

FM 17-15

DEPARTMENT OF THE ARMY FIELD MANUAL

LOAN COPY

RETURN TO

TEXT ISSUE

**TANK UNITS
PLATOON, COMPANY
AND BATTALION**

This copy is a reprint which includes current
pages from Changes 1 and 2.



**HEADQUARTERS, DEPARTMENT OF THE ARMY
MARCH 1966**

FIELD MANUAL

No. 17-15

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 25 March 1966

TANK UNITS, PLATOON, COMPANY, AND BATTALION

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* This manual supersedes FM 17-15, 4 December 1961, including C 1, 23 April 1964, and FM 17-33, 23 August 1957, including C 1, 11 December 1959.

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CHAPTER 1

GENERAL

Section I. GENERAL

1. Purpose

This manual sets forth doctrine for the employment of tank platoons, companies, and battalions.

2. Scope

a. Information is provided on the organization, capabilities, limitations, tactics, techniques of employment, exercise of command, reconnaissance and security, combat service support, and tactical operations appropriate to all tank battalions and their subordinate elements.

b. The procedures described herein are intended as guides only and should be considered flexible. Each new situation in combat must be solved by an intelligent interpretation and application of the doctrine set forth herein.

c. This manual must be used in conjunction with FM 17-1. General information contained in other manuals is repeated in this manual only when necessary to insure clarity and understanding. Although this manual deals primarily with tank units, it emphasizes that tanks normally operate in close coordination with infantry and other combat arms in mobile combined arms forces. Other manuals which supplement the information in this manual and with which tank unit commanders should be familiar are listed in appendix I.

d. The term "tank" is the approved generic term with respect to tank unit; i.e., tank platoon, tank company, and tank battalion.

e. The material presented in this manual is applicable to general war, limited war, and cold war to include stability operations.

(1) This manual is in consonance with

the International Standardization Agreements listed below. Applicable agreements are listed by type and number at the beginning of each chapter.

<i>Title</i>	<i>NATO STANAG</i>	<i>CENTO STANAG</i>	<i>SEATO STANAG</i>	<i>ABCA SOLOG</i>
Operation Orders, Annexes to Operation Orders, Administrative/ Logistic Orders	2014	2014	2014	17R
Battlefield Illumination	2088	2088		108

f. Users of this manual are encouraged to submit recommendations to improve its clarity or accuracy. 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 permit complete evaluation. Comments should be prepared using DA Form 2028 (Recommended Changes to Publications) and forwarded direct to the Commanding Officer, U.S. Army Combat Developments Command Armor Agency, Fort Knox, Kentucky 40121. Originators of proposed changes which would constitute a significant modification of approved Army doctrine may send an information copy, through command channels, to the Commanding General, U.S. Army Combat Developments Command, Fort Belvoir, Virginia 22060, to facilitate review and followup.

3. General

Technological developments and doctrinal and organizational concepts indicate that increased emphasis will be placed on tactical operations characterized by open and fluid warfare, with increased dispersion between tactical formations and installations. The decisive ele-

ment of these operations will be the rapid concentration of the combat power required to achieve a tactical advantage. Upon the accomplishment of a mission, immediate dispersion of this combat power will be necessary to avoid enemy nuclear retaliation. Tank units are designed for the conduct of mounted mobile warfare. Their capabilities have assumed increased importance within the role that Army forces will play in combat.

4. The Tank

a. The tank is the primary weapon of tank units. It is a vehicle-mounted weapons system designed to execute mounted, mobile operations in the offense, defense, or retrograde. With its armor-protected firepower and excellent cross-country mobility, the tank is ideally suited for employment in all types of offensive operations, in execution of the mobile defense, in covering force and retrograde operations, and as part of a counterattacking force in the area defense.

b. The tank is a weapon of decision on the battlefield. The ease with which the tank can move cross-country over difficult terrain enables the crew, protected by armor, to maneuver its mounted weapons system from one favorable position to another, influencing the course of an operation in the manner the commander desires.

5. The Tanker

The individual soldier in a tank unit must be indoctrinated with the spirit of the offensive. His thinking must be geared to the speed and violence of mobile warfare. He is trained to operate deep in hostile territory. He must regard the presence of the enemy to his front, flanks, and rear as a condition to be expected. He must develop a spirit of daring that will insure effective engagement of the enemy.

6. Tank Crew Teamwork

a. The tank crew is a tightly integrated team. While all members have certain primary duties, it must be emphasized constantly—in training and in battle—that success depends upon their effectiveness as a crew. They must work together in the maintenance and servicing of

their tank and equipment. They must function as one in combat and respond swiftly, automatically, and efficiently to each new situation.

b. The efficiency of the tank crew can be improved greatly by training each crew member in the duties of the other crew members to the maximum extent permitted by time and the capacity of the men. This training should be conducted as soon as primary duties of each man are mastered.

7. Mission and Capabilities of the Tank Battalion (Armored, Mechanized Infantry or Infantry Divisions, and Separate Armored, Mechanized Infantry or Infantry Brigades)

a. Mission. The mission of the tank battalion is to close with and destroy enemy forces using fire, maneuver, and shock effect in coordination with other arms.

b. Capabilities. Tank units can—

- (1) Conduct operations requiring a high degree of firepower, mobility, armor protection, and shock effect.
- (2) Attack or counterattack under hostile fire.
- (3) Destroy enemy armor by fire.
- (4) Support mechanized infantry and infantry units by fire, maneuver, and shock effect.
- (5) Exploit after breakthrough with high cross-country mobility.
- (6) Rapidly exploit the effects of mass destruction weapons.
- (7) Provide organic nonnuclear fire support.
- (8) Conduct combat operations under limited visibility conditions employing night viewing devices and surveillance equipment.
- (9) Participate (with reduced capabilities) in air transported operations when the armored reconnaissance/airborne assault vehicle is substituted for the main battle tank.

Section II. ORGANIZATION OF TANK BATTALION

8. General

a. The tank battalion organization is the same in the armored, mechanized infantry or infantry divisions, and separate armored, mechanized infantry or infantry brigades.

b. The tank battalion consists of a headquarters and headquarters company, a combat support company, and three tank companies (fig 1).

9. Headquarters and Headquarters Company

The battalion headquarters contains the battalion commander and his staff. The headquarters company contains a company headquarters, battalion headquarters section, HCC maintenance section, headquarters tank section, battalion support platoon, battalion communi-

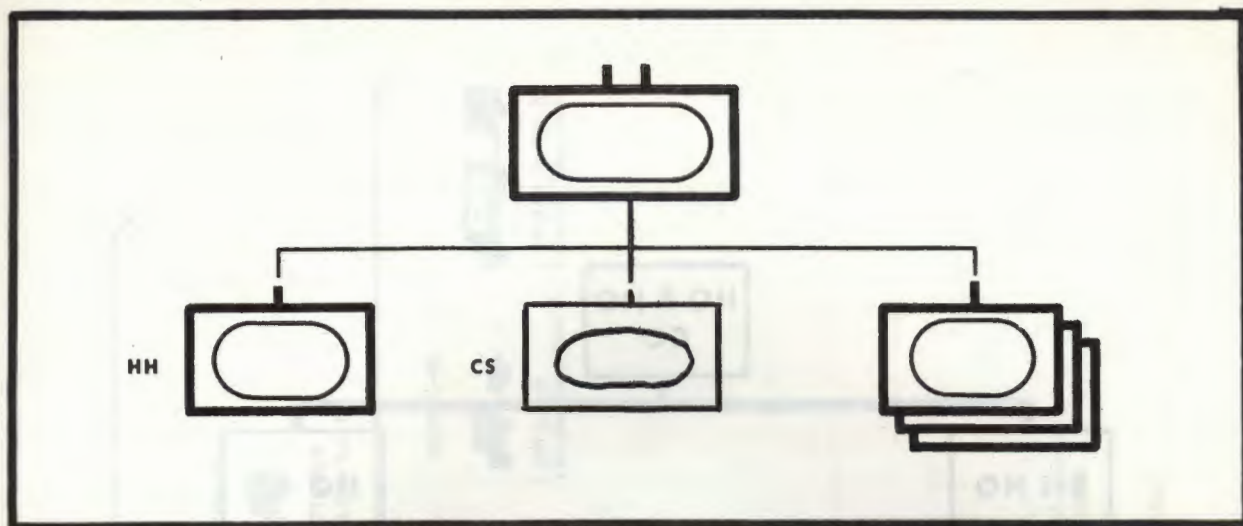


Figure 1. Organization, tank battalion.

cations platoon, battalion supply section, battalion maintenance platoon, and a battalion medical platoon (fig. 2). A medical officer, chaplain section, and personnel section are provided from brigade or division resources when required. A civil-military operations (CMO) section (S5) may be provided by a Modified Table of Organization and Equipment (MTOE). Location of personnel and vehicles contained in the battalion headquarters and headquarters company is shown in figure 3.

10. Battalion Headquarters

The battalion headquarters contains the necessary officers and men to command, control, and supervise the training and operations of the battalion. These include the battalion commander, executive officer, personnel staff officer (S1), intelligence officer (S2), operations officer (S3), logistics officer (S4), command sergeant major, and when authorized, a civil-military operations officer (S5). The communications-electronics (C-E) officer and motor officer are part of the battalion staff but are assigned to and shown in their respective platoons. For duties and responsibilities of the battalion commander and his staff, see FM 17-1 and FM 101-5.

11. Company Headquarters of Headquarters Company

The company headquarters of headquarters

company provides combat service support for the company and for battalion headquarters. The company headquarters section includes the company commander, executive officer, first sergeant, supply sergeant, company clerk, and drivers. The company commander may be designated to temporarily assume the duties of any member of the staff. The executive officer is the company maintenance officer and, together with the motor sergeant and mechanics, is responsible for keeping all headquarters company vehicles and equipment at maximum operating efficiency. A discussion of the headquarters company commander's duties is contained in FM 17-1.

12. Battalion Headquarters Section

The battalion headquarters section provides an S3 air, two liaison officers, and necessary enlisted personnel and equipment for operation of the battalion headquarters. This section also provides the vehicular mounted frequency-modulated (FM) and single sideband (SSB) radio sets needed by the headquarters for the command and control of the battalion. This section provides an armored vehicle for use by the Air Force tactical air control party (TACP) when attached. The communications equipment required by the TACP for the control of air strikes is provided by the TACP for mounting in the armored vehicle.

13. Headquarters Tank Section

The headquarters tank section consists of a

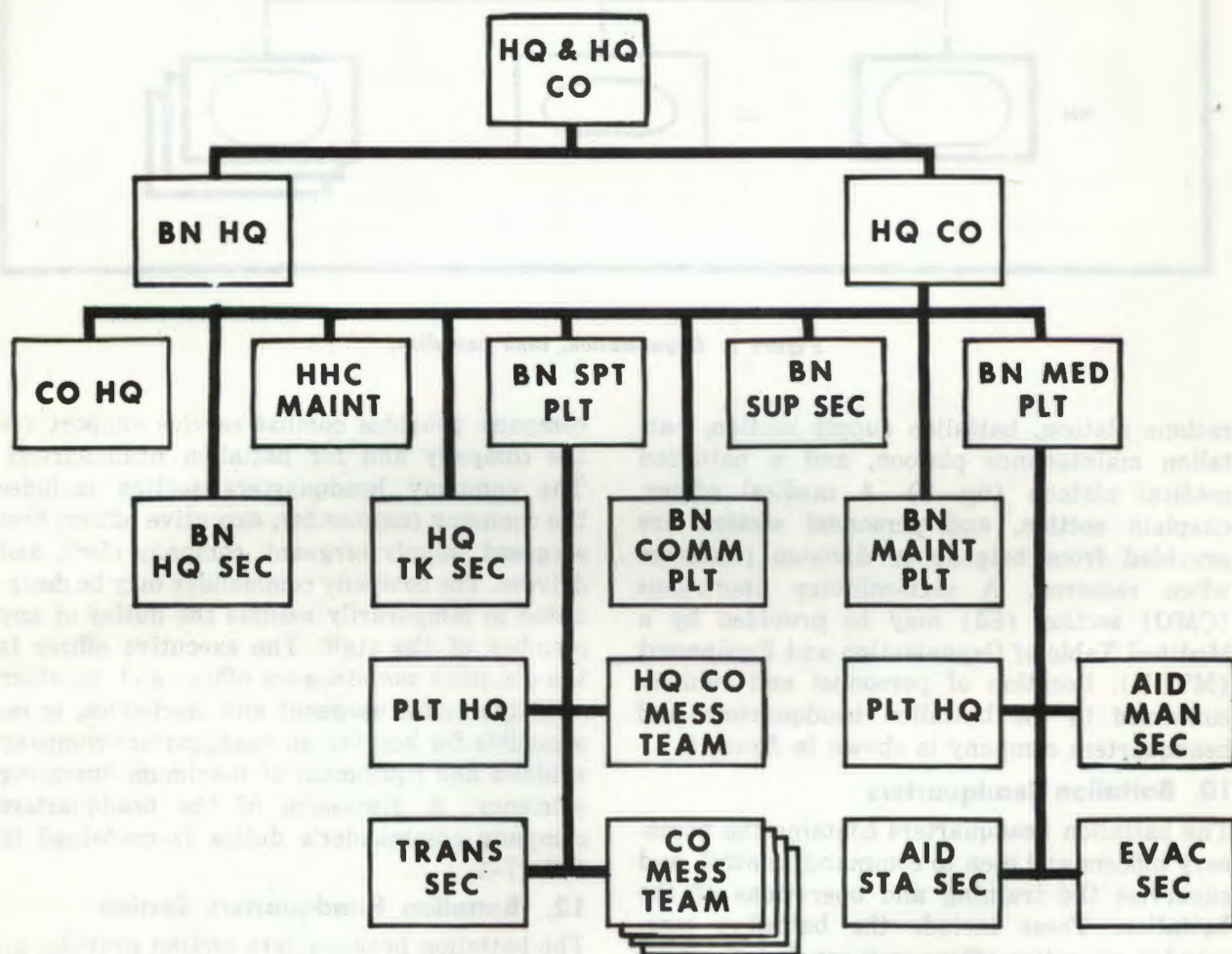
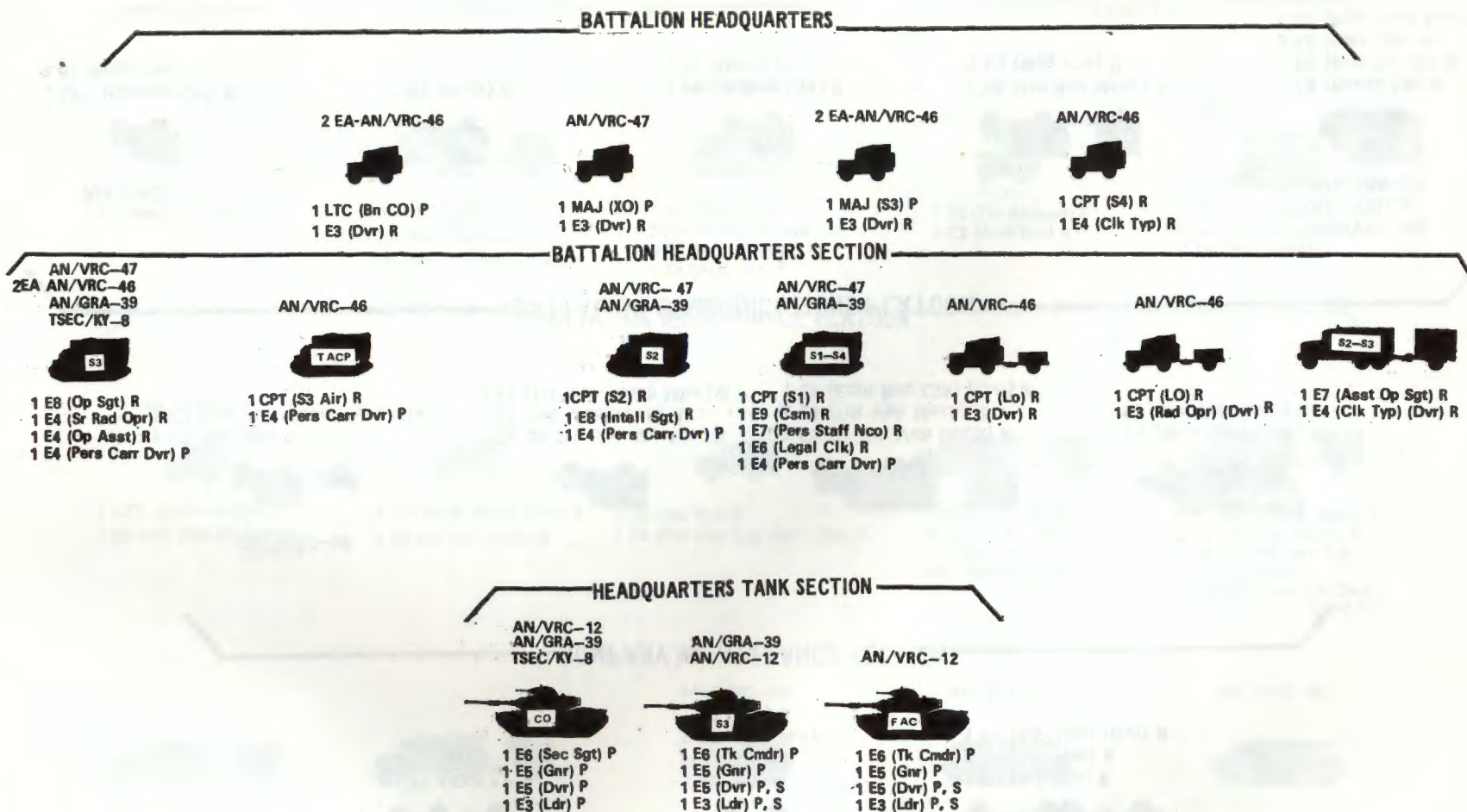


Figure 2. Organization, headquarters and headquarters company, tank battalion.



1. Battalion headquarters, battalion headquarters section, and headquarters tank section.
(LEGEND: P-Pistol, R-Rifle, S-Submachine Gun, GL-Grenade Launcher.)

Figure 3. Manning chart, headquarters and headquarters company, tank battalion.

COMPANY HEADQUARTERS

AN/VRC-46



1 CPT (CO) P
1 E3 (Dvr) R

AN/VRC-64



1 LT (XO) R
1 E8 (1SG) R
1 E5 (Co Clk) R
1 E3 (Dvr) R



1 E6 (Sup Sgt) R
1 E4 (Armorer) R
1 E3 (Sup Clk) (Dvr) R

COMPANY MAINTENANCE SECTION

AN/VRC-64



1 E7 (Mtr Sgt) R
1 E3 (Trk Veh Mech Hlpr) (Dvr) R



1 E5 (Sr Trk Veh Mech) R
1 E4 (Trk Veh Mech) R
1 E3 (Trk Veh Mech Hlpr) R



1 E5 (Sr Trk Veh Mech) R
2 E4 (Trk Veh Mech) R
1 E4 (Eqpt Rec Clk) (Dvr) R



1 E4 (Wrkr Opr) (Dvr) R
1 E4 (Trk Veh Mech) R

BATTALION COMMUNICATIONS PLATOON

AN/VRC-49



1 CPT (Commo Off) R
1 E3 (Msg Clk) R



1 E3 (Msgr) R



1 E4 (Sr Msg Clk) R
1 E3 (Msgr) R



1 E4 (Fld Rad Mech) R
1 E3 (Msg Clk) R

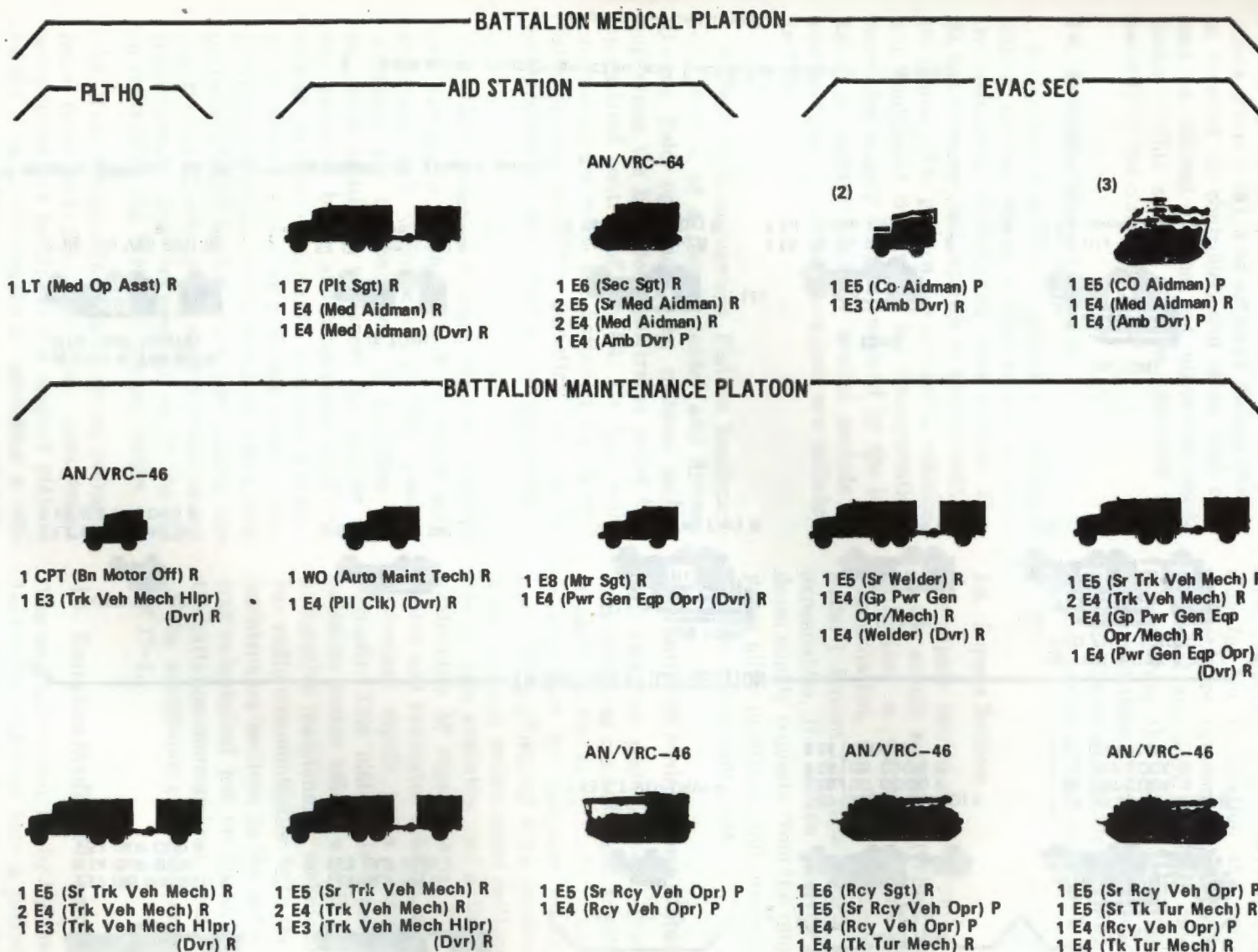
AN/VRC-46
AN/VSC-3
AN/GRA-39



1 E6 (Comm Ch) R
1 E5 (Ratt Tm Ch) R
2 E4 (Ratt Opr) R
1 E4 (Pers Carr Dvr) P

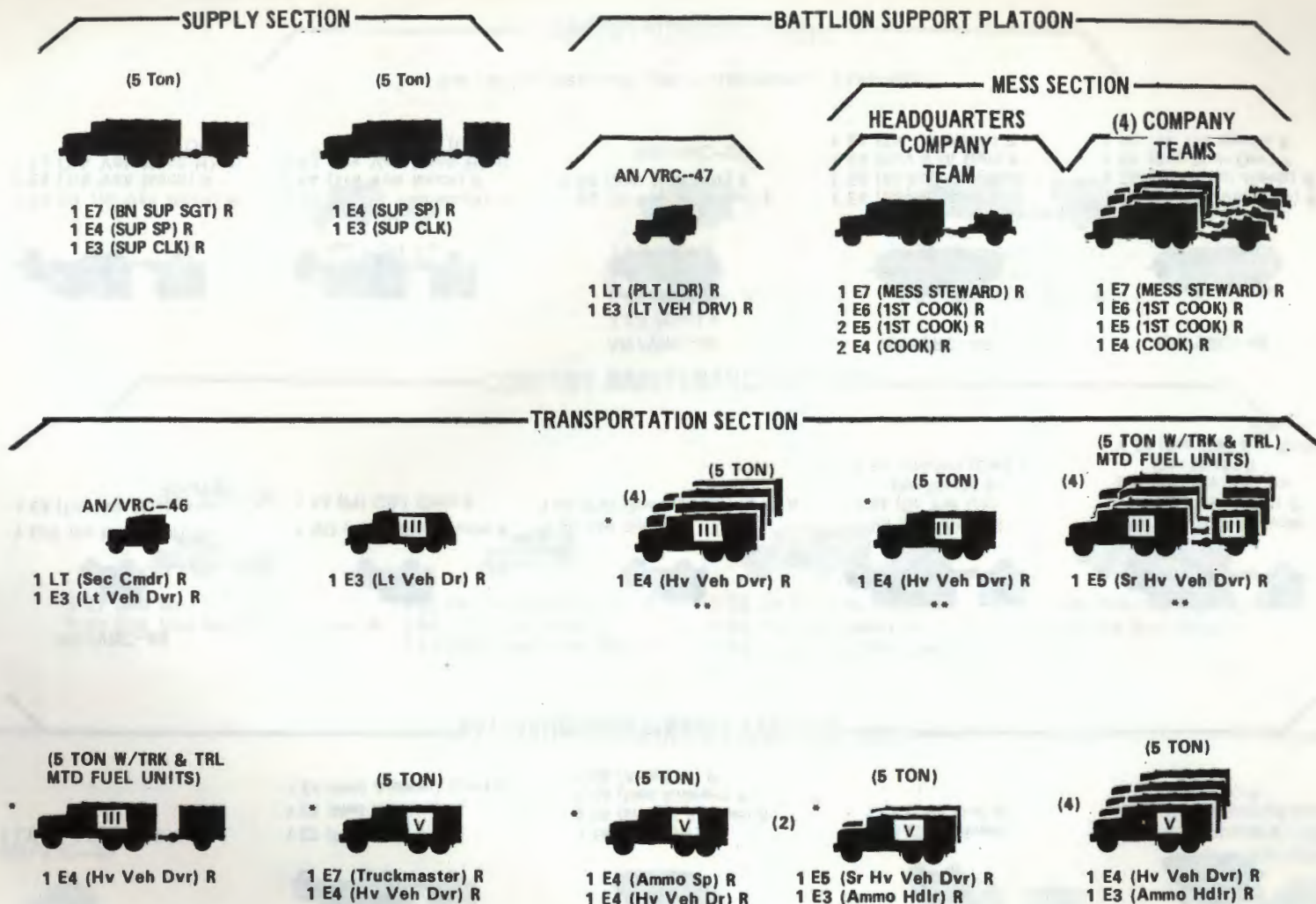
2. Company headquarters, maintenance section, battalion communication platoon.

