached units and all available fires?
- (6) Can my plan be supported logistically and with available personnel?

b. *Attack.*

- (1) Have I analyzed the enemy defense thoroughly, taking advantage of weaknesses in enemy dispositions or in terrain where the defender cannot use his weapons or obstacles to advantage?
- (2) Have I given adequate consideration to terrain and weather?
- (3) Have I considered troop safety in the planning of nuclear fires and the scheme of maneuver? What effects will nuclear weapons have on the terrain over which I am attacking? Has due consideration been given to civilians in the area?
- (4) Does my plan call for weighting the main attack?
- (5) Have I selected unnecessary intermediate objectives?
- (6) Does my plan of attack foresee and provide for the next step in case of success, partial success, or failure?
- (7) Have I provided for flank protection?
- (8) Have I provided for consolidation and reorganization after the objective is seized?
- (9) In airborne operations, have I selected LZs, DZs, and/or assembly areas to facilitate the conduct of the attack? Are my marshalling, air movement, and landing plans based upon my ground tactical plan?

c. *Defense.*

- (1) What is my plan for defense?
- (2) What boundaries and coordinating points between companies will I prescribe?
- (3) Who will establish the COP? In what strength?
- (4) Where shall I locate the reserve? What supplementary positions are required?

- (5) How will I employ my supporting fires?
- (6) How will I employ my antitank weapons?
- (7) What is my barrier plan?
- (8) Must civilians be evacuated from the area?
- (9) Have I considered counterattack plans?

d. Retrograde.

- (1) What is my plan for the operation?
- (2) What is to be the composition of the detachments left in contact (covering force)?
- (3) Who will command this force?
- (4) When will it withdraw?
- (5) Have I designated assembly areas, routes (zones) of withdrawal, initial points, and release points?
- (6) Have I provided for security to front, flanks, and rear?
- (7) Have I assigned priority for use of road nets?
- (8) Have I planned roadblocks, destruction of bridges, and use of artificial or natural obstacles?
- (9) When will reserve and administrative facilities displace?
- (10) In delaying position(s), have I clearly designated sectors and the units to occupy them?
- (11) How will I employ my antitank means, supporting fires, engineers, Army aviation and personnel carriers or other transportation?
- (12) Where can I best locate my command group during withdrawal and at delaying position(s)?
- (13) Must civilians be evacuated?
- (14) Will my plan work under all conditions of visibility and enemy pressure?

5. After Completion of the Plan

a. Does the order that I am about to issue fully implement my plan?

b. Have I thoroughly oriented the personnel who are to receive the order on the situation and the terrain?

c. Can the order be clearly understood by all of my subordinates?

6. After Issuing the Order

a. General.

- (1) Was the order clearly understood by all of my subordinates?
- (2) What assistance can I furnish my organic, attached, and supporting units?
- (3) Have I correctly supervised the implementation of my order?

b. Defense.

- (1) Have I initiated planning for counterattack?
- (2) Are my security measures (to include CBR considerations) adequate?

c. Retrograde.

- (1) Are all plans still adequate, based on developments thus far?
- (2) Need I make changes?

7. During the Conduct of the Operation

a. General.

- (1) Where can I best position myself to influence the action?
- (2) Am I keeping higher, lower, and adjacent commanders adequately informed of my situation?

b. Attack. Am I prepared to influence the battle by shifting supporting fires, by maneuver, personal visits, and the use of reserves?

c. Defense.

- (1) Are my supporting fires being best employed to facilitate the defense?
- (2) Am I prepared to shift my forces to defend against attacks from the flanks or rear?
- (3) Am I prepared to execute counterattacks appropriately against penetrations?

d. Retrograde.

- (1) Are supporting fires being best employed?
- (2) When can the detachments left in contact (covering force) withdraw?
- (3) Am I properly supervising the occupation of the delaying position(s)?

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For explanation of abbreviations used, see AR 320-50.

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