Figure 3.—Continued.



3. Battalion medical and maintenance platoons.

Figure 3.—Continued.



* Mounts TOE cal 50 MG on ring mount or ground mount.

4. Battalion supply section and battalion support platoon.

Figure 3.—Continued.

section leader and the necessary enlisted men to man the three tanks with which the section is equipped. These tanks are provided primarily for the use of the battalion commander, operations officer (S3), and artillery liaison officer or forward air controller, and other staff officers as desired. When not otherwise used, tanks of this section may be employed for security of the command post.

14. Battalion Support Platoon

a. General. The support platoon is organized into a platoon headquarters, supply section, transportation section, and mess section. The S4 has primary staff interest in employment of the platoon. The platoon has personnel, vehicles, and equipment to furnish the transportation, mess, and supply support required by the battalion to sustain itself for limited periods of combat. Details of its operations are included in FM 17-1.

b. Platoon Headquarters. Platoon headquarters consists of a platoon leader and driver. During field operations, the platoon leader supervises the battalion field trains under the operational control of the S4. He has radio communication with the battalion S4 in the battalion administrative logistical net or, in emergencies, in the battalion command net.

c. Transportation Section. The transportation section is organized and equipped with personnel and vehicles to provide general transport for the battalion. It provides the necessary vehicles to transport that portion of the battalion basic and prescribed load not carried on other vehicles. In addition, it transports other supplies as required from supply points to companies of the battalion. The transportation section leader, when not required for supervision of convoys or other transportation requirements, may be used to assist the S4 in controlling the battalion combat trains.

d. Mess Section. The headquarters company mess team and the other four mess teams work under the control of the support platoon leader. They are capable of providing a battalion consolidated mess, or of operating individually as company messes.

15. Battalion Communications Platoon

The battalion communications platoon, led by the battalion C-E officer, contains sufficient men, equipment, and organic transport to provide for the installation and maintenance of the battalion communications system. Platoon personnel are used to install telephone lines and operate the battalion switchboard. The communications chief supervises the activities of the platoon's message-handling and maintenance personnel. See paragraph 26 for further details.

16. Supply Section

The supply section operates under the control of the supply sergeant. (When the section is authorized a warrant officer (WO) under augmentation, the WO becomes the section leader.) Except for repair parts and medical expendables, the section receives and consolidates supply requests from the companies, prepares all requisitions, and procures and issues supplies to the companies.

17. Battalion Maintenance Platoon

The battalion maintenance platoon performs organizational maintenance, as outlined in the 20-series technical manuals, which cannot be accomplished by company maintenance sections. In performing organizational maintenance, company maintenance sections are limited due to time available, tool authorizations, and availability of repair parts. The platoon recovers and evacuates vehicles, and supplies all authorized repair parts (except signal and medical). This platoon is commanded by the battalion motor officer who is assisted by an automotive maintenance technician (WO). He has radio communication with the S4 and unit maintenance sections in the battalion administrative-logistical net or, in an emergency, in the battalion command net. Details of operation of the maintenance platoon are contained in FM 17-1.

18. Battalion Medical Platoon

The medical platoon, led by the medical platoon leader, is organized into a platoon headquarters, an aid station section, an aidman section, and an evacuation section. The platoon estab-

lishes and operates the battalion aid station. All medical supplies are requisitioned and distributed as required by the platoon. The platoon provides medical aid-evacuation teams and armored ambulance service to the companies for emergency medical treatment and evacuation of patients to the battalion aid station. It assists in technical instruction in first aid and field sanitation, and conducts technical inspections of a medical and sanitation nature. There is no physician assigned to the medical platoon; however, physician coverage at the battalion aid station can be provided by the division medical battalion if the tactical situation warrants. Details of operation of this platoon are contained in FM 8-15 and FM 17-1.

19. Combat Support Company

a. The combat support company (fig 3.1) contains those elements responsible for providing the battalion with ground surveillance, reconnaissance, mortar fire, air defense, and immediate limited bridging.

b. The combat support company commander recommends, advises, and supervises the employment of his platoons/sections. In a tactical situation, the combat support company commander will become a special advisor to the battalion commander and work closely with the S2 and S3 on employment of the combat support platoons and sections. He is also responsible for providing service support to those elements of his company which are not attached to other elements within the battalion. In addition to his command and coordination role, he performs other duties as directed by the battalion commander, such as establishing an alternate battalion command post or commanding a team. In garrison, during platoon/section training, he functions in the same manner as any other company commander.

c. Location of personnel and equipment in the combat support company is shown in figure 3-2.

19.1 Combat Support Company Headquarters

The company headquarters section provides command and control, supply, and administrative support for the platoon/section. The com-

pany headquarters section contains the company commander, executive officer, first sergeant, supply sergeant, communications chief, and other enlisted personnel necessary for the operation of the company.

19.2 Battalion Scout Platoon

a. General. The scout platoon consists of a platoon headquarters and two scout sections. The headquarters section consists of the platoon leader, platoon sergeant, two drivers, two scout observers, one radio telephone operator, one M113, and one M114. Each scout section consists of two scout squads. Each scout squad consists of a squad leader, assistant squad leader, two scout observers, two scout drivers, and two M114. The first (senior) squad leader is also the section leader.

b. Mission. The scout platoon performs reconnaissance and provides security for the battalion within its capabilities. It may be reinforced with tanks and mechanized infantry to accomplish these missions. The scout platoon assists in the control of movements of the battalion, or elements thereof, by performing route reconnaissance, posting guides and/or markers, and reconnoitering assembly areas and attack positions. For details on employment, see appendix III.

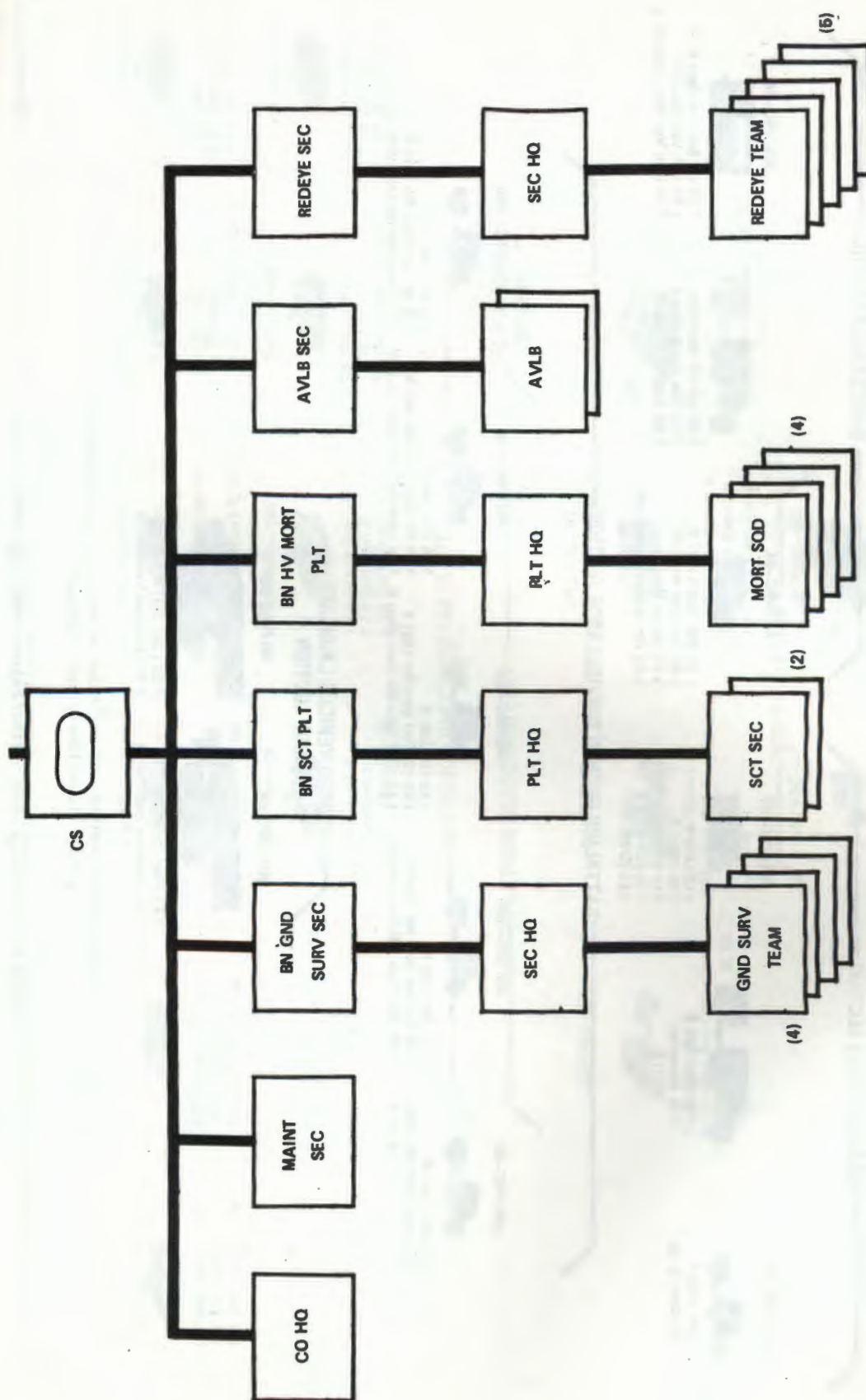
19.3 Battalion Heavy Mortar Platoon

a. General. The battalion heavy mortar platoon consists of a platoon headquarters and four mortar squads. The platoon headquarters consists of a platoon leader, platoon sergeant, three observer teams, and a fire direction center (FDC), each having a means of transportation and communication. Each heavy mortar squad contains a squad leader, gunner, mortar carrier driver, assistant gunner, and an ammunition bearer.

b. Mission. The platoon provides close and continuous indirect fire support for the companies of the tank battalion. For details on tactical employment of this platoon, see appendix II.

19.4 Battalion Redeye Section

The Redeye section provides the battalion a



COMBAT SUPPORT COMPANY
HEADQUARTERS AND MAINTENANCE SECTIONS

HEADQUARTERS SECTION

AN/VRC-47



1 CPT (CO) P
 1 E3 (Dvr) R, GL



1 E6 (Sup Sgt) R
 1 E4 (Armorer)
 (Dvr) R

AN/VRC-47



1 LT (XO) R
 1 E8 (1Sg) R
 1 E5 (Commo Chief) R
 1 E5 (Co Clk) R
 1 E4 (DVR) P

AN/VRC-64

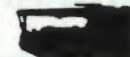


1 E6 (Mtr Sgt) R
 1 E4 (Fld Rad Mech) R
 1 E4 (Radar Mech) R
 1 E3 (Trk Veh Mech Hlpr) R



1 E5 (Sr Trk Veh Mech) R
 2 E4 (Trk Veh Mech) R
 1 E4 (Eqpt Rec Clk) R

AN/VRC-46



1 E5 (Sr Rec Veh Opr) P, S
 1 E4 (Trk Veh Mech) R
 1 E4 (Rec Veh Opr) (Dvr) P, S

BATTALION GROUND SURVEILLANCE SECTION

AN/VRC-46



1 E6 (Sec Ldr) R
 1 E4 (Gnd Surv Rad Opr)
 (Dvr) R

AN/GRC-160



1 E5 (Tm LDR) R
 1 E5 (Sr Gnd Surv Rdr, Opr) R
 1 E4 (Gnd Surv Rdr Opr) (Dvr) R

AN/GRC-160



1 E5 (Tm Ldr) R
 1 E5 (Sr Gnd Surv Rdr Opr) R
 1 E4 (Gnd Surv Rdr Opr) (Dvr) R

AN/GRC-160



1 E5 (Tm Ldr) R
 1 E5 (Sr Gnd Surv 4dr Opr) R
 1 E4 (Gnd Surv Rdr Opr) (Dvr) R

AN/GRC-160



1 E5 (Tm Ldr) R
 1 E5 (Sr Gnd Surv Rdr Opr) R
 1 E4 (Gnd Surv Rdr Opr) (Dvr) R

**ARMORED VEHICLE LAUNCHED
 BRIDGE SECTION**

AN/VRC 64



1 E6 (Sec Chief) R
 1 E4 (Armored Veh Dvr) R

AN/VRC 64



1 E5 (Sec Sgt) R
 1 E4 (Armored Veh Dvr) R

1. Company headquarters and maintenance sections and battalion ground surveillance and AVLB sections.

Figure 3.2. Manning chart, combat support company, tank battalion.

BATTALION SCOUT PLATOON

PLT HQ



1LT (Plt Ldr) R, Sct
1E4 (Sct Dvr) P
1E3 (Sct Obsv) R, GL



1E7 (Plt Sgt) R, Sct
1E4 (Sct Dvr) P
1E3 (Sct Obsv) R, GL

1st SCOUT SECTION

AN/VRC-46



1 E6 (Sec Ldr) R
1 E4 (Sct Dvr) P
1 E3 (Sct Obsv) R, GL

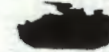
AN/GRC-160



1 E5 (Asst Sqd Ldr) R
1 E4 (Sct Dvr) P
1 E3 (Sct Obsv) R, GL

2nd SCOUT SECTION

AN/VRC-46



1 E6 (Sec Ldr) R
1 E4 (Sct Dvr) P
1 E3 (Sct Obsv) R, GL

AN/GRC-160



1 E5 (Asst Sqd Ldr) R
1 E4 (Sct Dvr) P
1 E3 (Sct Obsv) R, GL

AN/VRC-46



1 E6 (Sqd Ldr) R
1 E4 (Sct Dvr) P
1 E3 (Sct Obsv) R, GL

AN/GRC-160



1 E5 (Asst Sqd Ldr) R
1 E4 (Sct Dvr) P
1 E3 (Sct Obsv) R, GL

AN/VRC-46



1 E6 (Sqd Ldr) R
1 E4 (Sct Dvr) P
1 E3 (Sct Obsv) R, GL

AN/GRC-160

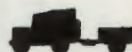


1 E5 (Asst Sqd Ldr) R
1 E4 (Sct Dvr) P
1 E3 (Sct Obsv) R, GL

BATTALION HEAVY MORTAR PLATOON

PLATOON HEADQUARTERS

AN/VRC-47



1 LT (Plt Ldr) R
1 E3 (Rad Tel Opr) (Dvr)
R, GL

AN/PRC-77



(3)
1 E5 (Fwd Obsv) R
1 E3 (Rad Tel Opr) (Dvr) R,

AN/VRC-47
AN/VRC-64



1 E7 (Plt Sgt) R
1 E6 (Fire Dir Chief) R
2 E5 (Fire Dir Cmpt) R
1 E4 (Pers Carr Dvr) R

(4) MORTAR SQUADS

AN/GRC-160



(4)
1 E5 (Sqd Ldr) R
1 E4 (Mtr Gnr) P
1 E4 (Mtr Carr Dvr) R.
1 E3 (Ammo Bearer) R, GL
1 E3 (Asst Gnr) P

REDEYE SECTION

AN/VRC-47



1 LT (Sec Ldr) R
1 E6 (Sec Sgt) (Dvr) R

AN/GRC-160



(5)
1 E5 (Tm Chf) R
1 E4 (Redeye Gnr) (Dvr) R

2. Battalion scout, heavy mortar platoon,
and redeye section.

Figure 3.2.—Continued.

responsive local air defense capability. The section consist of a section headquarters and five Redeye teams. The section leader, in addition to leading the section, is the battalion's air defense officer. Through coordination with the combat support company commander, he assists the S3 with the battalion air defense p'lan. The section is equipped with wheeled vehicles to provide mobility and radios for communications. See FM 17-1 for a discussion of the employment of the section. FM 23-17 describes Redeye crew drill, organizational maintenance, and system employment.

20. Battalion Ground Surveillance Section

The battalion ground surveillance section provides the battalion with medium range radar surveillance. The section consists of the section sergeant, four team leaders, four senior radar operators, and five radar operators. The five radar operators are also the drivers for the five organic 1/4 ton trucks used to transport the section's personnel and equipment. The S2, through the combat support company commander, has primary staff interest in the operation of the section. See FM 17-11 for methods of employment.

21. Armored Vehicle Launched Bridge (AVLB) Section

The AVLB section contains two armored vehicle bridge launchers, each capable of launch-

ing a class 60 assault bridge across a gap up to 18 meters wide in a relatively short time and with minimum exposure of the crew. Each launcher has a class 60 bridge mounted. The section is led by a section chief. For details on employment, see paragraph 54 of this manual.

22. Tank Company, Tank Battalion

a. General. The tank company (fig. 4) consists of a company headquarters, three tank platoons of five main battle tanks each, and a security section augmentation when approved by Department of the Army. Location of personnel and vehicles contained in the tank company is shown in figure 5.

b. Tank Company Headquarters. The company headquarters contains a headquarters section and a maintenance section.

c. Headquarters Section.

- (1) Key officers and men in the headquarters section include the company commander, executive officer, first sergeant, communication chief, and supply sergeant.
- (a) The company commander is responsible for the employment, training, discipline, control, combat service support, and welfare of his company in garrison and combat. He actively supervises the performance of those under his command. He employs his unit in combat in

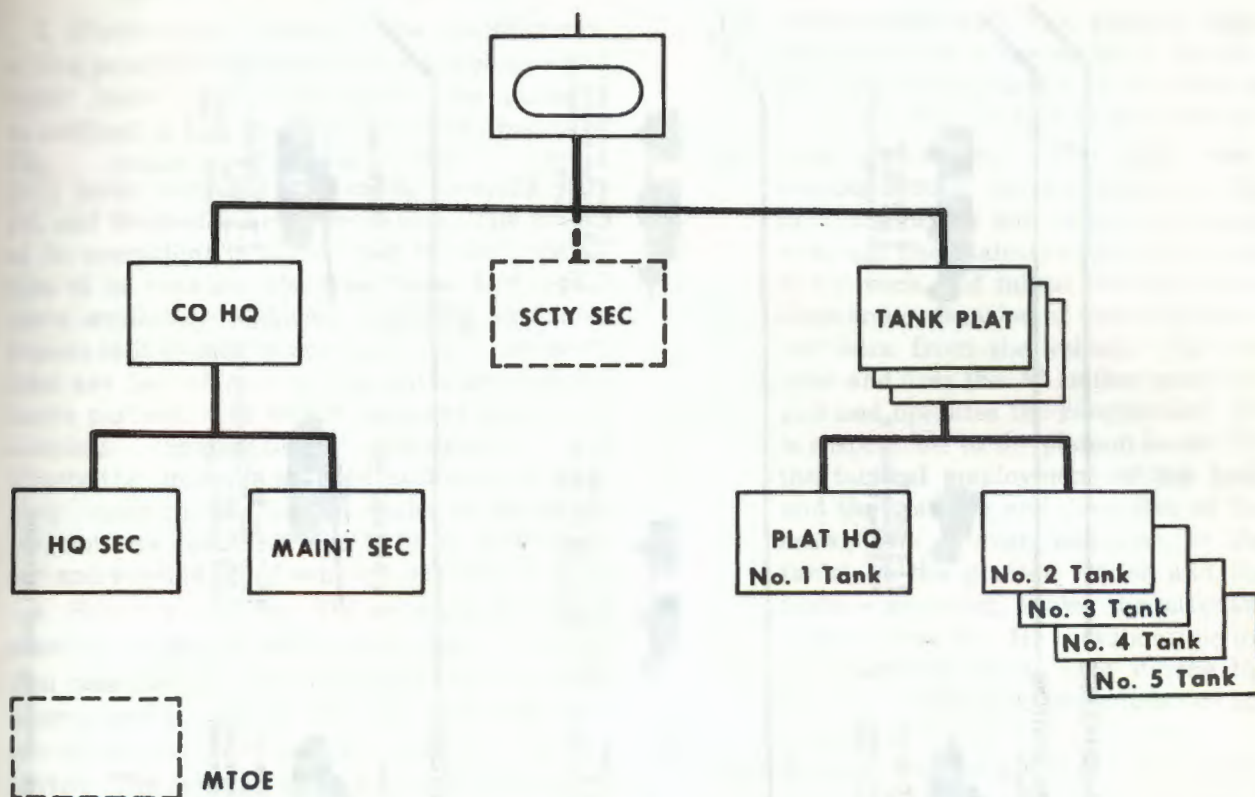


Figure 4. Organization, tank company.

accordance with orders received from higher headquarters. He positions himself in battle where he can best influence the outcome of the action. In the absence of orders, he makes decisions relative to the employment of his company in accordance with the overall mission and his estimate of the situation.

- (b) The executive officer is second in command of the company. He keeps abreast of the tactical situation and must be prepared to assume command at any time. As the company commander's principal assistant, the executive officer supervises the functioning of combat service support elements. He handles most of the company administrative details so that the company commander can devote most of his time to operations, training, and discipline.* The

executive officer is responsible for the movement, security, and operation of the company command post. He insures that communication is maintained with the platoons, the company commander, and battalion headquarters. He is also the company maintenance officer and rides in the maintenance section's $\frac{1}{4}$ -ton truck.

- (2) The headquarters section has two tanks. One of these is used by the company commander; the other is normally used by the artillery forward observer (FO). In the absence of an artillery FO, it can be utilized by the mortar platoon FO.
- (3) When contact with the enemy is not imminent, the company commander may ride in a $\frac{1}{4}$ -ton truck organic to the company headquarters section. The remaining $\frac{1}{4}$ -ton truck may be



* Mounts TOE cal 50 mg on ring mount or ground mount.

Figure 5. Manning chart, tank company, tank battalion.

used by the first sergeant. It may also serve as a messenger vehicle.

d. Maintenance Section. The maintenance section provides organizational maintenance and repair parts (except medical) for the company as outlined in the 20-series technical manuals. The section includes the company motor sergeant and radio, recovery, turret, and tracked vehicle mechanics. The extent of its operations is determined by the capabilities of its men and the time, tools, and repair parts available. Vehicles requiring extensive repairs that cannot be accomplished at company level are turned over to the battalion maintenance platoon. The motor sergeant supervises company organizational maintenance and directs the procurement and exchange of company repair parts. Specific duties of the motor sergeant are contained in FM 38-5. For recovery and evacuation of vehicles, see FM 17-1.

e. Security Section. The security section is provided by MTOE when authorized. The section consists of a section leader, eight security guards, and a driver for the armored personnel carrier in which the section is transported. The mission of this section is to form a security force for the protection of company headquarters and to provide replacement tank crewmen. When not immediately required for their primary mission, members of this section may be used to assist other elements of the company.

23. Tank Platoon

a. General. The tank platoon consists of five main battle tanks, numbered 1 through 5. The platoon leader is mounted in the number 1 tank and the platoon sergeant is mounted in the number 4 tank. The platoon operates as an entity; however, the enemy situation, terrain, or platoon mission may require the platoon leader to employ his platoon in two sections for fire and movement. However, the platoon leader still retains command of the entire platoon. Prefixes or suffixes may be used in conjunction with tank numbers as prescribed in organizational SOI and SSI.

b. Duties.

- (1) *Platoon leader.* The platoon leader is responsible to the company commander for the discipline and training of his platoon, the maintenance of

its equipment, and its success in battle.

- (2) *Platoon sergeant.* The platoon sergeant is second in command of the platoon and is responsible to the platoon leader for the conduct of the platoon.
- (3) *Tank commander.* The tank commander directs the movement of the tank, the laying and firing of all tank weapons, the maintenance and supply of the tank, and initial first aid treatment and evacuation of wounded crewmembers from the vehicle. He also aims and fires the .50 caliber machinegun and operates the rangefinder. He is responsible to the platoon leader for the tactical employment of the tank and the training and discipline of the crew. The gunner assigned to the tanks of the platoon leader and the platoon sergeant, is also the assistant tank commander. He is responsible for the operation of the crew during the absence of the tank commander or the platoon sergeant.
- (4) *Driver.* The tank driver moves, positions, and stops the tank in such a manner as to provide as even a platform for the main gun as possible. While driving he constantly searches for targets, the best route of movement, and defilade positions to which he can rapidly move if suddenly engaged by antitank guns or other tanks; so far as possible he maintains his tank's position in the formation, watches for visual signals, and observes the movement of dismounted infantrymen. During an assault the driver moves the tank at a high rate of speed, striving to crush resisting enemy personnel beneath his tank tracks, stopping only in order that the gunner may engage an enemy tank or antitank gun with the main armament. He is responsible to the tank commander for the maintenance and refueling of the tank. He assists the other crewmembers as required.
- (5) *Gunner.* The tank gunner constantly searches for targets; aims and fires the main gun and the coaxial machine-

gun. He is responsible to the tank commander for the maintenance of the tank armament and fire control equipment. He assists the other crewmembers as required.

(6) *Loader.* The loader loads the main

gun and the coaxial machinegun; stows and cares for the ammunition; and tunes and maintains the tank radio. He assists the other crewmembers as required.

Section III. SIGNAL COMMUNICATION

24. General

Each tank unit commander is responsible for the establishment, operation, and maintenance, within his capabilities, of the communication system of his command. In addition, he is responsible for the efficient operation of the portion of his communication system which is functioning in the system of the next higher headquarters. The communication system must be organized to fit the unit task organization. The communication systems of subordinate and supporting elements must be integrated into the unit communication system.

25. Communication Means

a. Radio is the primary means of communication used in tank units. Supplemental means of communication include wire, messenger, visual, and sound. Because no one means of communication is completely reliable by itself, all means must be employed habitually to insure a satisfactory communication system. Instructions for use of these means are contained in CESI, CEOI (or extracts) and other pertinent C-E directives.

b. The flexibility of radio communication allows the unit commander to command and control subordinate elements, without restricting their ability to maneuver. Radio communication is subject to interference from static, enemy jamming, terrain, and weather. The characteristics of assigned radio equipment must be considered in planning the communication support of any tactical operation. The most important characteristics of radio communication that may affect the tactical situation are the communication planning range of radio sets and the compatibility of tactical communication equipment.

c. Tank units employ primarily vehicular FM and AM radios. Portable FM radios are used for dismounted operations and to supplement mounted radios.

26. Battalion Communication Platoon

a. The battalion communication platoon provides organic communication support to the battalion. The C-E officer advises the battalion commander on the technique and use of the organic communication system. He also advises the company commanders on the employment of their communication specialists. He has staff supervision over communication specialists' training.

b. The communication platoon performs the following functions:

- (1) Supervises the operation of the battalion communication system.
- (2) Installs, operates, and maintains the wire net within the battalion command post and, when required, to subordinate elements, companies, strongpoints, and outposts.
- (3) Operates panel displays and message pickup facilities.
- (4) Operates the battalion message center and provides messenger service.
- (5) Provides message encrypting facilities.
- (6) Provides that organizational maintenance outlined in the 10-and 20-series technical manuals for the headquarters and headquarters company's communication and other electronic equipment (less cryptographic), and provides limited organizational maintenance support for the line companies.
- (7) Monitors the maintenance and supply of signal repair parts at the company level (less cryptographic provided for by division signal battalion) and provides for the evacuation of all signal equipment that requires repair beyond organizational maintenance level.
- (8) Prepares, maintains, and distributes CEOI extracts.
- (9) Operates the battalion RATT set in the brigade RATT net.

27. Communication Security

Communication security includes all measures taken to prevent or delay the enemy's receipt of information from friendly communication systems. It is the responsibility of the unit commander to determine the maximum degree of communication security that he can employ consistent with his mission and the reaction time available to the enemy.

28. Maintenance of Signal Equipment

Each unit commander is responsible for maintenance of signal equipment within his command. The battalion commander is assisted by the battalion C-E officer and the battalion communication platoon in the execution of this responsibility. The company commander is assisted by his communication chief and radio mechanic.

29. Tank Battalion Communication System

a. Type Radio Nets.

- (1) *Battalion nets.* The tank battalion employs FM radio nets to control its organic, attached, and combat support elements. FM radio nets established by the battalion are—
 - (a) Battalion command net FM.
 - (b) Battalion administrative-logistical net FM.
 - (c) Battalion heavy mortar platoon command net FM.
 - (d) Battalion reconnaissance platoon command net FM.
 - (e) Battalion surveillance net FM.
 - (f) Battalion air defense net FM.
- (2) *Nets to higher headquarters.* The tank battalion has FM and SSB radios and a radio teletypewriter (RATT). SSB equipment extends the communication range. RATT equipment is well-suited for the transmission of lengthy messages. FM radio nets provide the battalion commander and certain key staff officers with a personal means of voice communication with the brigade commander and brigade staff officers. The FM, SSB, and RATT radio equipment is employed in the following higher headquarters nets:
 - (a) Brigade command net FM.

- (b) Brigade administrative - logistical net FM.
- (c) Brigade command net RATT.
- (d) Division air request net SSB.

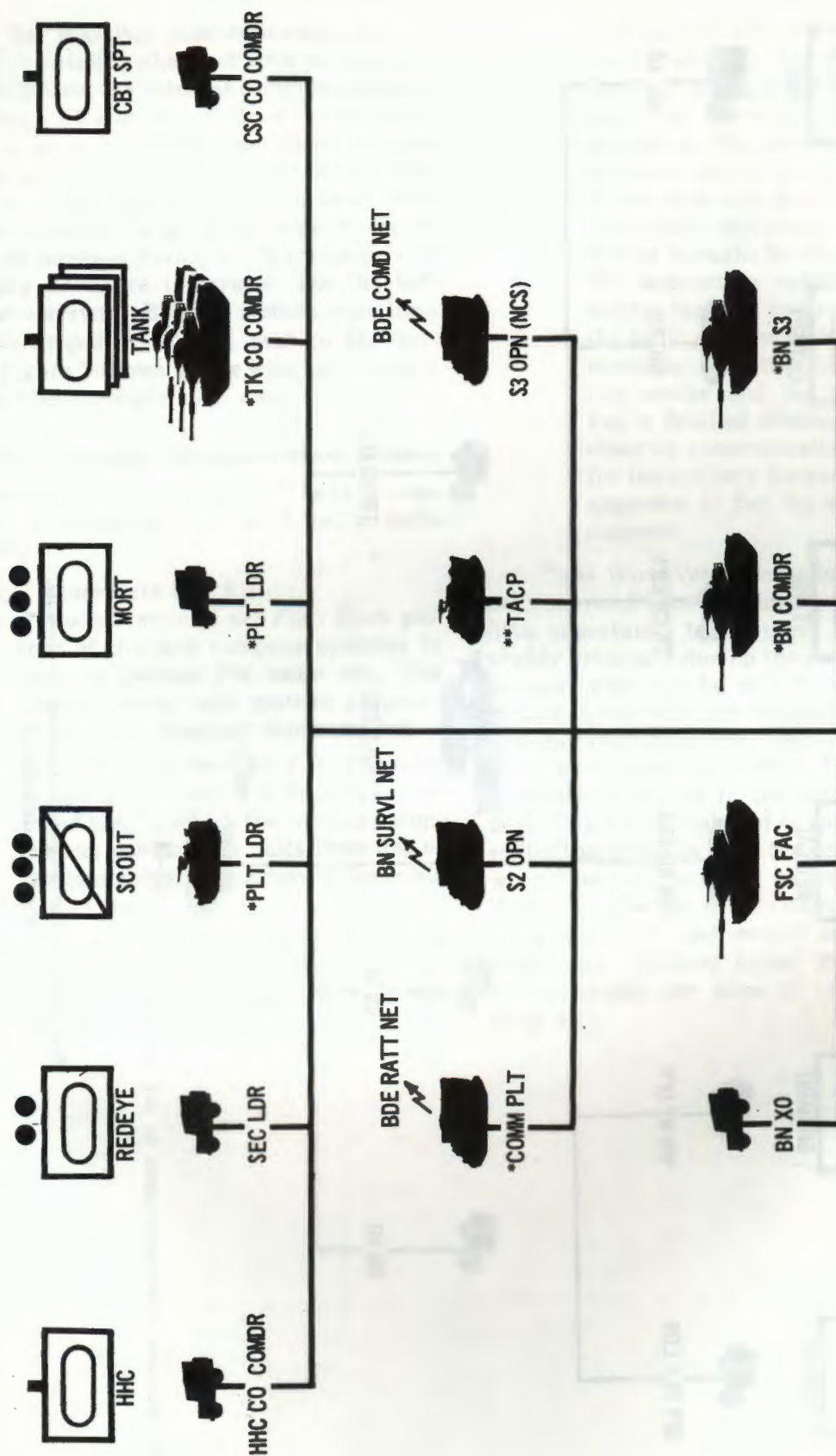
(3) Special purpose nets.

- (a) *Supporting artillery nets.* Vehicular radio equipment is used by the artillery liaison section to permit operation in the tank battalion command net, the supporting artillery fire direction net, or the supporting artillery command and fire direction net. This radio equipment is organic to the supporting artillery unit. The artillery liaison officer uses these nets to coordinate artillery fires with the tank battalion scheme of maneuver. Supporting artillery radio nets are not shown in figure 6 except for one set which is used by the heavy mortar platoon FDC to coordinate fires with the supporting artillery unit or the artillery liaison officer. See FM 6-10 for a detailed discussion of artillery communications means.

- (b) *Other special purpose nets.* These may be established as required.

- (4) *Type radio net.* A type radio net diagram for the tank battalions of a division or separate brigades is shown in figure 6.

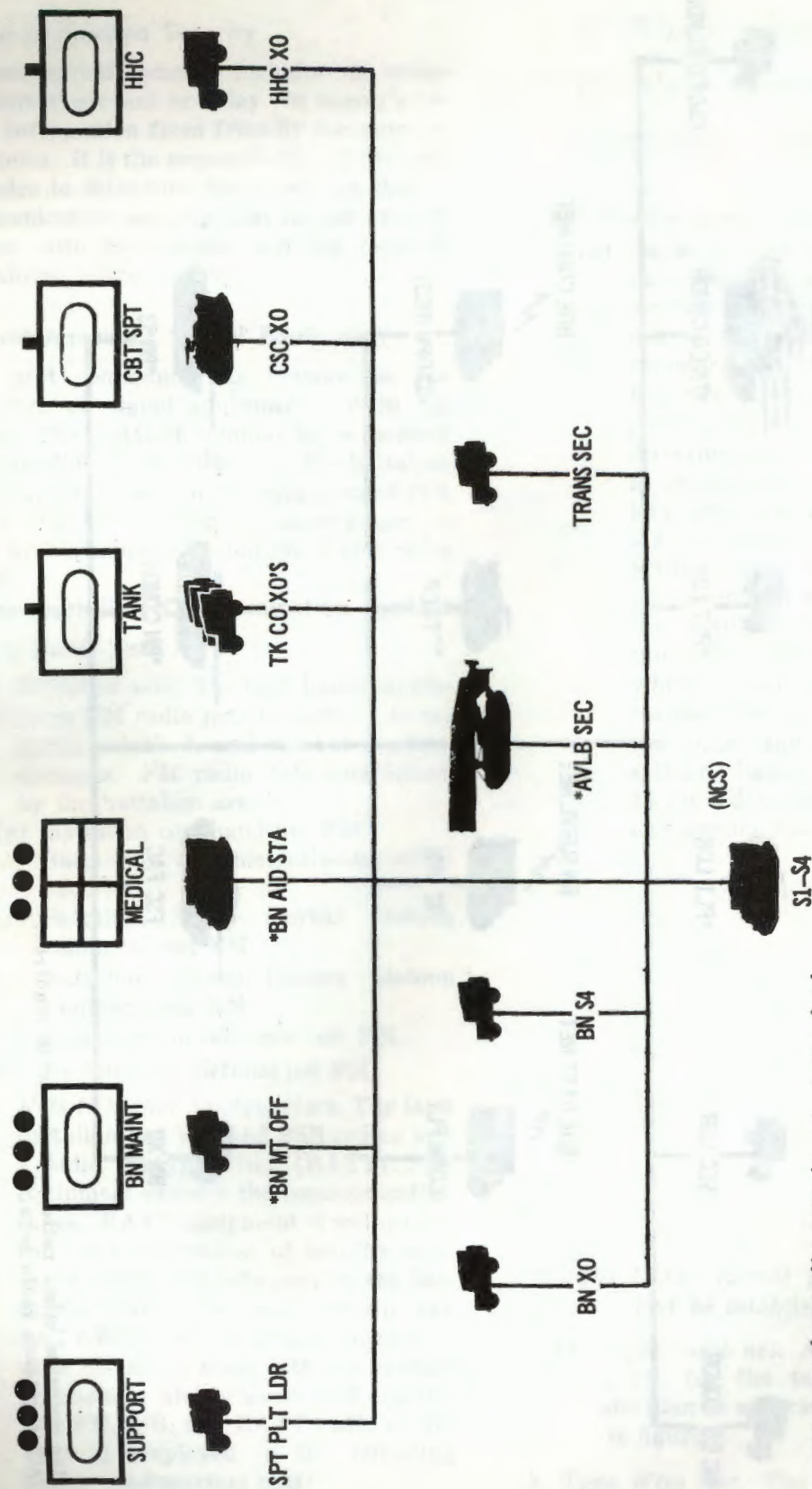
- b. *Type Wire Net.* The tank battalion wire net is installed when appropriate and is oper-



* Also operates other radio sets in net as required.

** TACP furnishes radio sets.

Figure 6. Type radio command net diagram, tank battalion.



Type radio administrative-logical net diagram, tank battalion.

Figure 6.—Continued.

ated by the battalion communication platoon. This net is installed whenever time permits and is normally used for internal communication at the battalion CP during periods of radio silence, in defensive or stabilized operations, and in assembly areas. Wire lines are installed to each organic and attached company. Lateral wire lines are installed to adjacent units wherever possible to increase flexibility. Wire lines from supporting units are integrated into the battalion wire system. Brigade installs wire lines from the brigade command post to the battalion. Figure 7 shows a type wire net diagram and indicates the equipment used.

30. Tank Company Communication System

a. *Communication Specialists.* The tank company has a communication chief and a radio mechanic.

b. *Type Radio Nets (fig. 8).*

- (1) *Platoon command net FM.* Each platoon of the tank company operates in its own platoon FM radio net. The platoon leader and platoon sergeant monitor the company command net.
- (2) *Company command net FM.* The tank company operates in a company command net, by which the company commander controls his units from one of the company headquarters tanks or his 1/4-ton truck.
- (3) *Higher headquarters nets.* The tank company operates in the battalion command net FM and the battalion administrative-logistical net FM.

- (4) *Nets used by artillery and mortar forward observers.* An artillery forward observer operating with a tank company is provided communication equipment for monitoring the tank company net and for direct communication with his fire direction center. This radio equipment is in addition to that brought by the observer from the supporting artillery unit. The mortar forward observer brings all of the radio equipment he needs to communicate with the mortar fire direction center and the supported unit. For a detailed discussion of forward observer communication, see FM 6-10 for the artillery forward observer and appendix II for the mortar forward observer.

c. *Type Wire Net.* Normally, the tank company moves frequently during combat and has little opportunity to use wire. However, in assembly areas and during the conduct of an area defense, wire can be used to advantage. The tank company wire net is installed, maintained, and operated under the supervision of the company communication chief. The switchboard normally is located in the company command post. One line is installed to each platoon. The switchboard ties in with the battalion wire net when lines are installed by battalion (fig. 9). Wire may also be used within the platoon by using the local and remote control units as telephones. Platoon tanks may be directly interconnected by wire in static situations (app IV).

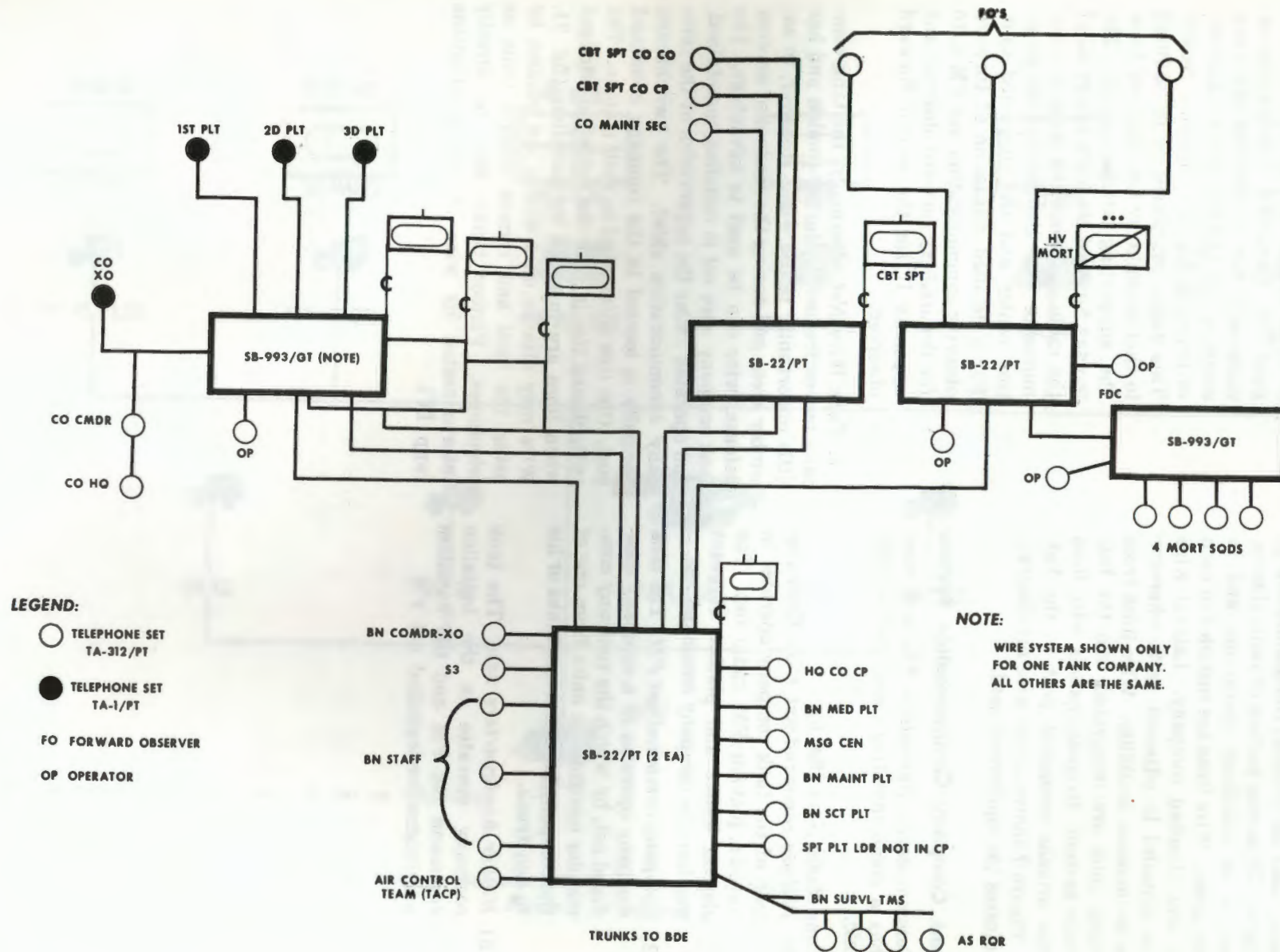


Figure 7. Type wire net diagram, tank battalion.

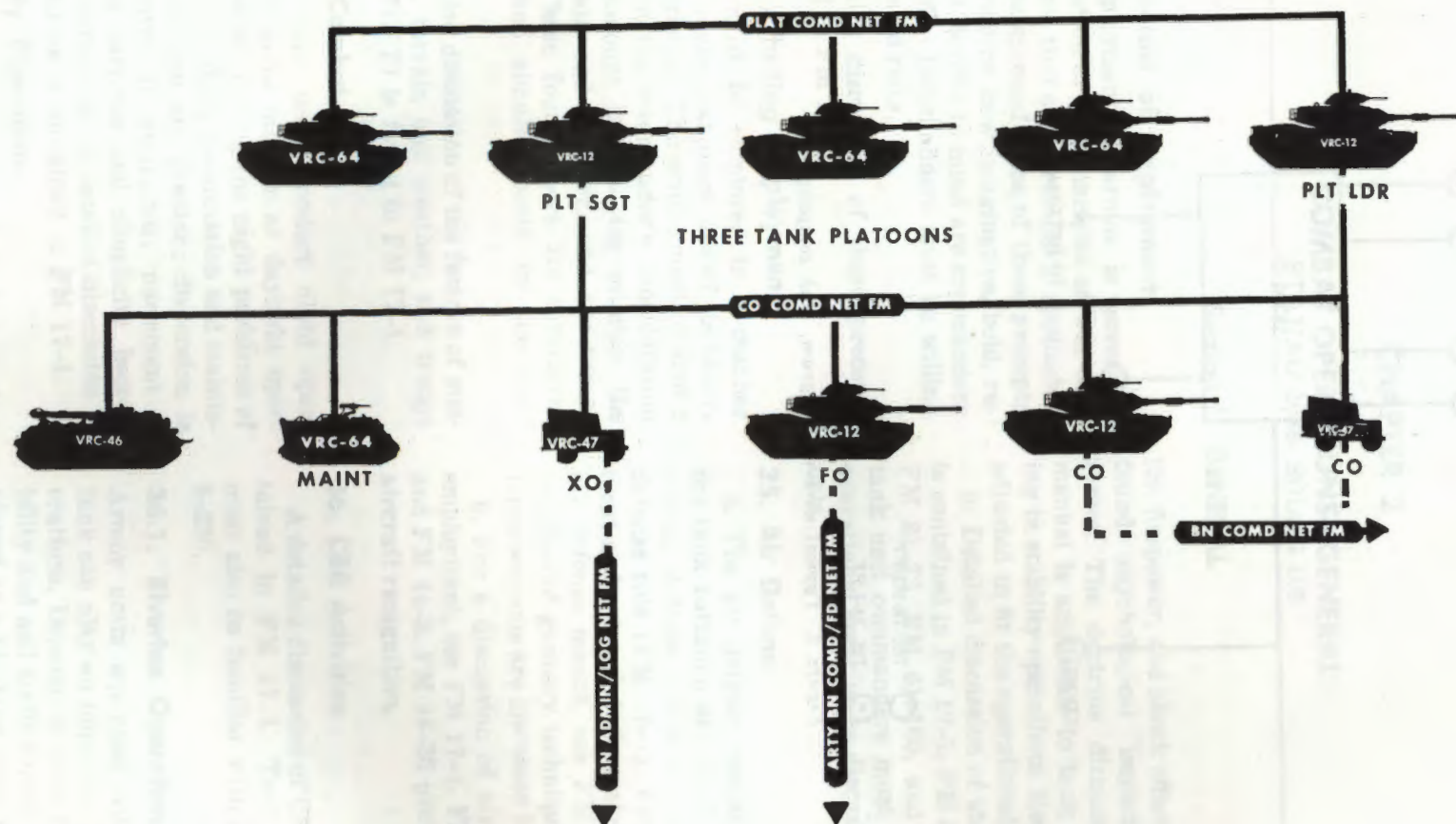
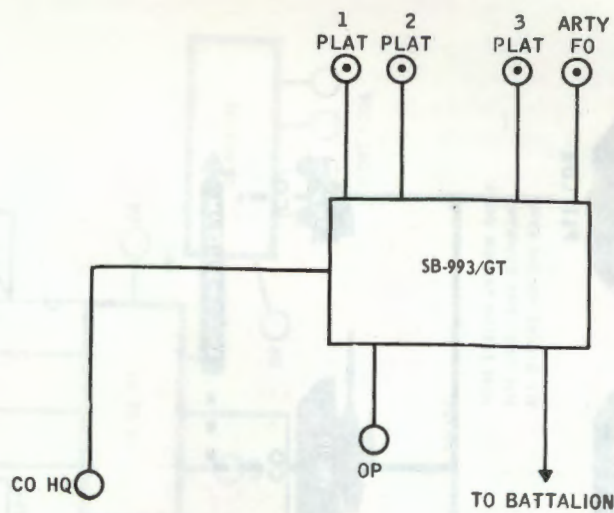


Figure 8. Type radio net diagram, tank company, tank battalion.



○ TEL TA-312/PT

● TEL TA-1/PT

Figure 9. Typical wire net diagram, tank company.

CHAPTER 2

COMBAT OPERATIONS—GENERAL

STANAG 2088, SOLOG 108

Section I. GENERAL

31. Fundamentals of Employment

a. The employment of armor is governed by the application of the principles of war and certain precepts that are particularly applicable to armor. The successful use of these precepts depends entirely on how imaginative, bold, resourceful, and flexible in mind are commanders and their staffs. Commanders must be willing to take calculated risks.

b. A detailed discussion of these precepts are contained in FM 17-1.

32. Factors Affecting Employment

a. Armor must be employed in a manner calculated to make maximum use of its favorable characteristics. The employment of armor is based upon the commander's consideration of four paramount factors—the mission, the enemy, terrain and weather, and the troops available. These four factors are considered constantly and simultaneously by the commander.

b. A detailed discussion of the factors of mission, enemy, terrain and weather, and troops available (METT) is found in FM 17-1.

33. Night Combat

Basically, tank units conduct night operations in the same manner as daylight operations. However, during the night problems of identification, control, coordination and maintenance of direction are greater; dispersion is less; maneuver is restricted; movement is slower; and surprise and simplicity become major considerations. A detailed discussion of night operations is contained in FM 17-1.

34. Stability Operations

a. Tank units are well suited for employment in stability operations where their mobil-

ity, firepower, and shock effect can have a profound psychological impact on insurgent forces. The doctrine discussed in this field manual is applicable to tank units participating in stability operations. However, it must be adjusted to fit the operational environment.

b. Detailed discussion of stability operations is contained in FM 17-1, FM 31-16, FM 31-23, FM 31-73, FM 61-100, and FM 100-20. All tank unit commanders must be familiar with operational doctrine as discussed in these manuals.

35. Air Defense

a. The air defense means available within the tank battalion are the Redeye section and non-air defense weapons employed in the air defense role (FM 17-1). For rules of engagement and a detailed discussion of these organic air defense means, see FM 17-1. Fire commands and gunnery techniques for non-air defense weapons are discussed in FM 17-12.

b. For a discussion of air defense artillery employment, see FM 17-1, FM 44-1, FM 44-2, and FM 44-3. FM 44-30 provides guidance for aircraft recognition.

36. CBR Activities

A detailed discussion of CBR activities is contained in FM 17-1. Tank unit commanders must also be familiar with FM 21-40 and TM 3-220.

36.1. Riverine Operations

Armor units equipped with the main battle tank can play an important role in riverine operations. Depending upon the road net availability and soil trafficability, armor may be employed as a blocking force for an attacking infantry main force. Because of the inherent ve-

hicular swimming capability, armor units equipped with the armored reconnaissance airborne assault vehicle (ARAAV) and supported by mechanized infantry can often be employed as part of a waterborne force. Paragraph 235

discusses inland water crossings by units equipped with the ARAAV. See FM 17-1 for a complete discussion of armor employment in riverine operations.

Section II. ORGANIZATION FOR COMBAT

37. General

a. The tank battalion normally is attached to a brigade for tactical employment. The brigade commander organizes, through cross-attachment, the combat maneuver battalions that have been attached to his brigade into battalion task forces. Combat support and combat service support elements are attached to or placed in support of the combat maneuver battalions as required. See FM 7-30 and FM 17-30 for a discussion of brigade organization for combat. The combat maneuver battalion commander normally will organize his battalion or battalion task force for combat by cross-attachment of platoons of his organic or attached maneuver companies to form company teams. Combat support and combat service support elements are provided the company teams as required.

b. The tank battalion task force, reinforced as may be required, may be employed directly under division control when it is not practical or desirable for it to be attached to a brigade; i.e., when employed as a covering force for the division or a brigade. The battalion commander organizes his battalion for combat in the same manner as when his battalion is attached to a brigade.

c. The tank battalion and tank company may be employed without attachments when the tactical situation requires such an organization for combat.

d. The commander's estimate of the situation and troops available will govern whether the tank battalion and its organic or attached companies are to be organized for combat with a preponderance of tanks, mechanized infantry, or as balanced (equal tank and mechanized infantry units) forces (fig. 10). The following conditions, used in conjunction with the factors of METT, are considered in determining the type of task organization required.

(1) *Tank or tank-heavy task organization:*

- (a) Good tank terrain—open, few obstacles.
- (b) Few or no built-up areas.
- (c) Strong enemy armor opposition.
- (d) Speed and shock effect desired.
- (e) Pursuit operations.

(2) *Mechanized infantry or mechanized infantry-heavy task organization.*

- (a) Restricted visibility.
- (b) Many built-up areas and natural obstacles.
- (c) Strong enemy antitank defense.
- (d) Zones to clear.
- (e) Built-up area to clear.

(3) *Balanced task organization.*

- (a) Enemy situation vague as in movement to contact.
- (b) Equal requirement for tanks and mechanized infantry.

38. Tank Battalion Task Force

a. A battalion task force is a temporary grouping of units, formed to provide the battalion task force commander with the number and type of units necessary to accomplish a specific mission or task. A tank battalion task force normally consists of a tank battalion headquarters and headquarters company, a combat support company, one or more organic line companies, one or more attached mechanized infantry companies, plus other attachments.

b. There is no definite rule to determine the size and composition of a tank battalion task force as this is based on a consideration of the factors of METT. In this respect, the tank battalion task force is similar to the brigade as units of the proper type are attached, or placed in support, in sufficient numbers to carry out the assigned missions. The composition of a tank battalion task force can be changed readily to meet varying tactical situations.

c. A battalion task force is commanded by the battalion commander receiving an attachment.

39. Tank Company Team

a. A company team is a tactical grouping of units under one company commander, formed for a specific operation or mission after the consideration of the factors of METT. The tank company team normally consists of a complete tank company with one or more maneuver units of a different branch attached. A tank company team may also be formed by detachment of one or more organic maneuver units and attachment of one or more maneuver units of a different branch (fig. 11).

b. Within the tank battalion task force, the commander may organize company teams.

c. A company team normally is given a designation corresponding to the alphabetical designation of the company forming the nucleus of the team.

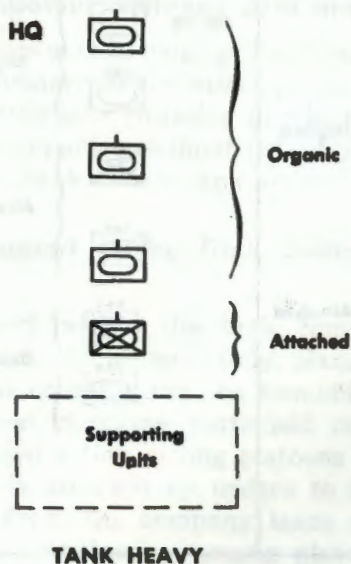
d. A company team is commanded by the commander of the company receiving the attachment.

40. Platoons in Company Teams

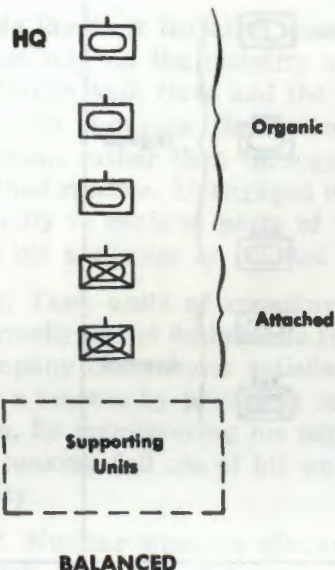
Platoons normally are employed as platoons, without cross-attachment, by the company team

BATTALION TASK FORCE ORGANIZED AROUND A TANK BATTALION HEADQUARTERS

EXAMPLE A

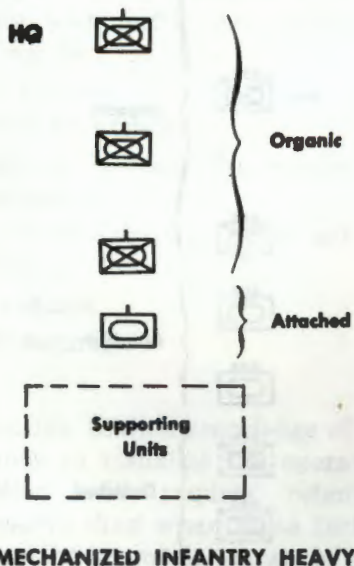


EXAMPLE B



BATTALION TASK FORCE ORGANIZED AROUND A MECHANIZED INFANTRY BATTALION HEADQUARTERS

EXAMPLE A



EXAMPLE B

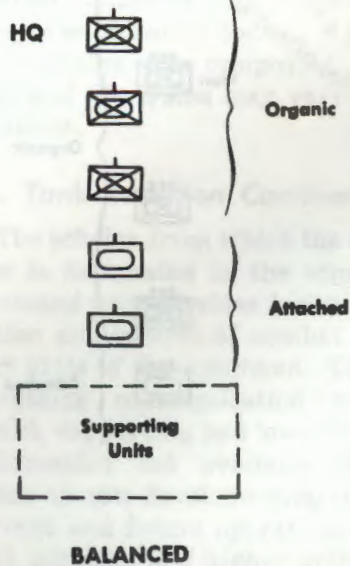
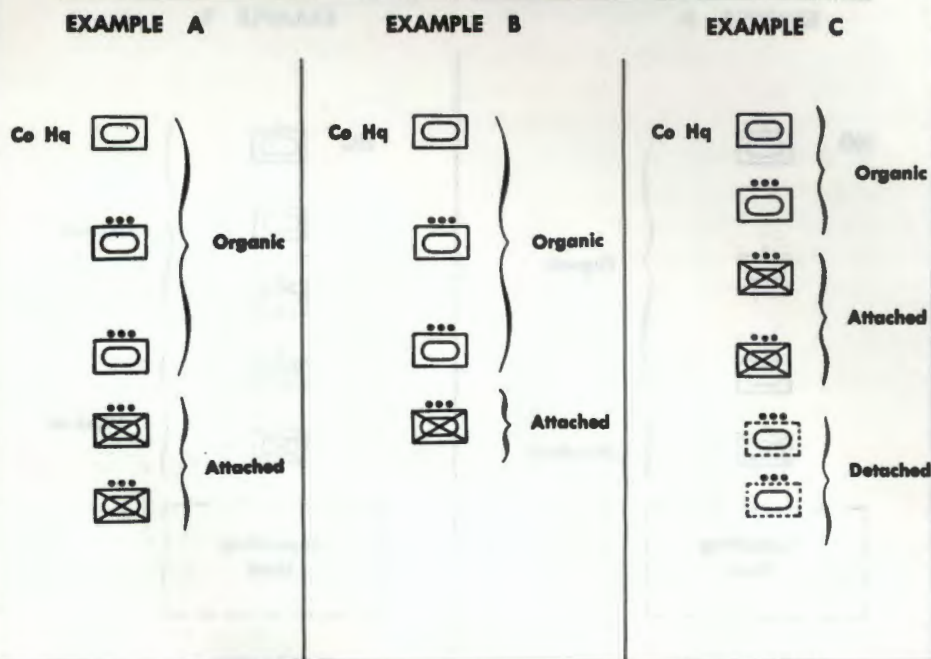


Figure 10. Examples of battalion task forces.

COMPANY TEAM ORGANIZED AROUND A TANK COMPANY HEADQUARTERS



COMPANY TEAM ORGANIZED AROUND A MECHANIZED INFANTRY COMPANY HEADQUARTERS

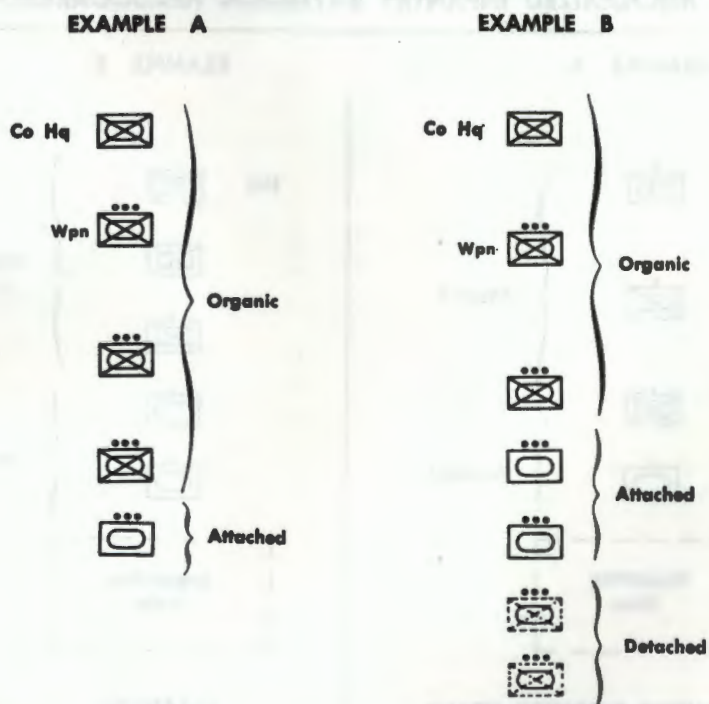


Figure 11. Examples of company teams.

commander. Tanks and infantry should not be attached in less than platoon strength. To do so is justified only when the terrain or other conditions are such that an entire platoon cannot be used effectively.

41. Tank Companies Without Attachments

Tank companies may be employed without attachments, particularly if the battalion (or task force) is operating in a situation in which the success of the companies without infantry can be foreseen; i.e., tank versus tank action.

42. Mutual Support in the Tank Company Team

Mutual support within the tank company team is continuous. All leaders study, plan, and prepare ways of coordinating the elements of the team to meet changing battlefield conditions. Coordinated action among platoons of a company team is attained by orders to each platoon leader from the company team commander and by coordination among platoons.

43. Reserves

a. Reserves are those forces withheld from action at the beginning of an operation and available to the commander at a decisive moment to exploit success and complete the mission. A reserve provides a commander with a means of dealing with unforeseen contingencies. A reserve may be used to —

- (1) Exploit success.
- (2) Reinforce an attack.
- (3) Maintain or increase the momentum of an attack.
- (4) Hold ground seized by other attacking forces.
- (5) Counterattack.
- (6) Provide security.
- (7) Block.

b. A deep objective, limited knowledge of the enemy, or inability to visualize the operation to its completion will require retention of a stronger reserve than when these factors are known. When the enemy is known to possess inferior mobility, the reserve may be smaller than when engaging a force of equal or superior mobility.

c. A combat force should not be held out as a reserve if it weakens the main effort. Uncommitted parts of subordinate commands may give the commander a flexible reserve. He must keep abreast of the situation so that he knows what units he has available for this purpose.

d. The tank battalion commander frequently must rely on the mobility of his battalion or battalion task force and the available fire support to influence the action at the decisive moment rather than through designation of a formal reserve. Unengaged units can be moved rapidly to decisive parts of the battle area to exploit a success or counter an enemy attack.

e. Tank units of company and platoon size normally do not designate a formal reserve. The company commander satisfies his requirement for a reserve by providing depth to his formation, by maneuvering his supporting fires, and by making full use of his unit's battlefield mobility.

f. Nuclear weapons allocated to a tank unit which are retained for targets of opportunity may reduce or eliminate the requirement for a reserve.

44. Tank Battalion Headquarters Installation

During combat, the headquarters and headquarters company operates in two echelons—the battalion command post and the battalion trains. The composition of the command post and the trains may vary according to the situation.

45. Tank Battalion Command Post

The echelon from which the commander operates is designated as the command post. The command post provides facilities for the coordination and control of combat and combat support units of the command. The command post maintains communication with higher, adjacent, supporting and lower units. It forwards information not available to the command group on new developments, continuously plans current and future operations, provides liaison with adjacent and higher units, and supervises liaison with supporting the lower units. The command post consists of the battalion commander, battalion executive officer, members of

the battalion staff, such liaison officers or men as are necessary from attached and supporting units, and the necessary supporting enlisted men, vehicles, and equipment. The command post must be organized to insure continuous operations for sustained periods. For additional information, see FM 17-1.

46. Tank Battalion Command Group

A command group is a command and control facility, consisting of the commander and selected staff officers, signal means, and a security detachment. This group enables the commander to operate away from his command post to obtain personal knowledge of the situation, exercise leadership, and closely control the operation during critical periods. The command group remains mobile and well forward during operations. It has no fixed composition and consists of those officers and men from the command post who can best assist the battalion commander in a given situation. Those who

normally accompany the battalion commander are the S3, artillery liaison officer or forward air controller, and necessary liaison and communication personnel. The vehicles in the command group must be equipped with command and fire control radio facilities. The command group must maintain continuous communication with the command post to remain informed of new developments in the situation, and new or supplementary orders from higher headquarters. Additional discussion of the command group is contained in FM 17-1.

47. Tank Battalion Trains

The trains are the elements of the battalion that provide logistical support to the battalion. The trains are normally divided into the combat trains and field trains. The location of the combat trains is in the general locale, but not necessarily adjoining the battalion command post. The field trains, when employed, normally are in the brigade trains area (See FM 17-1 for a detailed discussion of the battalion trains.)

Section III. COMBAT SUPPORT

48. Artillery

a. Artillery support provides the tank unit commander with a powerful means of influencing the course of combat. Artillery provides close and continuous fire support and adds depth to combat by neutralizing enemy mortars, artillery, and close support nuclear delivery means, by restricting movement of hostile reserves, and by disrupting enemy command and communication installations. To make effective use of artillery support, the tank unit commander must be familiar with the capabilities and limitations of artillery and the means by which artillery fires are obtained.

b. See FM 6-20-1, FM 6-20-2, and FM 17-1 for details of artillery support.

49. The Battalion Heavy Mortar Platoon

a. General. The employment of the battalion heavy mortar platoon is based on its speed of operation and movement, and its constant readiness to provide fire support. (Mortar firing normally is conducted from the on-carrier position.) The platoon leader places himself where he can best direct the effort of his platoon.

He is often with the battalion commander or command group. He may control leading elements of the platoon during displacement, conduct reconnaissance, or visit the supported company teams for purposes of coordination.

b. Liaison. The platoon leader maintains liaison with the battalion commander, combat support company, and staff by personal contact or by radio using the battalion command net. Liaison with the line companies or company teams is provided by the forward observers who use the platoon command net for contact with the platoon position(s).

c. Forward Observer (FO) Teams. FO teams accompany line companies or company teams as specified by battalion order. The FO normally accompanies the company team commander. Commanders of supported company teams are responsible for providing armored vehicle transportation, as required, for platoon FO. These FO teams formulate and forward requests for fire and adjust mortar fires. These fires may also be adjusted by artillery FO. All officers, noncommissioned officers, and men of the battalion must be able to call for and adjust

fires in case FO teams are not available. The procedures for requesting, coordinating, and adjusting fires are the same as for artillery fires.

d. Method of Employment. The battalion heavy mortar platoon is best employed in general support of its parent battalion. When required by range limitations of the mortars, inability of the battalion commander to control, or other exigencies of the situation, the heavy mortar squads are employed in direct support of company teams or the battalion reconnaissance platoon. The heavy mortar squads may be attached to the companies or the platoon. See appendix II for details of employing the battalion heavy mortar platoon.

50. Tactical Air Support

Tactical air force units may support tank units by attacking enemy ground forces with bombs to include smoke and fire, gunfire, and rockets, or by destroying enemy aircraft operating against friendly ground forces. (See FM 17-1 for details of tactical air support.)

51. Fire Support Coordination

The artillery liaison officer provided by the supporting artillery battalion functions as fire support coordinator for the tank battalion. At company level the company commander coordinates fire support for his company assisted by the artillery and mortar forward observers. (See FM 17-1 for details of fire support coordination.)

52. Medium Range Radar

a. The ground surveillance radar equipment organic to armor units provides an all-weather capability for battlefield surveillance. This equipment complements the other combat surveillance and target acquisition capabilities in the battalion and cavalry squadron. Its employment is coordinated closely with the employment of patrols, listening posts, observation posts, tank mounted searchlights, and with infrared and other sensory devices. Ground surveillance radar provides observation from a given vantage point 24 hours a day and can detect targets and provide accurate range and azimuth reading. The unit commander can ap-

preciably increase the effective use of fire support means through the use of ground surveillance radar equipment.

b. Although the radar equipment is an excellent means of obtaining information, it is not intended to replace other surveillance means. The primary advantage in using radar to complement other means is its ability to detect, locate and identify moving ground targets. Radar is used primarily for operations at night or under conditions of poor visibility (haze, fog, or smoke). It also may be used effectively during periods of good visibility. The employment of this equipment should not be restricted to a certain type of terrain, a rigid set of conditions, or to a few functional operations. (See FM 17-1 for details of employment.)

53. Division Engineer Support

The mission of engineers organic to divisions is to facilitate the movement of division units, and to increase combat effectiveness by means of general engineer work. (See FM 17-1 for details of engineer support available to tank units.)

54. The Battalion Armored Vehicle Launched Bridge (AVLB) Section

The mission of the tank battalion armored vehicle launched bridge section is to provide AVLB support for the battalion.

a. The section contains two armored vehicle bridge launchers, each equipped with a 60-foot scissor-type bridge, and normally is employed in general support of the battalion. When required, the section may, in whole or by launcher be placed in direct support of, or attached to, a leading company team or the battalion scout platoon.

b. When AVLB from the division engineer battalion are in direct support of, or attached to the battalion, the battalion commander will normally use the divisional AVLB first and employ his organic AVLB as an assault bridge reserve.

c. The armored vehicle launched bridge is employed primarily in assault crossings of short gaps by combined arms teams, but because of its mobility, low unit weight, and minimum

crew requirements, it may be used effectively in other ways. It is particularly suitable for spanning streams, antitank ditches, craters, canals, partially blown bridges, and similar obstacles that normally would slow the momentum of attack. The AVLB may be placed over existing bridges or parts of existing bridges to increase their load-carrying capacity.

d. Special employment of the AVLB—

- (1) In instances where the flank of friendly forces is on a narrow stream or defile, the assault bridge may be used in making a flanking movement.
- (2) In rear areas, requirements occasionally arise for short-span bridging. The assault bridge can be employed readily in these situations because of its mobility and speed of erection compared to conventional bridging.
- (3) In retrograde movements, assault bridging can be used in place of conventional bridging that has been destroyed or removed. The assault bridge cannot be removed without exposing a crewmember to small arms fire. If time permits, in retrograde movements, preparation of the launching site will facilitate recovery of the bridge.

e. See TM 5-216 for technical details pertaining to the AVLB.

55. Army Aviation Support

The battalion task force will usually receive Army aviation support from the brigade to which attached, or from the division aviation battalion. See FM 17-1 for a discussion of the Army aviation support available to the battalion task force. See FM 1-110 for attack helicopter employment and FM 6-102 for aerial field artillery employment.

56. Employment of Tactical Nuclear Weapons

Plans for employing nuclear weapons are integrated into the scheme of maneuver to insure the most efficient use of available combat power. Troop safety measures and other limiting requirements will be in unit SOP or as indicated by the guidance of the commander employing the weapons. For a discussion of nuclear weapons employment, see FM 5-26, FM 17-1, and FM 101-31-1 through FM 101-31-3.

57. Employment of Chemical Agents

See FM 3-5, FM 3-10, FM 3-50, and FM 17-1.

58. Civil-Military Operations (CMO) Support

a. General. The civil affairs and psychological operations within the battalion area are coordinated by the CMO (S5) officer. When an S5 is not authorized, the commander designates an officer, normally the S3, to be responsible for CMO functions. See FM 17-1 for a detailed discussion of civil affairs and psychological operations activities in the battalion area and a description of the S5 responsibilities.

b. Civil Affairs. Civil affairs operations are activities of the military elements which involve contact with the civilian population in the area of operations. See FM 17-1, FM 41-5, and FM 41-10 for a detailed discussion of civil affairs operations.

c. Psychological Operations. The nature of mobile tank warfare, particularly in offensive operations, has a profound psychological effect on the enemy. This effect can be exploited by the employment of PSYOP elements such as loudspeaker teams with the tank units. See FM 17-1, FM 33-1, and FM 33-5 for a detailed discussion of psychological operations.

Section IV. FIRE AND MANEUVER AND FIRE AND MOVEMENT

59. General

a. Tank unit tactics are based on fire and maneuver.

b. Fire and maneuver is a technique employed by the commander who establishes a base of fire and designates a maneuvering force. These two distinct forces have separate missions. The mission of the maneuvering force is to close with and destroy the enemy by fire and shock effect. It consists of all available tank and infantry units. The mission of the base of fire is to neutralize or suppress the enemy weapons, thereby permitting the maneuvering force freedom of action. The base of fire normally does not join the maneuver force in the final assault

against the objective. The base of fire may consist of mortars, attached antitank weapons, supporting artillery, tactical air, and naval gunfire. Tanks are not normally included in the base of fire because this role does not take maximum advantage of their characteristics. However, tanks may temporarily support by fire the other elements of the maneuvering force when—

(1) The terrain or obstacles preclude their employment in the maneuvering force.

(2) The enemy positions contain weapons which pose a serious threat to the maneuvering force and which cannot be effectively neutralized or suppressed by the base of fire.

c. Ideally, the maneuver force moves continu-

ously in mass; that is, the entire force advances on the enemy without halting, while the base of fire neutralizes the enemy's capability for interfering with the advance of the maneuver force. This advance in mass is conducted at top speed. The combination of speed and the multiplicity of targets reduces the time the maneuver force is exposed to enemy fire, thus reducing its vulnerability and producing tremendous shock effect.

d. Under some circumstances, the base of fire or machinegun fire from moving tanks may be unable to neutralize enemy weapons that prevent continuous movement in mass. The maneuver force may be forced to engage the enemy with direct tank gun fire from defilade positions by designated elements while other elements continue the advance. This technique is called fire and movement.

e. Fire and movement is accomplished by and within the maneuver force. A distinction is made between fire and maneuver and fire and movement to emphasize the point that tanks habitually close with the enemy and only under the circumstances stated in b(1) and (2) above are tanks used as a base of fire. The distinction between fire and maneuver and fire and movement is shown graphically in figure 12.

60. Techniques of Fire and Movement

a. Whenever possible, tanks advance in mass. They proceed to the objective as rapidly as possible.

b. Fire and movement is a technique employed by, and within, the maneuvering force when movement in mass is not feasible. In fire and movement, one element of the maneuvering force covers by fire the advance of the remainder of the maneuvering force. Fire and movement are alternated only as is necessary until the entire maneuvering force can resume the attack in mass. The use of fire and movement is temporary and should not be used as a method of advance from the LD to the objective except—

- (1) When fire support provided by the base of fire is inadequate.

- (2) When the maneuver force is engaged with a known enemy force capable of inflicting unacceptable losses against an attack in mass.

c. The tank platoon is the smallest maneuver element in a tank company. When a tank unit, employed as a maneuver force, cannot advance in mass due to reasons stated in b(1) through (3) above the advance must still continue. Since the tank does not have a stabilized gun, the maneuver force now in need of direct fire, is obliged to advance with fire and movement. Fire and movement is conducted by two methods—movement by individual tanks and coordinated movement by bounds.

- (1) *Movement by individual tanks* (fig. 13).

(a) Each tank commander determines whether to fire the machinegun while moving or to halt to fire the machinegun or tank gun. The tank commander selects the firing position, the target, the time of fire, and the route between firing positions. In making these determinations, he must maintain, in general, his relative position in the platoon formation. The platoon leader insures that the platoon continues to move and may direct individual tanks to fire less and move more if necessary to insure that all tanks participate aggressively in the fight. The platoon leader may direct the fire of individual tanks when necessary.

(b) Movement by individual tanks is effective against any type target except those requiring the concentrated fires of more than one tank.

(c) Conditions when movement by individual tanks might be used are as follows:

1. In the advance when enemy tanks or other point targets threaten the accomplishment of the mission and cannot be neutralized by the base of fire or by the tank's machinegun fire.
2. When a force is caught in the open by effective enemy fire and must

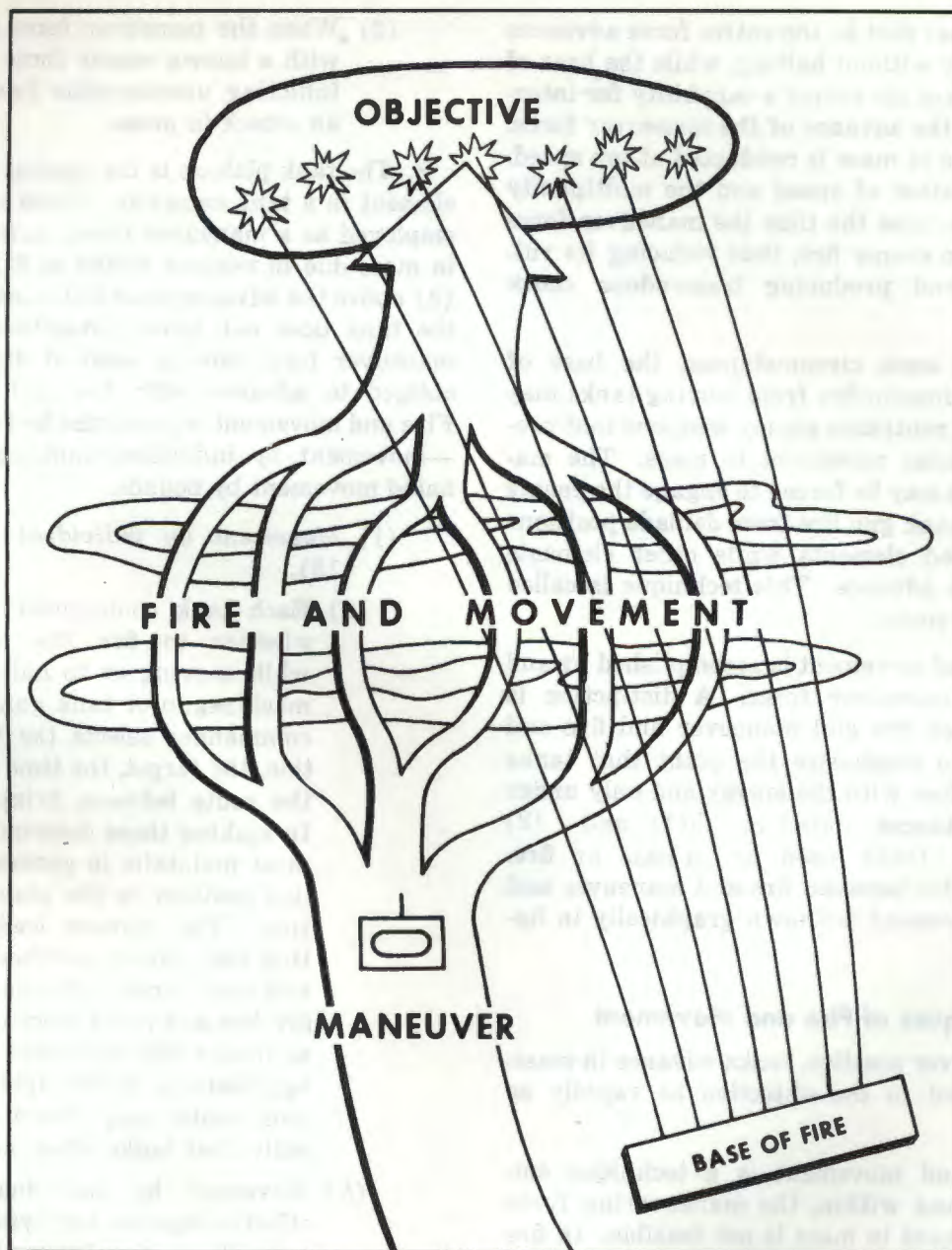


Figure 12. Relationship between fire and maneuver and fire and movement.

move and neutralize the fire to prevent unacceptable losses.

3. In the assault when the presence of enemy tanks requires the use of armor-defeating weapons.

(d) The advance by continuous movement in mass is resumed as soon as possible.

(2) *Coordinated movement by bounds.* The

unit commander selects the firing positions, designates who is to occupy the positions, and gives the order to displace from one position to another. The unit commander may designate targets, the time to fire, and the route between firing positions. A bound is a movement from one position to another in which one element advances to a pre-designated limit, covered by a rear ele-

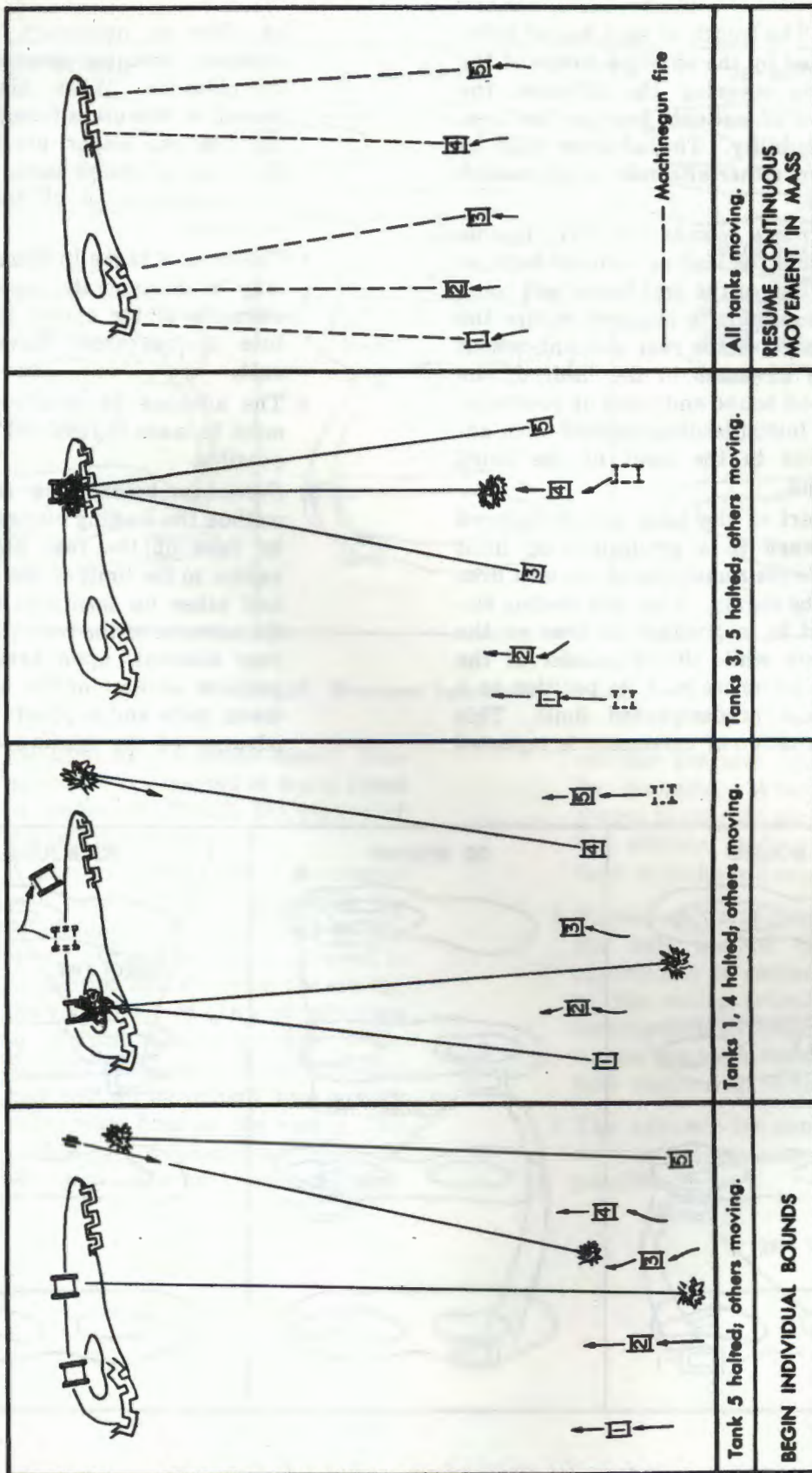


Figure 13. Movement by individual tanks.

ment. The length of each bound is determined by the effective range of the weapons covering the advance, the location of suitable terrain features, and visibility. The advance may be made by either alternate or successive bounds.

(a) *Alternate bounds* (fig. 14). In this method the leading element halts at the limit of the first bound and takes up positions to support by fire the advance of the rear element, which then advances to the limit of the second bound and takes up positions. The initial leading element then advances to the limit of the third bound.

1. A part of the tank unit is ordered forward to a predesignated limit while the remainder of the unit fires on the enemy. When the leading element is in position, it fires on the enemy while the remainder of the unit advances past its position to a second predesignated limit. This alternation of movement is repeated

as often as necessary. The tank company executes alternate bounds by platoons. When platoons are forced to execute alternate bounds, the platoon leader decides where and when a tank or tanks will move. The movement of all tanks is coordinated.

2. The fires of tanks in firing positions may be concentrated against those elements of the enemy that constitute the greatest threat to the unit.

3. The advance by continuous movement in mass is resumed as soon as possible.

(b) *Successive bounds* (fig. 15). In this method the leading element, covered by fires of the rear element, advances to the limit of the first bound and takes up positions to support the advance of the rear element. The rear element, upon arriving at a position abreast of the leading element, halts and supports by fire the advance of the leading element to

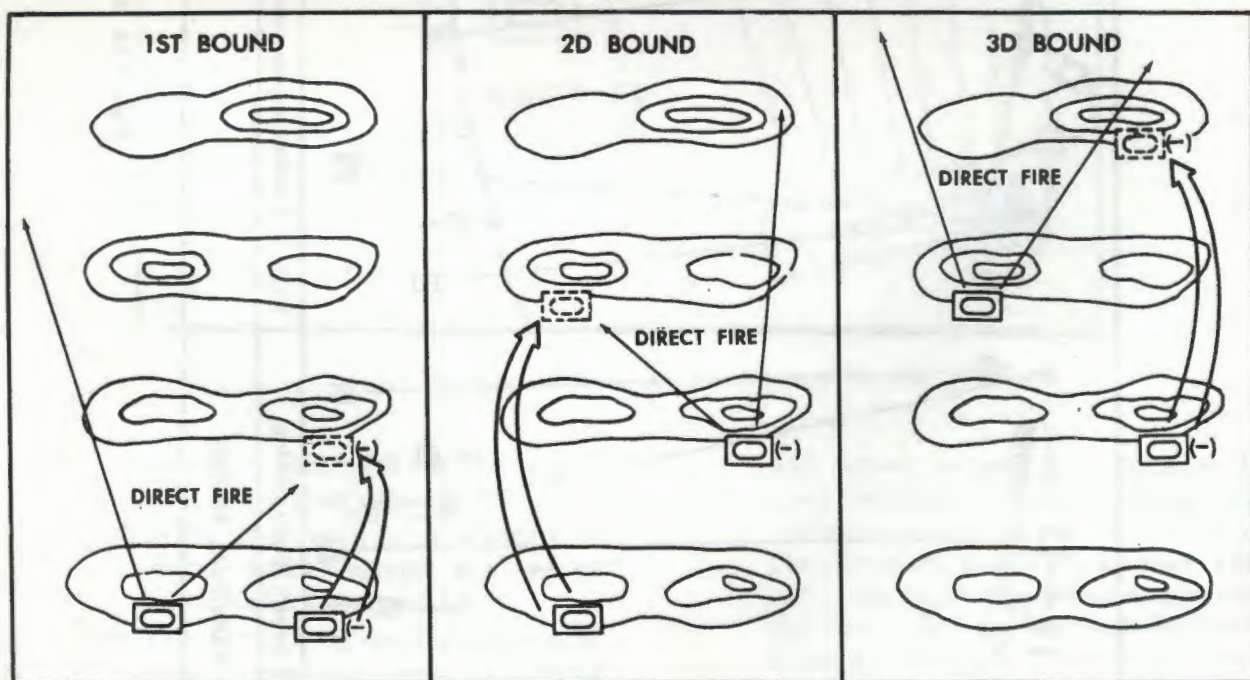


Figure 14. Movement by alternate bounds.

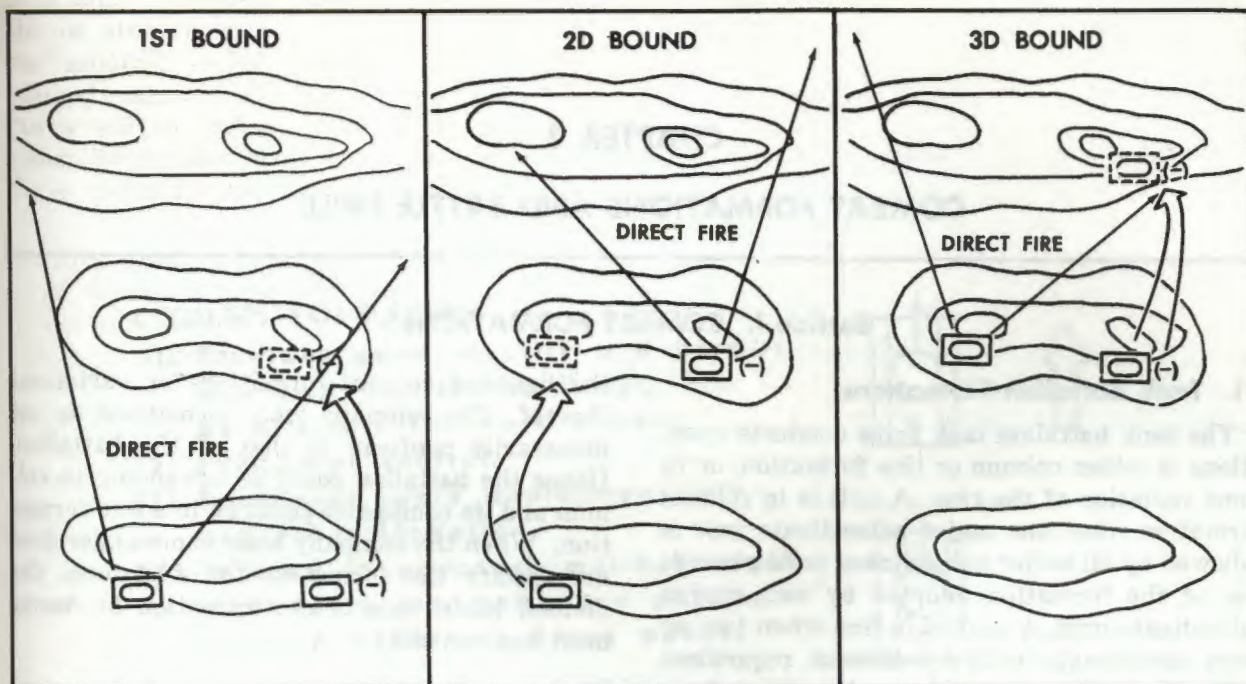


Figure 15. Movement by successive bounds.

the limit of the second bound. This operation is repeated as many times as necessary. This is the slower of the two methods.

1. A part of the tank unit is ordered to a predesignated limit while the remainder of the unit fires on the enemy. Once the leading element is in position and firing on the enemy, the remainder of the unit advances to join the leading element. While the unit is together, the commander may halt all movement long enough to increase fires on the enemy. The bounds are repeated as often as necessary. The tank company commander

executes successive bounds by platoons. When platoons are forced to execute successive bounds, the platoon leader decides which tank or tanks will move.

2. Movement by successive bounds is the only method that offers an opportunity to concentrate the fires of the entire friendly unit. This occurs when all elements of the unit are on the same terrain feature before continuing to the next bound.
3. The advance by continuous movement in mass is resumed as soon as possible.

CHAPTER 3

COMBAT FORMATIONS AND BATTLE DRILL

Section I. COMBAT FORMATIONS

61. Tank Battalion Formations

The tank battalion task force conducts operations in either column or line formation, or in some variation of the two. A unit is in column formation when one major subordinate unit is followed by all major subordinate units regardless of the formation adopted by each major subordinate unit. A unit is in line when two or more subordinate units are abreast, regardless of the formation adopted by each major subordinate unit. A common variation of the line formation is any formation with two or more major subordinate units attacking abreast followed by one or more remaining units.

a. A formation with all subordinate units in column provides maximum control, adds depth to the attack, and permits the unit to be deployed to either flank quickly. This formation facilitates retention of the initiative, as the following units can move through or around the leading unit to maintain the momentum of the attack.

b. A formation with all subordinate units on line permits employment of maximum firepower forward.

c. In a formation with two or more units abreast and the remaining units following, firepower forward is reduced, but depth, flexibility, flank security, and control are improved. For example, a battalion task force advancing with two company teams abreast and one team following is easier to control and has more maneuverability than when all of its teams are advancing abreast.

62. Tank Company Team and Platoon Formations

The tank company team and platoon also use

the line and column formations or variations thereof. The company team formations do not necessarily conform to that of the battalion. Hence the battalion could be advancing in column and its companies could be in a line formation. When the company team commander does not specify the formation for a platoon, the platoon leader selects the formation he deems most appropriate.

63. Combat Formations—General

a. A combat formation is not rigid. Common sense will frequently dictate minor modifications.

b. The nature of the terrain, cover, and concealment governs the position of each tank.

c. The location of specific tanks within a platoon formation is established by the platoon leader and may be varied as he desires.

d. Figures 16 through 19 show and discuss combat formations for tank platoons. Discussion contained therein also pertains to company team combat formations shown in figures 21 through 24. Figure 20 illustrates the technique of moving from one formation to another. No vehicle should cross in front of another. Individual tanks should make gradual adjustments in their speed and direction to take up their new positions. Halts and abrupt changes of direction should be avoided.

64. Commands and Signals

a. The appropriate call sign should be substituted for the preparatory commands shown herein as (platoon) or (company).

b. Signals shown for platoon formations are also used to designate corresponding company team formations.

COLUMN FORMATION:

- (1) Provides good security and permits maximum fire to the flanks, but permits less fire to the front.
- (2) Facilitates control.
- (3) Facilitates rapid deployment into any other formation.
- (4) Is used in approach marches, night movements, fog, and when passing through defiles or dense woods.



HAND AND ARM SIGNAL COMMAND: (PLATOON) FORM COLUMN

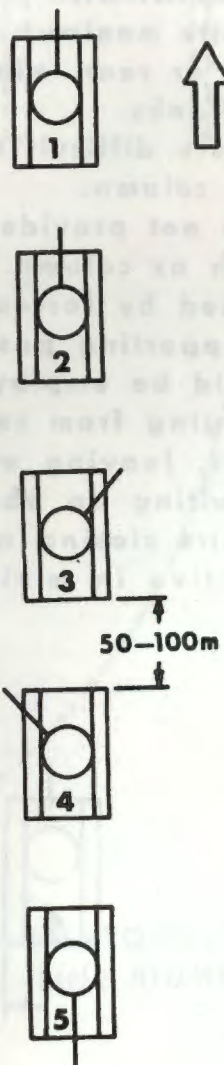


Figure 16. Tank platoon in column (platoon leader leading).

Note. For tactical operations or during training to develop confidence of the individual tank commander, the platoon leader may desire to rotate the lead in which case the command is (PLATOON) FORM COLUMN ORDER OF MARCH 4, 5, 1, 2, 3 (or the order desired).

LINE FORMATION:

- (1) Permits maximum fire to the front or rear, minimum fire to the flanks.
- (2) Is more difficult to control than column.
- (3) Does not provide as much depth as column.
- (4) Is used by forces and units in supporting positions. It should be employed by tanks emerging from smoke, crossing crests, leaving woods, and assaulting an objective.
- (5) Permits closing on the objective in minimum time.



**HAND AND ARM SIGNAL
COMMAND: (PLATOON)
FORM LINE**

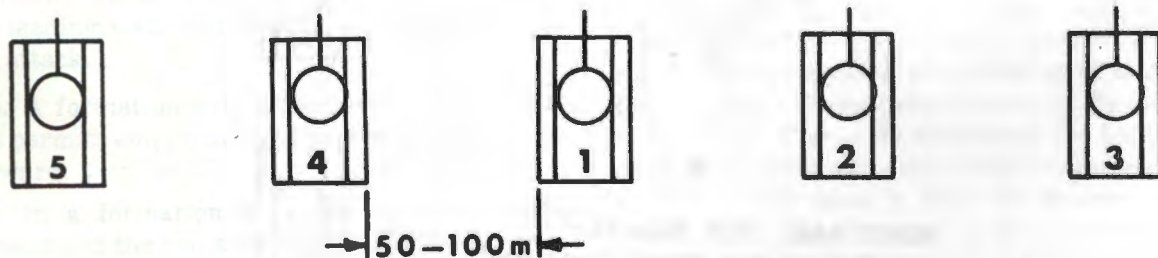
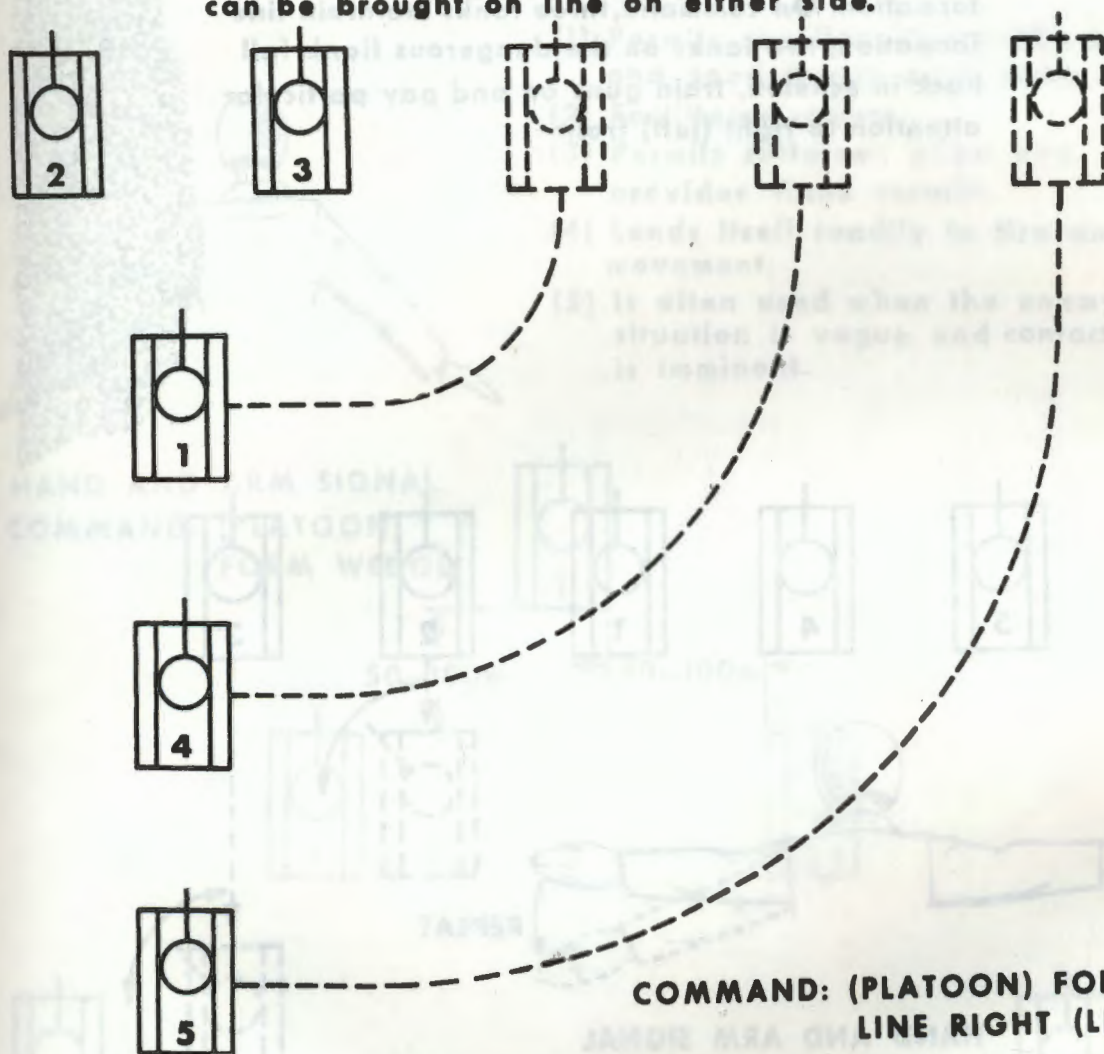


Figure 17. Tank platoon.

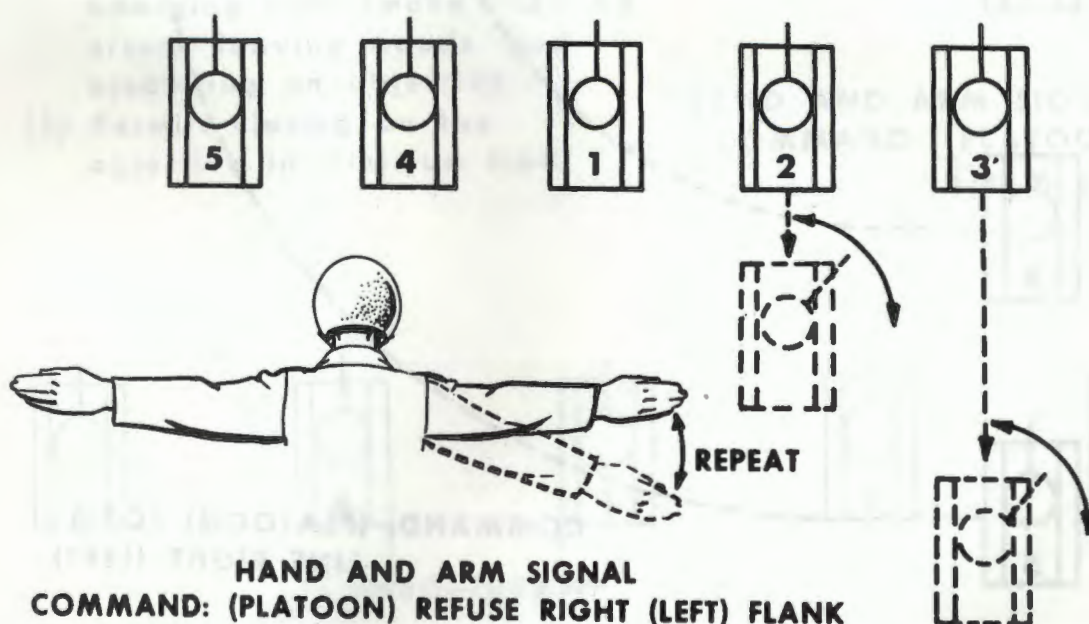
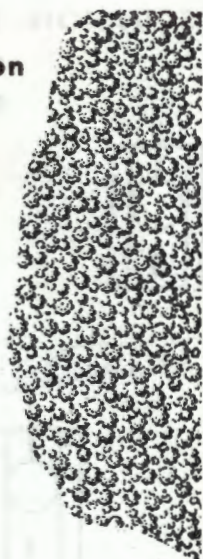
DISCUSSION: If in a tactical situation, the lead tanks are already at a tree line or in defilade, the rest of the platoon can be brought on line on either side.



2. Forming a line to the right

Figure 17—Continued.

DISCUSSION: At times a platoon leader may desire to protect a dangerous flank without changing the entire platoon formation. On command, three tanks maintain line formation; two tanks on the dangerous flank fall back in echelon, train guns on and pay particular attention to right (left) front.

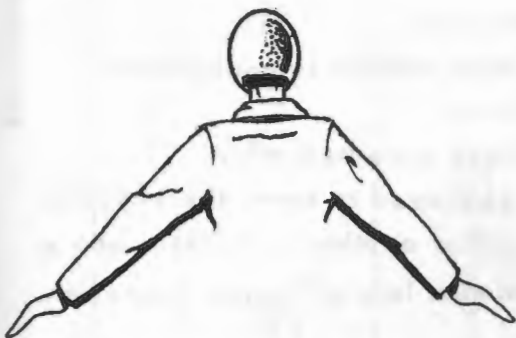


3. On line refusing a flank

Figure 17—Continued.

WEDGE FORMATION:

- (1) Permits excellent fire to the front and good fire to each flank.
- (2) Facilitates control.
- (3) Permits sustained effort and provides flank security.
- (4) Lends itself readily to fire and movement.
- (5) Is often used when the enemy situation is vague and contact is imminent.



HAND AND ARM SIGNAL
COMMAND: (PLATOON)
FORM WEDGE.

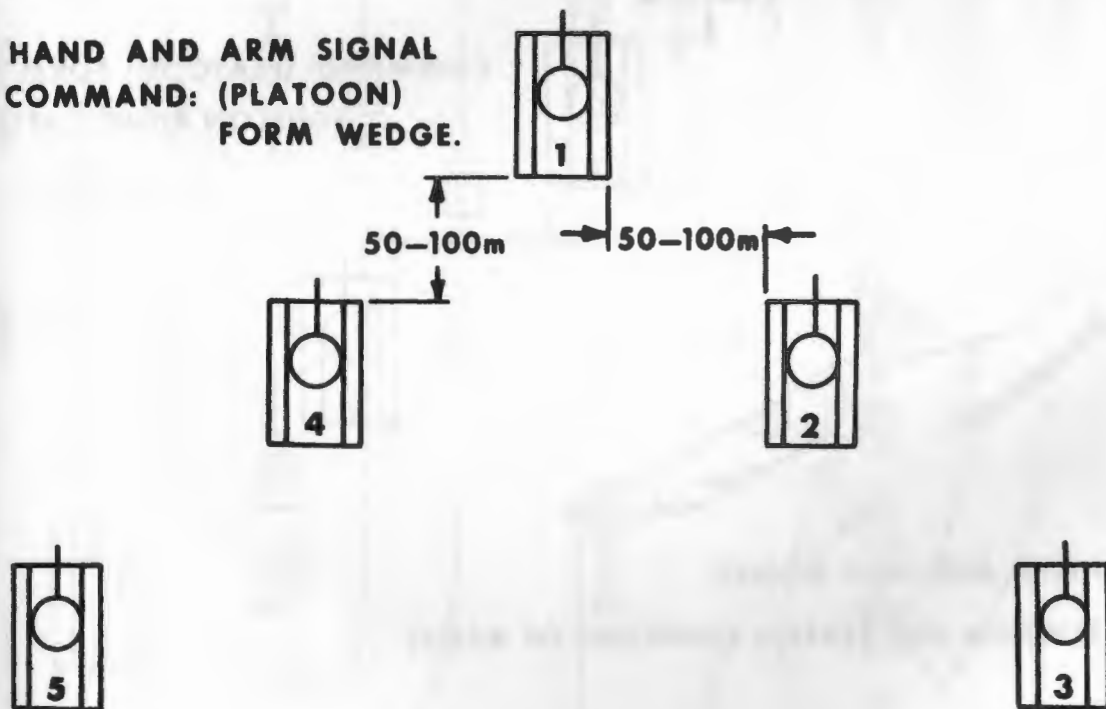


Figure 18. Tank platoon in wedge formation.



ECHELON RIGHT FORMATION:

- (1) Permits excellent fire to the front and to the echeloned flank, fair fire to the other flank.
- (2) Is more difficult to control than column.
- (3) Permits sustained effort.
- (4) Is employed to cover the exposed flank of another formation, with a minimum loss of frontal firepower.



50-100m



50-100m



COMMAND: (PLATOON) FORM
ECHELON RIGHT (LEFT)



HAND AND ARM SIGNAL
(FOR ECHELON LEFT REVERSE POSITIONS OF ARMS)



Figure 19. Tank platoon in echelon right formation.

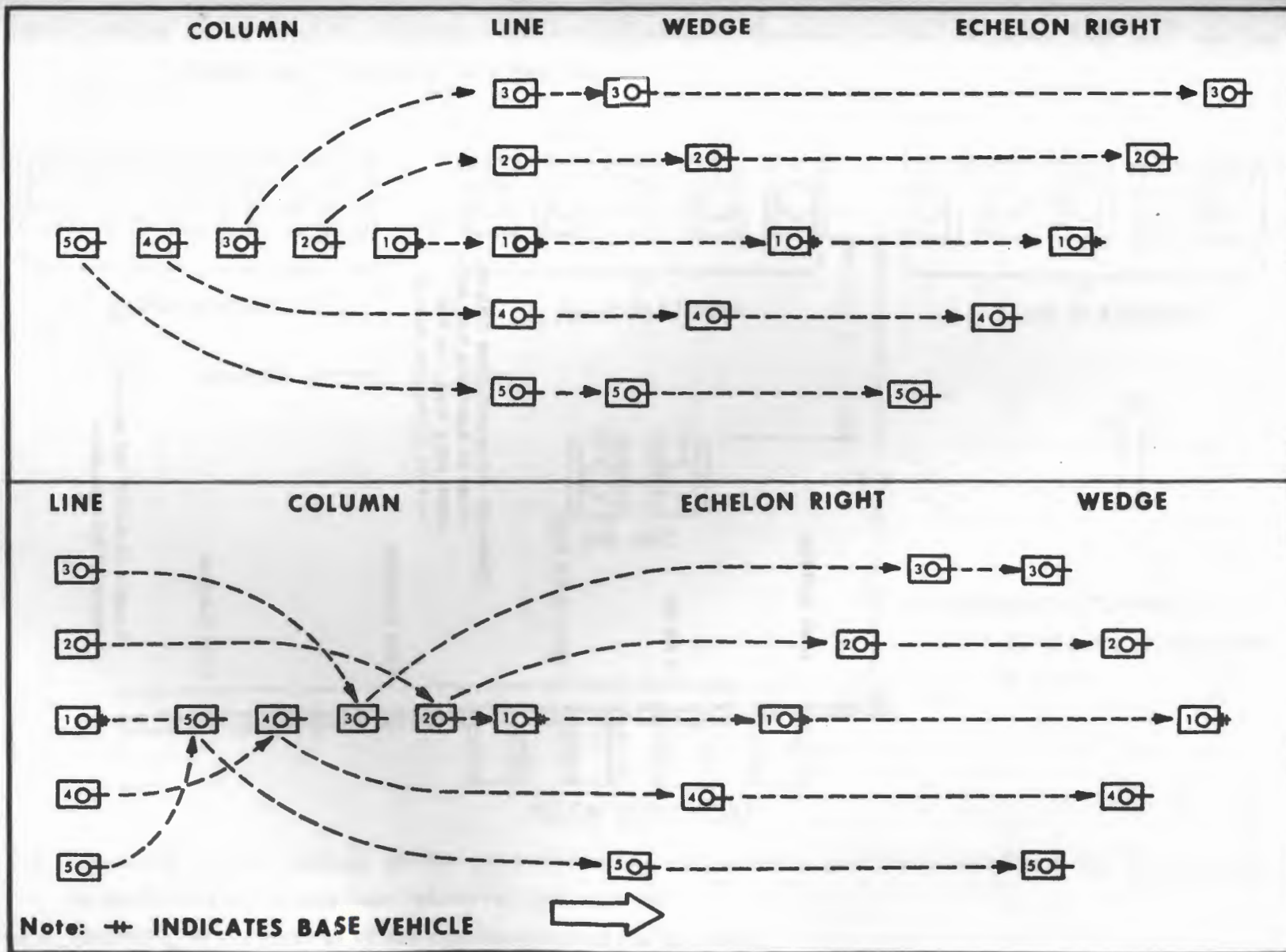


Figure 20. Tank platoon changing combat formations.

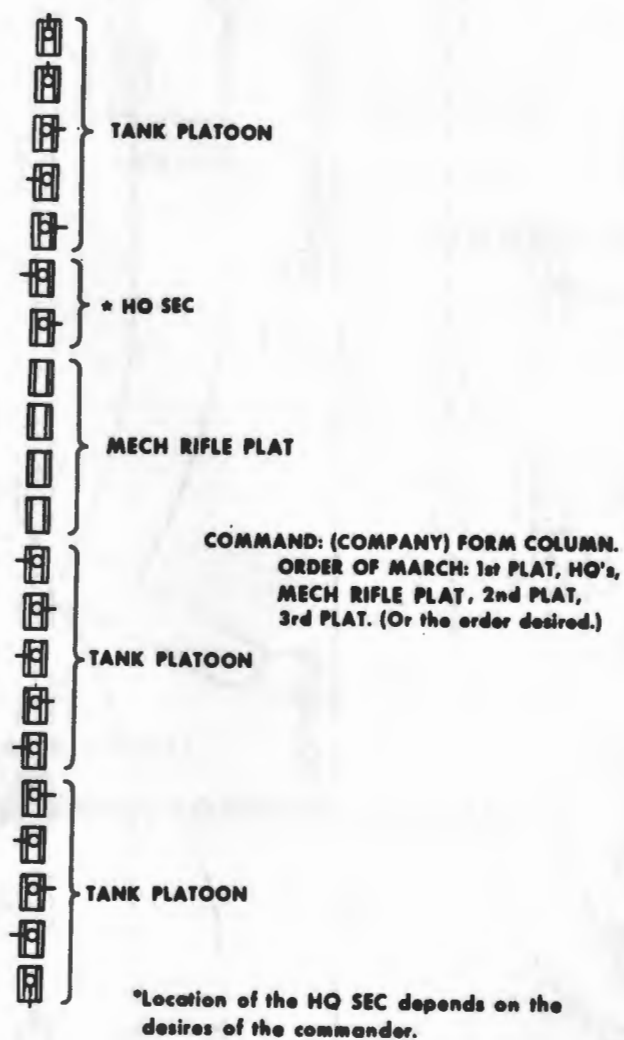
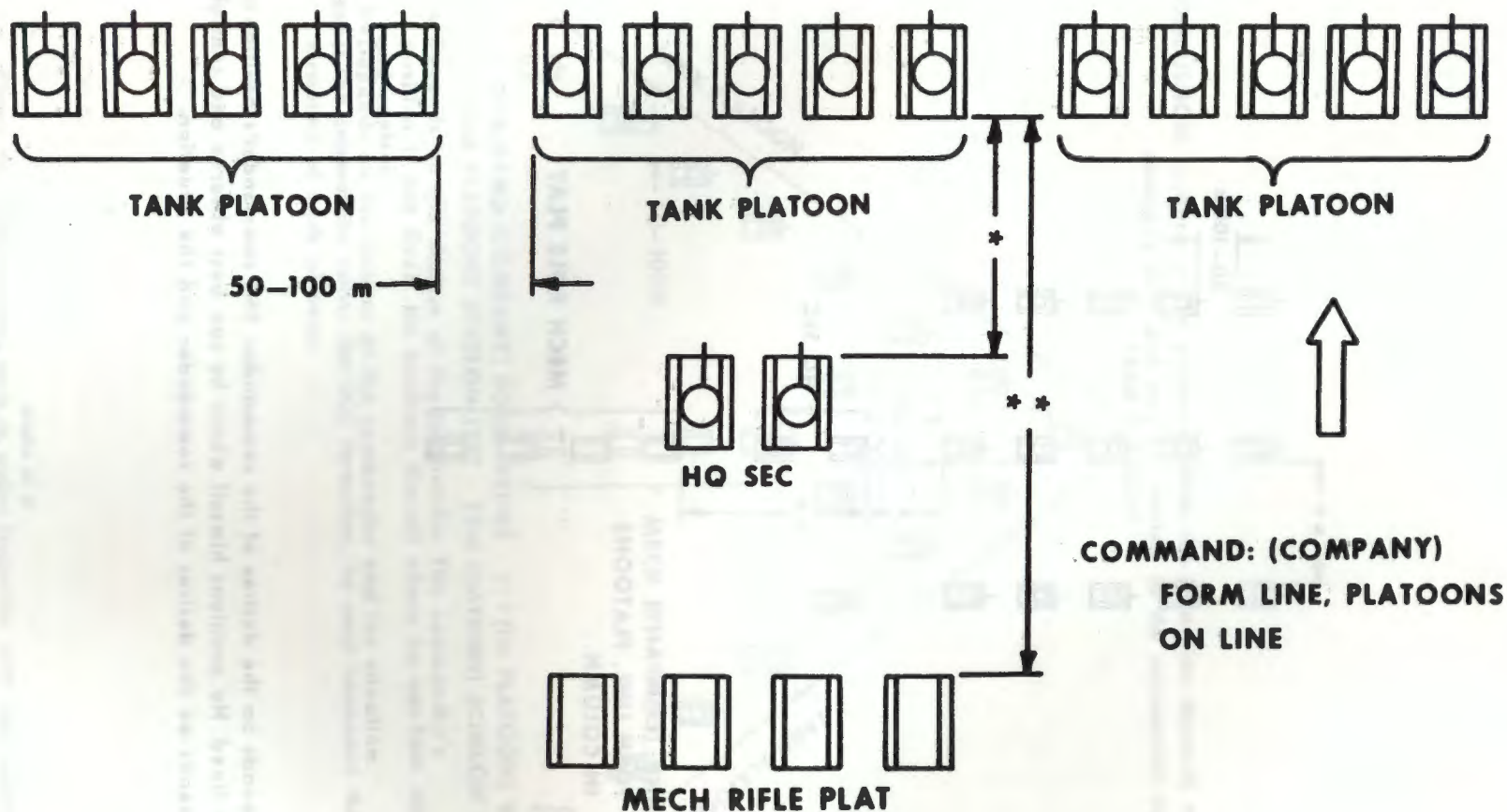


Figure 21. Tank company team in column with platoons in column.

DISCUSSION: Location of the platoons within the formation depends on the company SOP and may be varied as the commander desires.



★ Depends on the desires of the commander. The commander's position is not fixed. He positions himself where he can best observe and control.

★★ Depends on the desires of the commander and the situation.

1. In line formation

Figure 22. Tank company team on line with platoons.

**COMMAND: (COMPANY)
FORM LINE, PLATOONS
IN COLUMN.**

MECH RIFLE PLAT

HQ SEC

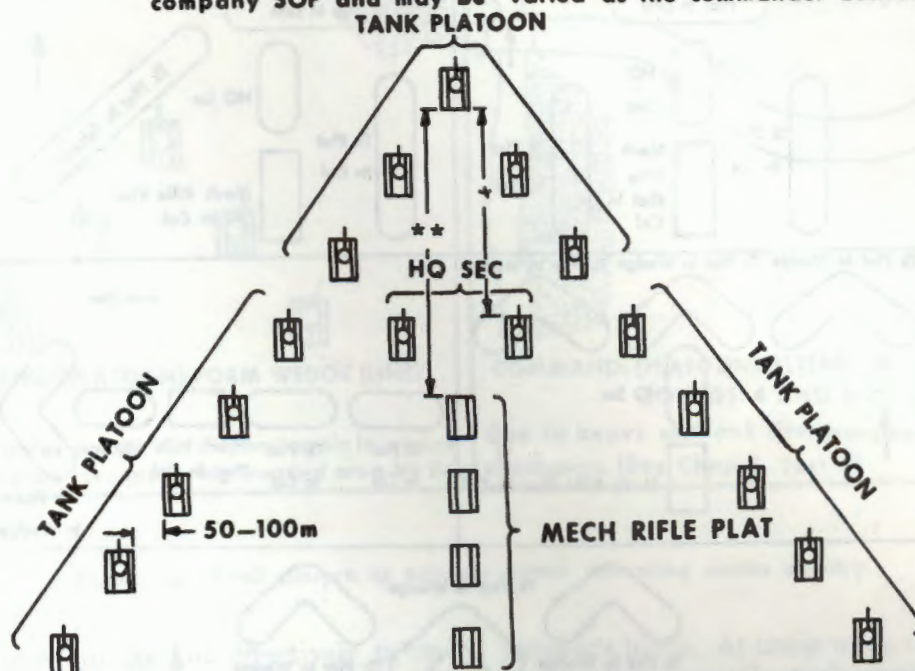
50-100m

- * Depends on the desires of the commander. The commander's position is not fixed. He positions himself where he can best observe and control.
- ** Depends on the desires of the commander and the situation.

2. In column

Figure 22—Continued.

DISCUSSION: Location of the platoons within the formation depends on the company SOP and may be varied as the commander desires.



*** (1st PLATOON) WEDGE
(2nd PLATOON) ECHELON LEFT (3rd PLATOON) ECHELON RIGHT

- * Depends on the desires of the commander. The commander's position is not fixed. He positions himself where he can best observe and control.
- ** Depends on the desires of the commander and the situation.
- *** If the commander varies the SOP formation, he must announce the formation of each platoon.

Figure 23. Tank company team in wedge formation, with lead platoon in wedge and flank platoons in echelon.

DISCUSSION: There are many possible variations of company team formations. To assume these formations, or others, the company team commander merely instructs his platoons as to his desires. Company combat formations and variations thereof, as well as movements of platoons past and through other platoons, should be continuously practiced. All platoons may move simultaneously or by bounds. Movement to the rear should be practiced as well as movement forward. The development of a company team SOP concerned with formation and movement will simplify operations. The location of the commander is not fixed. He must position himself where he can best observe and control.

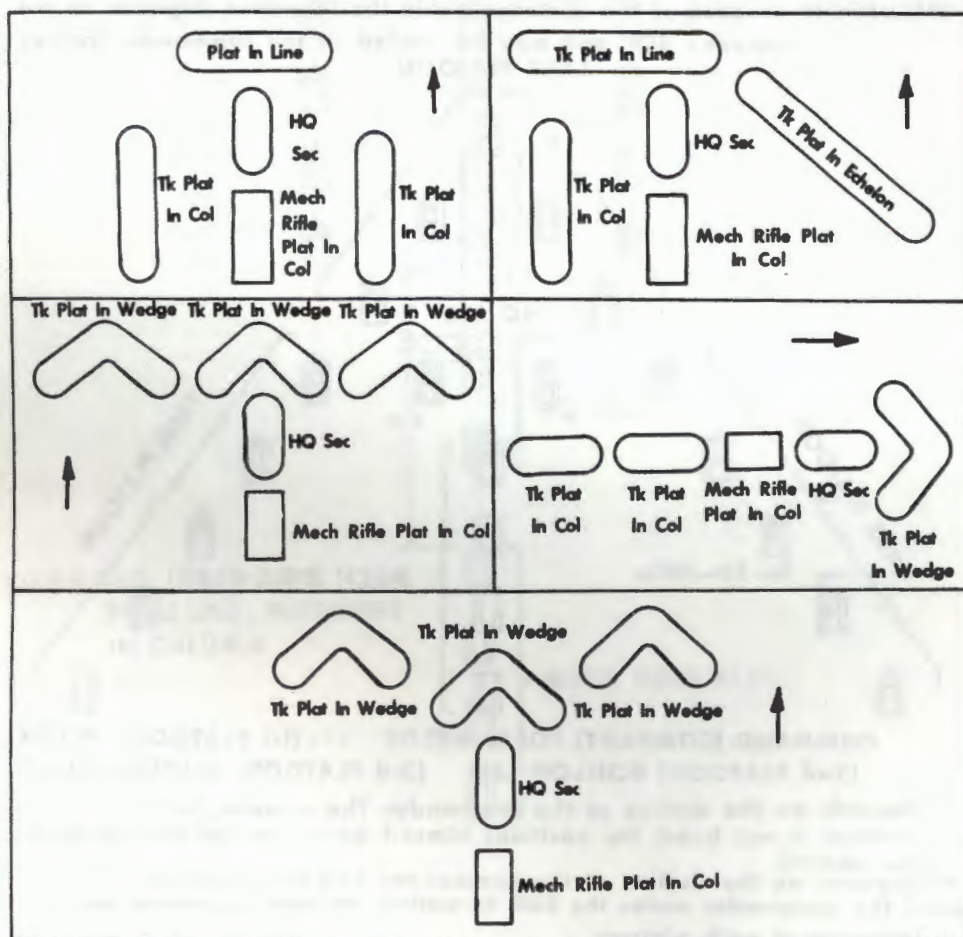


Figure 24. Some possible variation of tank company team combat formations.

Section II. BATTLE DRILL

65. General

a. Battle drill is the adaptation of combat formations to a specific tactical situation. The drill prescribed herein pertains primarily to the tank platoon. The tank platoon is employed

and operates as an entity. However, it may at times be forced by the enemy and the terrain to employ the techniques of fire and movement as discussed in chapter 2.

b. Tank action is fast and violent; units must

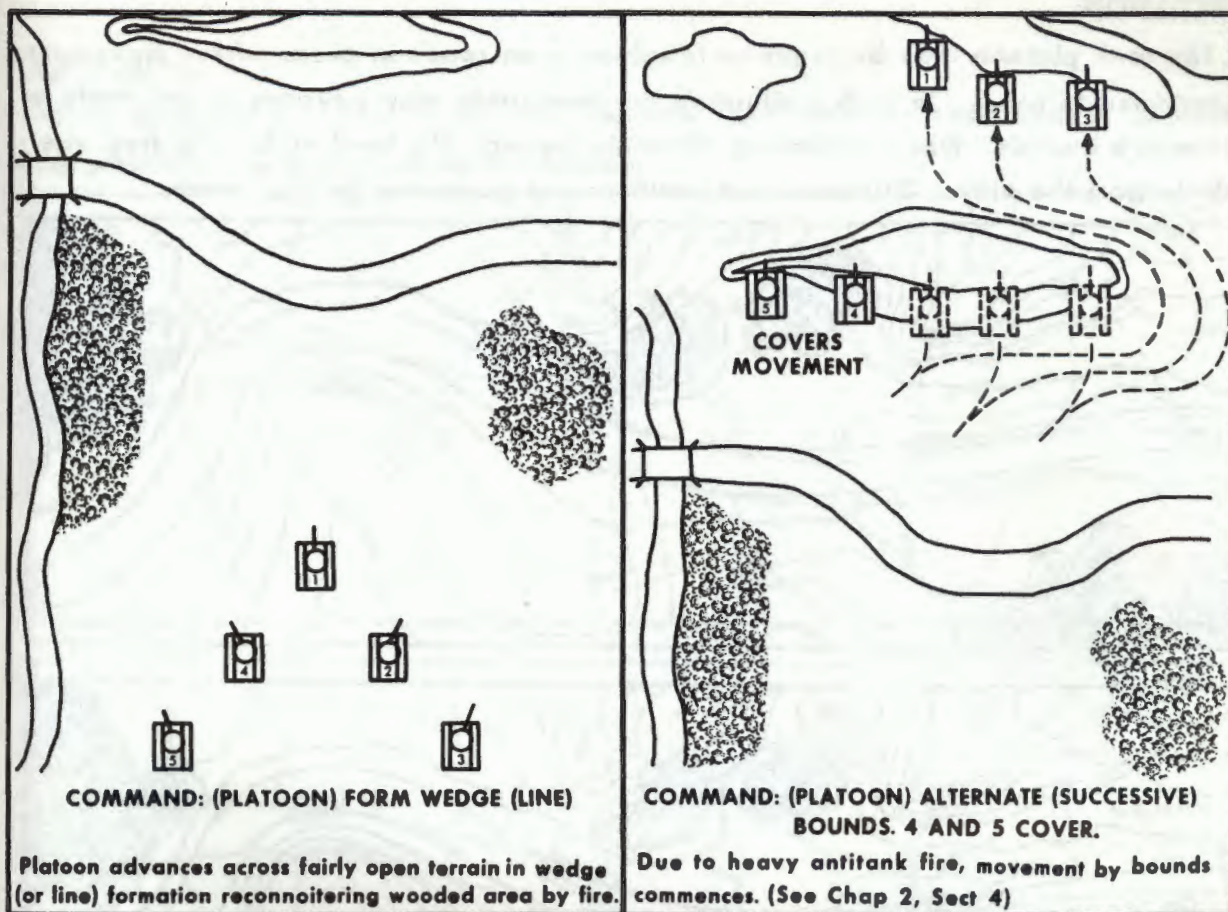


Figure 25. Tank platoon as advance guard, advancing across country.

be able to react quickly and effectively to unexpected or changing situations. Battle drill will familiarize tank platoons with the mechanics of reacting to these situations.

66. Training

a. Preliminary to training in mounted drills, it is desirable to instruct the crews by use of models. Matchboxes or C ration cans with numbers marked on them will suffice. It should not be necessary to have classroom lectures on these drills, as the quickest and easiest way to learn is by doing after a brief explanation.

b. Tanks practicing combat formations should be buttoned up except for the tank com-

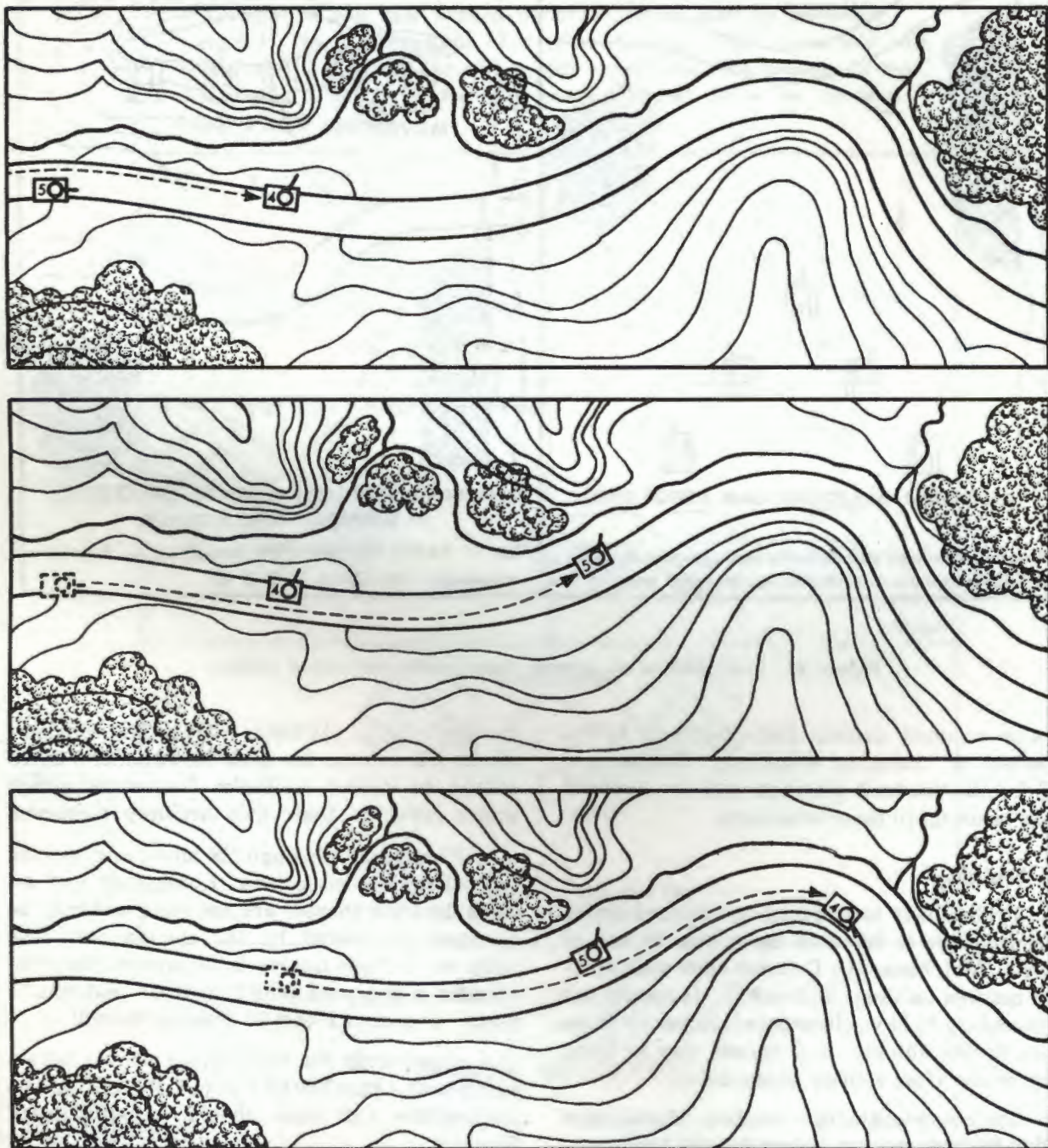
mander's hatch. At times when safety considerations allow, even the tank commander's hatch should be closed as tanks frequently attack under cover of their own artillery airbursts.

c. Figures 25 through 28 show and discuss typical combat situations. Commands and actions depicted therein are not rigid and may be changed as desired by the commander. The purpose of these figures is to present the commander a tool with which to train platoons to react. Figures 29 and 30 discuss the coil.

d. Commands for the actions shown herein begin with (PLATOON) or (COMPANY). The appropriate call sign should be substituted therefor.

DISCUSSION:

The tank platoon may be required to advance on roads in areas where movement is restricted to roads. In such a situation the lead tanks may advance by alternate or successive bounds. When employing alternate bounds, the lead tanks leap frog one vehicle past the other. Distances and positions are governed by the terrain.

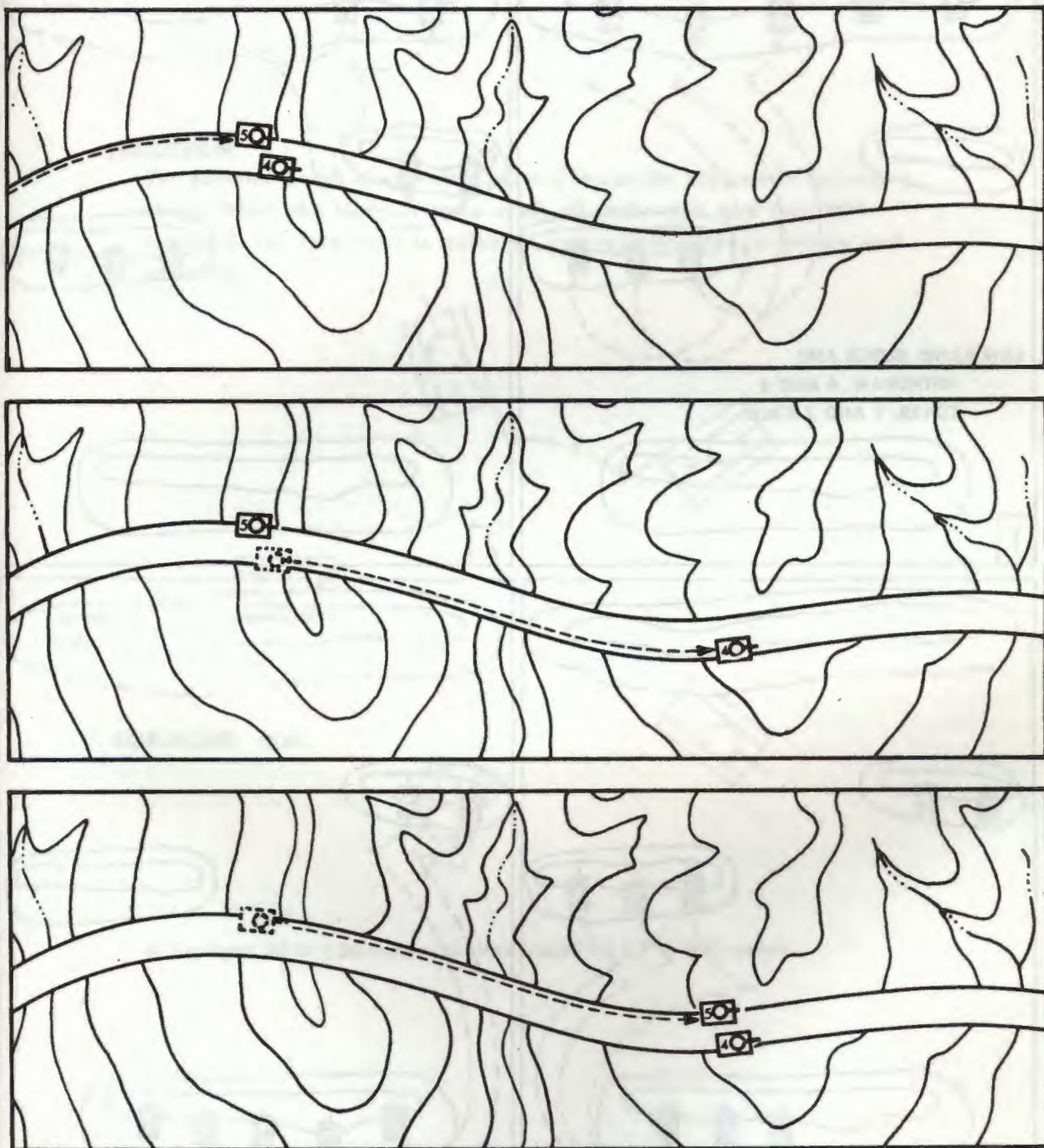


COMMAND: ALTERNATE BOUNDS. 4 AND 5 LEAD.

Figure 26. Lead elements of tank platoon moving by alternate bounds on a road as the advance guard in rough country.

DISCUSSION:

When employing successive bounds, the same tank leads on each bound. Distances and positions are governed by the terrain.



COMMAND: SUCCESSIVE BOUNDS. 4 AND 5 LEAD.

Figure 27. Lead elements of tank platoon moving by successive bounds on a road as the advance guard in rough country.

DISCUSSION:

Elements of the platoon, during a delay, often withdraw by bounds with one element covering the others movement.

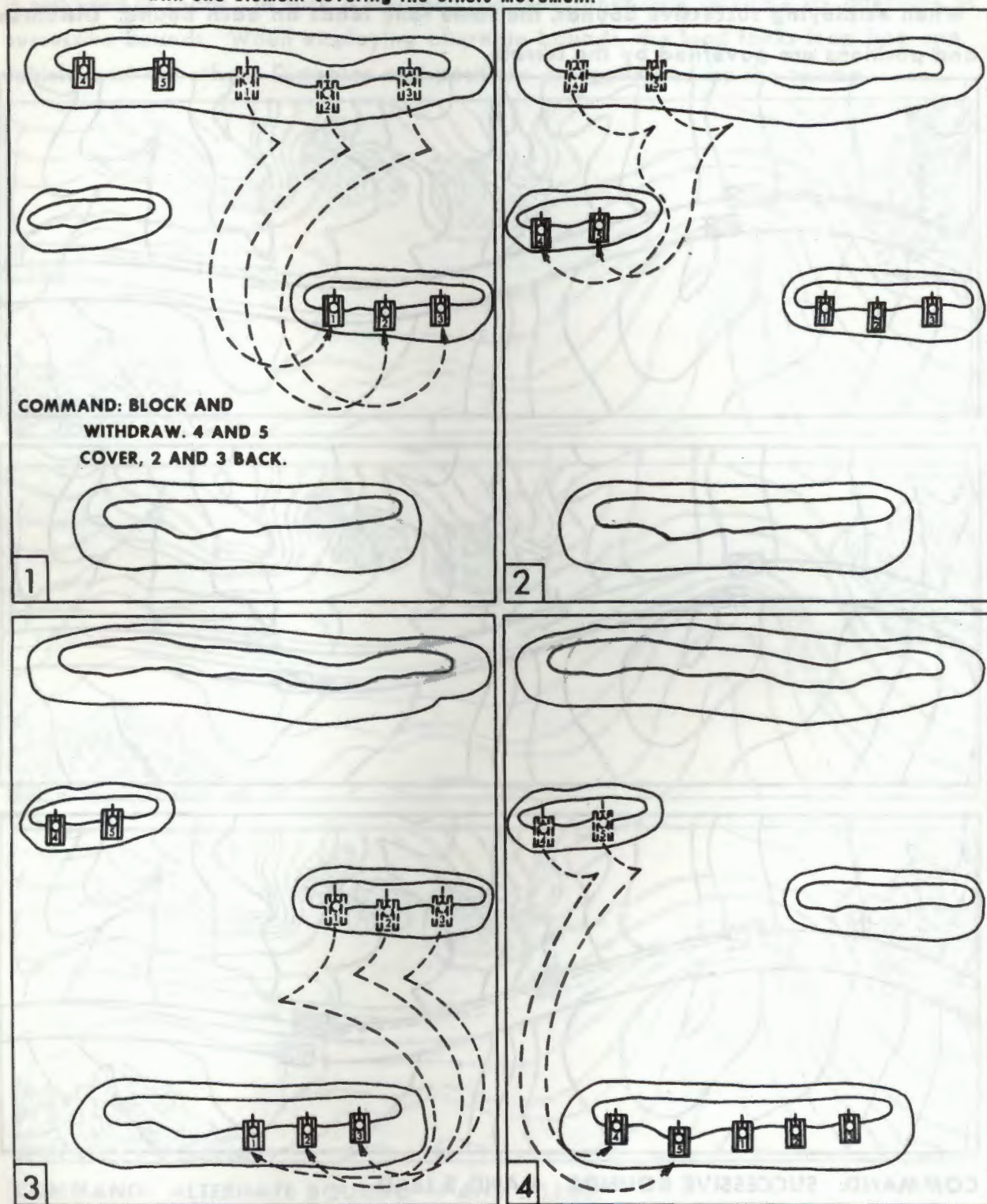
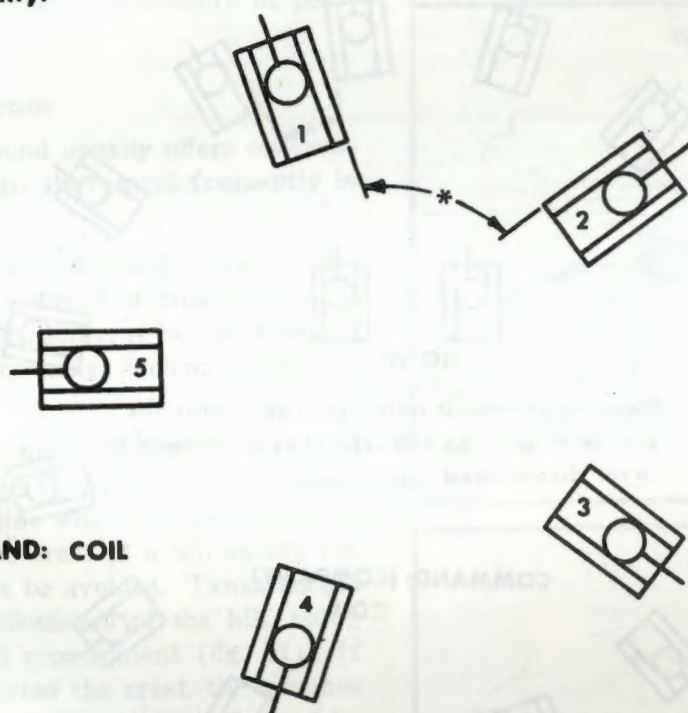


Figure 28. Tank platoon, blocking and withdrawing.

DISCUSSION:

The platoon leader commands COIL and leads his platoon in forming a circle. When the circle is completed, all tanks stop and turn 90° outward. The formation is adjusted as necessary due to terrain and visibility.



COMMAND: COIL

* Daylight: 50 to 200 meters. Limited visibility: 25 to 100 meters.

Figure 29. Tank platoon, coil.

DISCUSSION:

DISCUSSION:

The coil enables the tank company to rapidly form a perimeter with firepower equally distributed. The company commander may assign platoon responsibilities according to the clock system using a direction or a terrain feature as 12 o'clock, or the company may form a coil by first forming a circle and on order, stopping and turning the front of the tank outwards.



* Daylight: 50 to 200 meters. Limited visibility: 25 to 100 meters.

Figure 30. Tank company, coil.

CHAPTER 4

TANK UNIT EMPLOYMENT TECHNIQUES

Section I. USE OF TERRAIN

67. General

Tank units must use terrain to obtain maximum tactical advantage. The terrain must be used to prevent premature disclosure of positions.

68. Dominant Terrain

Because high ground usually offers observation and fields of fire, its control frequently is decisive.

a. Before an advance through a valley, the ridges on both sides should be cleared or neutralized by fire. The enemy, if he has free use of the ridges, may encourage such an advance to ambush the tanks.

b. Positions on high ground should be selected on either the forward or reserve slope and not on the skyline where any movement is easily detected. The crest of a hill should not be crossed if it can be avoided. Tanks should move around the shoulders of the hill, using available cover and concealment (fig. 31). If it is necessary to cross the crest, the advance should be made in line formation, supported by other tanks in firing positions (fig. 32).

69. Cover and Concealment

Cover is protection from fire; concealment is protection from enemy observation (fig. 33). Cover should be used whenever possible. If there is no cover, the concealment offered by trees, shadows, brush, and houses should be used (fig. 34). Positions behind cover are known as defiladed positions, the degree of defilade depending upon the part of the tank protected from enemy fire (figs. 35 and 36).

70. Conspicuous Landmarks

Care should be used to avoid conspicuous

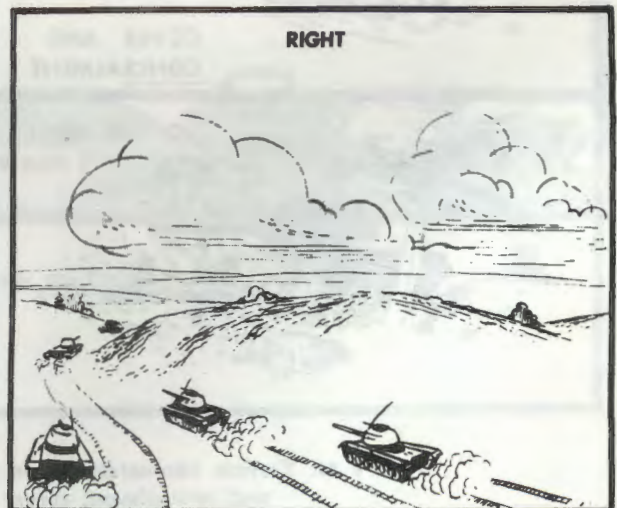
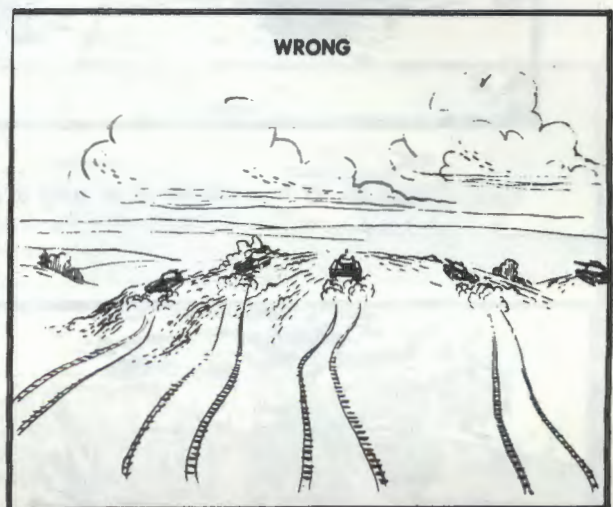


Figure 31. Tanks should move around the shoulders of a hill, using available cover and concealment, while supported by other tanks in firing positions.



Figure 32. If it is necessary to cross a crest, a tank unit advances in line formation, supported by tanks in firing positions.



Figure 33. Terrain characteristics in the order of their desirability are cover and concealment, cover, concealment, partial cover.

landmarks because they attract the enemy's attention. His artillery and antitank weapons will probably have registered on them (fig. 37).

71. Movement From Cover, Concealment, or Defilade

The head of a column emerging from a

ravine, woods, or defile should be protected by other tanks, halted in concealed positions to provide fire support (fig. 38).

72. Terrain Unfavorable for Tanks

Tank crewmembers must learn to recognize unfavorable terrain at a distance. If the terrain is doubtful, a crewmember should be dismounted, under protection of the tank weapons, to see whether the ground is passable for tanks (fig. 39). Accompanying infantrymen may be used to assist in making this reconnaissance and to provide additional protection for the dismounted crewman.



Figure 34. Brush may provide fairly good concealment.

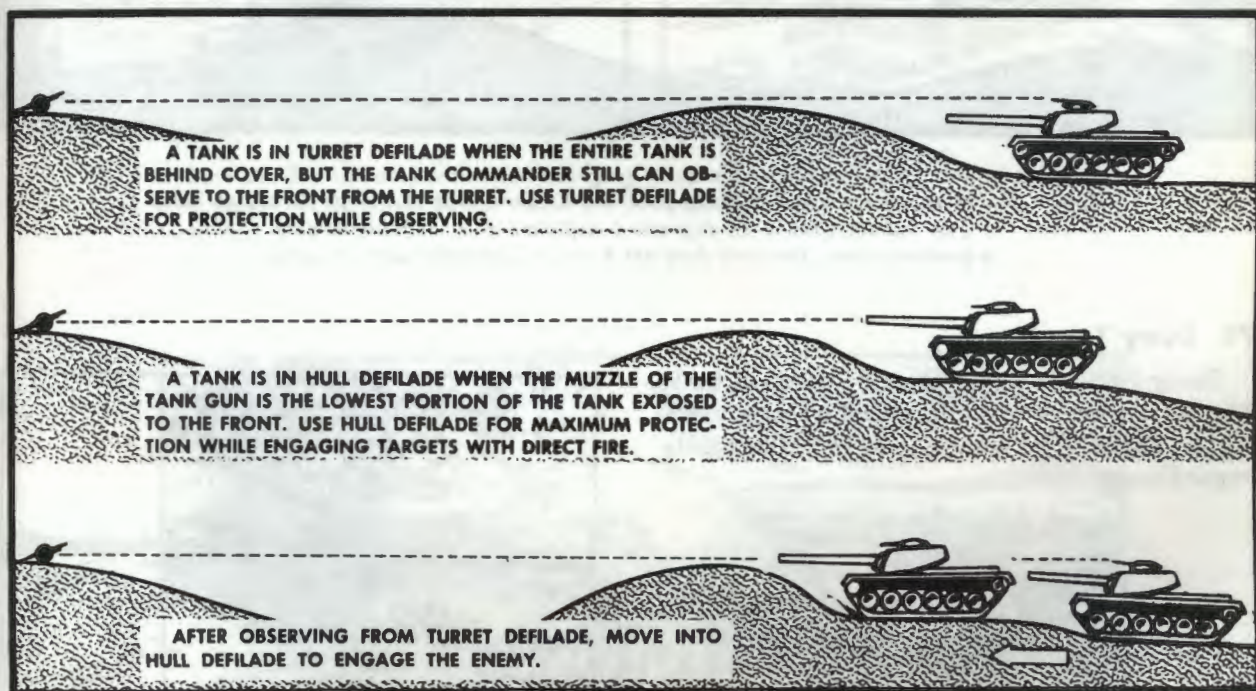


Figure 35. Defilade positions.

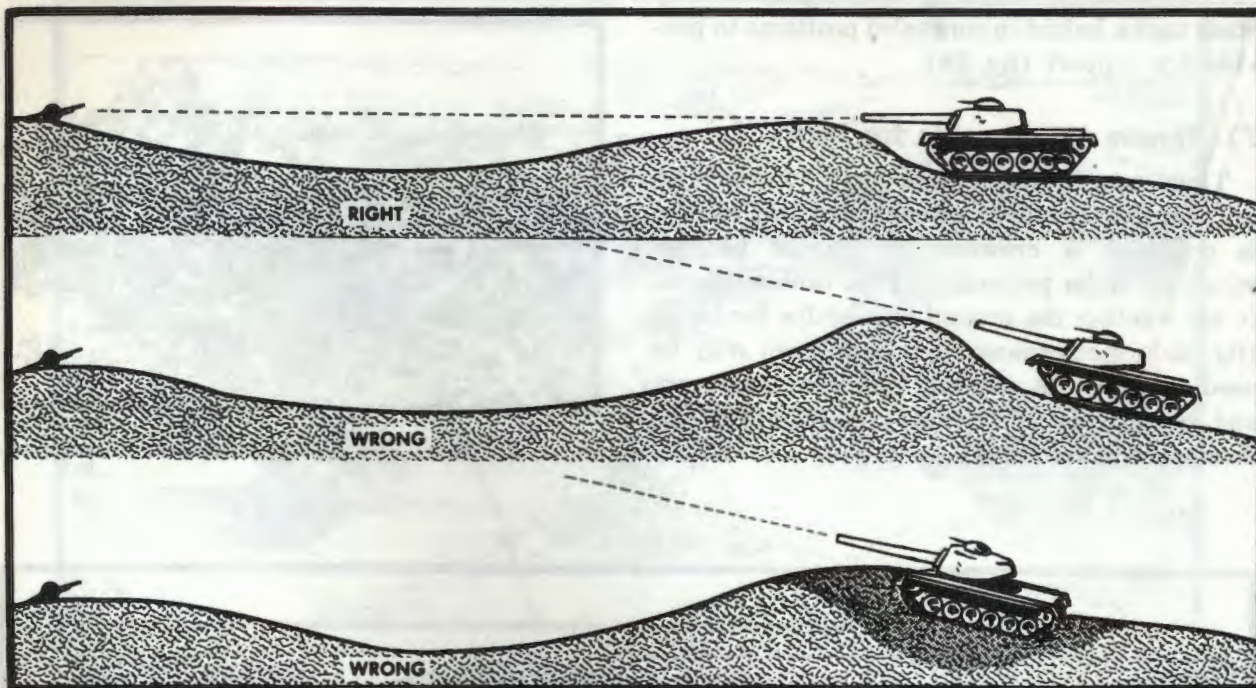


Figure 36. In selecting a hull-defilade position, be sure that the slope is not so steep that the gun muzzle cannot be depressed sufficiently to engage targets. Select a position where the tank does not have an excessive cant or pitch.

73. Dusty Terrain

Dusty terrain betrays the movement of tanks (fig. 40). Dust can be minimized by slow movement. Tanks must launch their assault rapidly, regardless of dust.

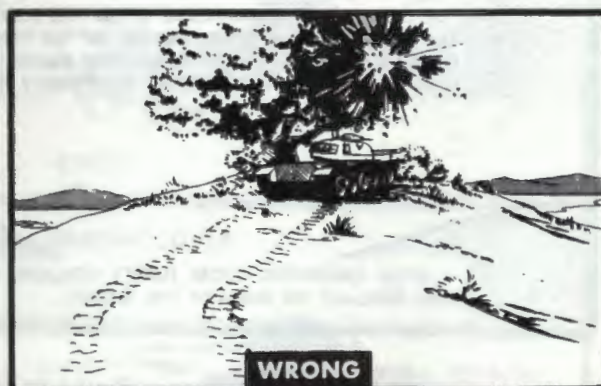


Figure 37. Conspicuous landmarks should be avoided.

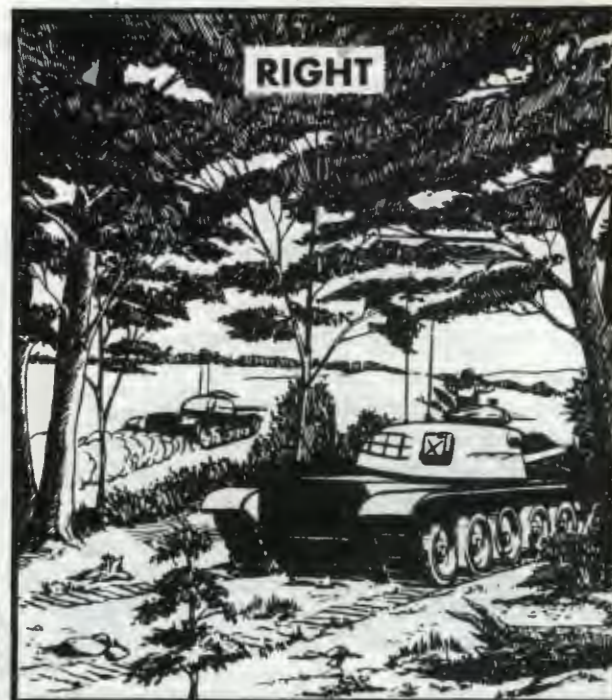
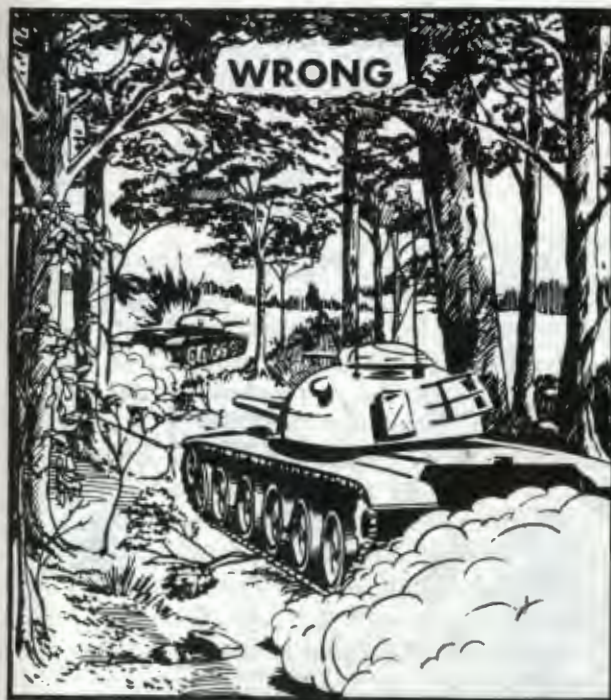


Figure 38. The head of a column emerging from cover, concealment, or a defile should be supported by other tanks, halted in concealed positions to provide fire support.



Figure 39. If the terrain is doubtful, a crewmember is dismounted to see whether the ground is passable for tanks.

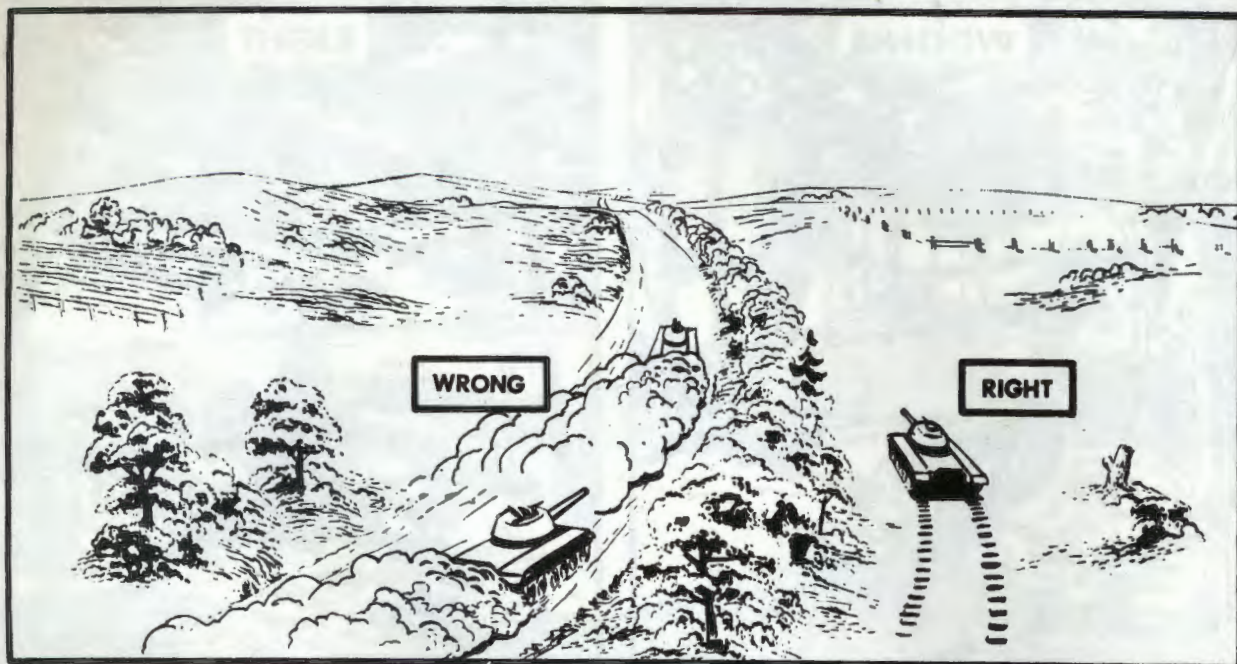


Figure 40. Dusty terrain betrays the movement of tanks and should be avoided where possible.

Section II. USE OF THE TANK'S FIREPOWER

74. Tank Armament

a. Each tank has a main gun, a coaxially mounted machinegun (coax), and a .50 caliber machinegun, either cupola or turret mounted.

b. The main gun is employed against targets such as tanks, fortifications, and machinegun type targets beyond the effective range of the machineguns.

c. The machineguns are employed at closer ranges against targets, such as troops, unarmored vehicles, lightly armored vehicles, slow-low-flying aircraft, such as helicopters, and extensively for reconnaissance by fire.

d. The .50 caliber machinegun engages slow-low-flying aircraft and machinegun type targets beyond the effective range of the coax. When tanks are massed, it is used to provide an umbrella of interlacing fires against an attack by low-flying, high-performance aircraft. The machineguns are normally employed in the assault as they can be fired effectively from a moving tank. The decision to employ the main gun, the

coax, or the .50 caliber machinegun is based primarily on consideration of target vulnerability and range.

75. Selection of Targets

a. Tanks always engage first those targets most likely to interfere with the accomplishment of their mission. While no hard-and-fast rule can be applied, enemy armor commonly offers the greatest threat and, if present, will be the first target to be engaged.

b. Tanks engage enemy armor and automatic weapons. Infantry elements, when attached to tank units, employ infantry tactics to support the tanks by destroying dug-in antitank guns and tank hunters that cannot be engaged by the tanks.

76. Distribution of Fire

Unless the fire of a tank unit is controlled, the tank crews may expend ammunition needlessly and ineffectively. On the other hand,

sufficient fire must be delivered to insure destruction or neutralization of the target in the shortest possible time. The tank company commander and the platoon leaders control the distribution and volume of fire. (For methods of attacking targets, see FM 17-12.) The following factors are considered:

a. Aggressive Application of Firepower.

- (1) The assigned mission of the unit, the tactical situation, target characteristics, terrain, and observation will dictate when to open fire with the main gun in its direct fire role. The advantage of being the first to obtain a hit outweighs any other single factor in determining the winner of an engagement between weapons of comparable destructiveness and range characteristics. This is of particular significance when engaging a numerically superior enemy. Should the first round miss, the initiator of a fire fight can probably fire one or more subsequent shots before receiving hostile return fire. The probability of hitting the target is greater on each successive shot.

- (2) In both the attack and defense the first priority for friendly tank fire is the destruction of the most dangerous enemy elements such as tanks, antitank guided missiles (ATGM), and high velocity antitank weapons. However, to insure a very high probability of attaining a first round kill against these type targets, fire may be withheld until the target closes to within 1200 meters or less. This tactic is used only when surprise can be achieved or when it is probable that the enemy cannot pinpoint our tank locations or cannot place effective fire on them. If in doubt as to the enemy's capability or surprise cannot be achieved, the option to open fire should be exercised when the target is within effective range.

- (3) In retrograde operations where the primary mission is to delay and disorganize the enemy advance, tank elements normally open fire at maximum ranges.

b. Number of Tanks in Position to Fire.
When more tanks are in position than are needed to destroy a single target, only those in

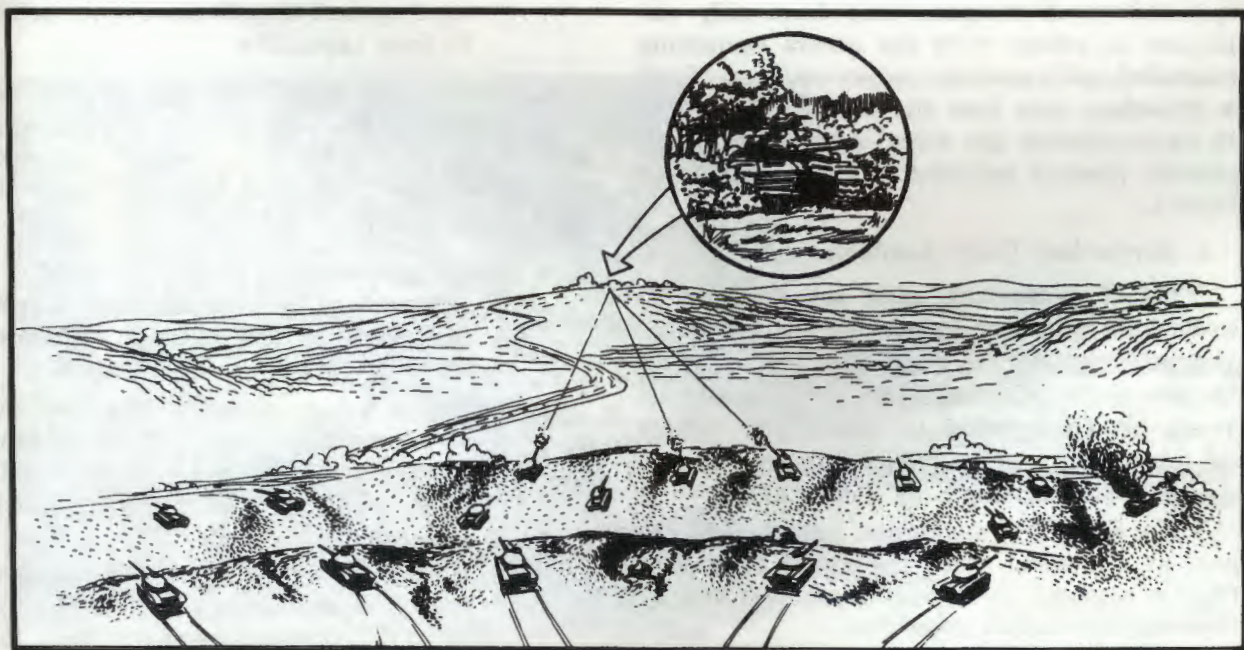


Figure 41. When more tanks are in position than are needed to destroy a single target, only those in the most favorable positions will fire. The others continue to observe in their assigned sectors for new targets.

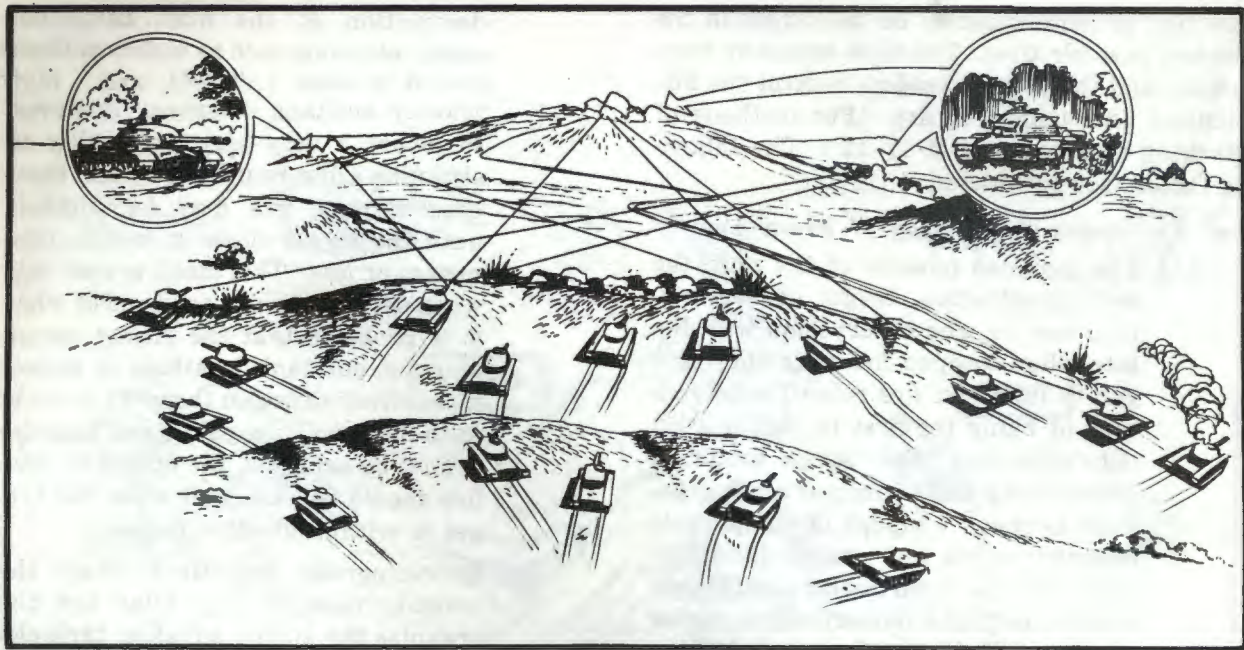


Figure 42. When there is more than one important target, fire is distributed to engage as many targets as possible.

the most favorable positions will fire (fig. 41). To make this possible, each tank must be assigned a clearly defined, primary sector of responsibility. A company may have only one platoon in action, with the others remaining concealed until another target appears. Such a procedure may lead the enemy commander to underestimate the force opposing him and thereby produce opportunities for surprise (g below).

c. Supporting Units Available.

(1) If supporting units are available to protect its flanks or to provide early warning, the tank company concentrates its fire on targets to its front. Otherwise, certain tanks must be designated to watch for targets of opportunity to the flanks and rear and to detect bypass attempts by enemy units.

(2) Should a dangerous new target appear at a moment when the entire tank company is engaged, tanks within whose sector of fire it appears take it under fire.

(3) Supporting artillery or mortars should also be employed to provide smoke the tank company may require.

(4) Nuclear weapons should be employed against lucrative targets, permitting tanks and other supporting fires to be used against targets more appropriate to their capability.

d. Distant Targets. Accuracy of fire decreases with an increase in range. Therefore, the greater the range to a target, the more tanks that must fire on the target to insure its destruction or neutralization.

e. Number of Targets.

(1) When there is more than one target, fire should be distributed to engage as many targets as possible (fig. 42).

(2) Should a dangerous new target appear at a moment when the entire tank company is engaged, tanks within whose sector of fire it appears take it under fire.

(3) If the company does not have sufficient firepower to engage all available targets, it requests assistance from the battalion commander. Such a request may include the type of fire support, such as nuclear artillery or tactical air,

considered most appropriate. Meanwhile, the company continues to engage the most dangerous targets.

f. Type of Target.

- (1) Generally, the more dangerous a target, the more fire is concentrated upon it. For example, the destruction of heavy tanks and self-propelled guns may require converging fire from several tanks.
- (2) A target that is hard to see is hard to hit and therefore requires a greater volume of fire than one in the open. For example, a well-concealed antitank gun may be very difficult to destroy or neutralize even though its general location is known.

g. Surprise.

- (1) When the tank company is able to surprise an enemy force, each platoon is given a definite sector of fire. The platoon leaders, in turn, designate definite sectors or targets for each tank. All tanks fire together on the company commander's order.
- (2) If the company is attacked suddenly,

each tank commander immediately engages the most dangerous targets in his assigned sector of fire until the platoon leaders and company commander are able to determine the point or points where fire should be concentrated.

h. Firing Positions for Tanks.

- (1) Tanks used for fire support are placed in hull-defilade firing positions (fig. 35). A tank is in hull-defilade when the portions below the main gun are covered from enemy direct fire. The use of hull-defilade provides maximum protection while engaging enemy targets with direct fire.
- (2) Firing positions are classified as primary and alternate. See paragraph 150b for a detailed discussion.
 - (a) A primary firing position offers the best conditions for carrying out the assigned mission.
 - (b) An alternate firing position is used for carrying out the assigned mission when the primary position becomes untenable.



Figure 43. Reconnaissance by fire.

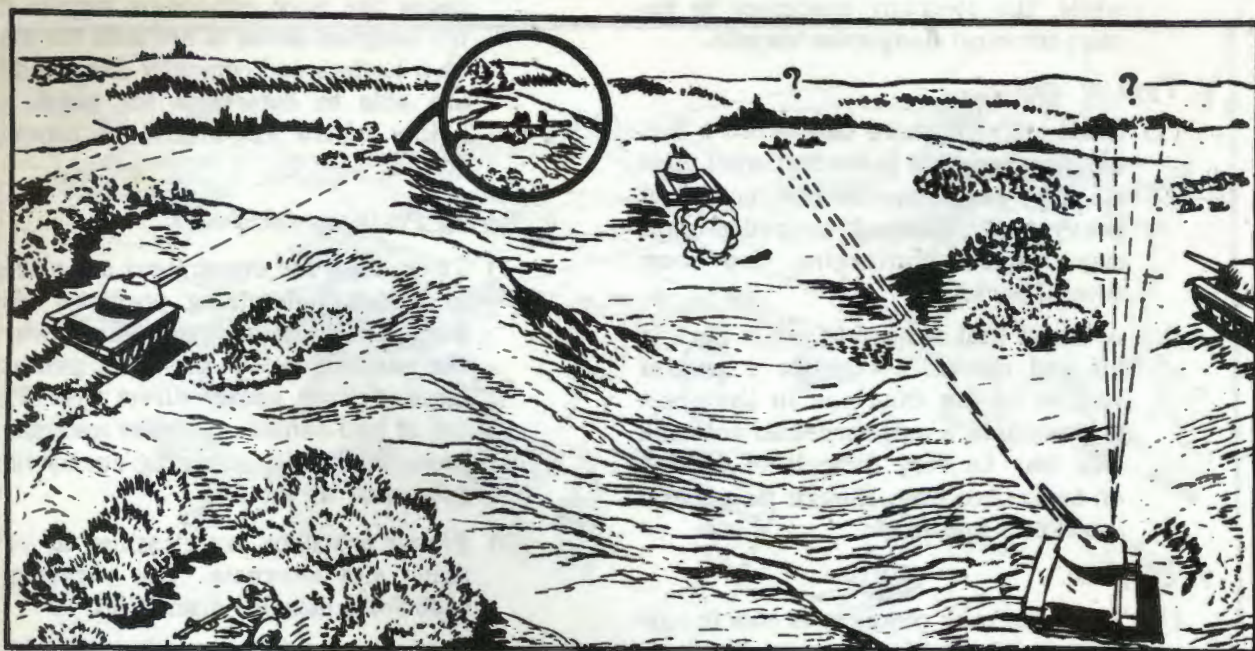


Figure 44. Reconnaissance by fire during the attack.

77. Reconnaissance by Fire

a. A tank unit is frequently able to develop the situation and obtain a degree of security and protection from surprise by use of reconnaissance by fire. Elements fire into the general area where enemy positions are suspected, in an attempt to cause him to disclose his presence by movement or return fire (figs. 43 and 44). The coaxial and cupola machineguns are used at short ranges. The tank commander watches

the target area and picks up movements of the enemy or the exact location of a gun returning the fire.

b. Reconnaissance by fire is not conducted so as to disclose prematurely the tank position. However, during the attack, tanks make liberal use of fire to locate and neutralize enemy weapons. This is not to imply an indiscriminate use of ammunition.

Section III. ACTIONS AGAINST TROOPS

78. General

Tanks can overrun and crush enemy crew-served weapons, shallow entrenchments, personnel, and light vehicles. When combined with fire and rapid movement, this capability can be employed advantageously by tank units attacking enemy troops. However, care must be exercised as the enemy positions are normally protected by mines and contain individual antitank weapons.

79. Attack Against Moving Troops

In fast-moving, fluid situations, especially during exploitations, tank units may encounter marching formations of enemy troops who are unaware of the immediate presence of tanks.

a. If the attacking tanks have the advantages of high ground and good fields of fire, they may take initial positions to rake the enemy formation with fire. Normally, this surprise fire is of short duration (2 or 3 bursts of machinegun fire and 1 or 2 rounds from each main tank gun). It is designed to kill as many enemy troops as possible before they can take cover. As soon as the tank unit commander sees that maximum advantage has been gained from this initial surprise fire, he orders his units to attack the enemy with as much speed and violence as possible. The unit advances, machineguns firing, directly into the enemy formation, employ-

ing essentially the same tactics as are used in the final assault of any objective.

b. If the attacking unit is not in a position to take the enemy under surprise fire from a vantage point, the tank unit rapidly moves into a combat formation that will allow maximum firepower forward and attacks directly into the enemy formation, preferably from a flank.

80. Attack on Concentrations of Troops

Whenever the enemy has concentrations of troops, such as in assembly areas and attack positions, he can be expected to take security precautions to prevent the surprise attack of his main body. When such a concentration is encountered, attacking tank units must depend on rapid movement to inflict the maximum shock effect on the enemy. The commander must quickly plan his attack, transmit orders by radio, and assault without halting. One or more

elements of the attacking force should move on line directly into the enemy formation, machine-guns firing. At least one element should be given the mission of enveloping the enemy to take advantage of any exposed flank and add to the enemy's confusion.

81. Attack Against Troops in Fixed Positions

Dismounted enemy defending a fixed position can be expected to have antitank weapons and mines sited to cover likely avenues of armor approach. In the attack of such a position, tanks should be accompanied by infantry and engineer elements. Once the antitank defenses have been disposed of and the enemy defenses have been penetrated, tanks should move into and through the enemy position rapidly, machinegunning and crushing the enemy in fox-holes and other defensive works that can be overrun.

Section IV. ACTIONS AGAINST TANKS AND ANTITANK WEAPONS

82. Tank Versus Tank—General

a. The material presented in this and the following paragraphs applies to the engagement of enemy tanks and armored self-propelled weapons.

b. Tank crewmen must be prepared to—

- (1) Engage enemy tanks at any time, usually with little warning.
- (2) Strike concentrations of hostile armor, by either attack or counterattack, to destroy the enemy's power for offensive combat.

c. Tank design is a compromise of the desired degrees of armor protection, cross-country mobility, firepower, speed, and crew and stowage space. Consequently, a type of tank possessing any one or more of these characteristics to an unusual degree will be below average in others. For example, a tank carrying extremely thick armor and heavy armament will be slow and difficult to maneuver, and the larger the caliber of a tank's gun, usually, the fewer rounds of ammunition it can carry. It is probable that some types of enemy tanks will possess outstanding characteristics but at the same time will be particularly vulnerable in some respects.

Tank crewmen must study the different types of hostile armored vehicles, learn their respective strengths and weaknesses, and develop techniques to defeat each type.

d. All tankers must be trained in recognition of both friendly and enemy tanks and other armored vehicles. Tank crewmen must be able to determine at a glance whether a tank is friendly or enemy. This will insure that enemy tanks are engaged immediately and friendly tanks are not fired upon.

83. Tanks in the Antitank Role

a. *General.* The tank is the primary antitank weapon in the armored, infantry, and mechanized divisions. Other antitank weapons systems and passive measures, such as anti-tank obstacles are also employed, but they do not possess the tank characteristics of mobility and armor-protected firepower. The tank is the principal means for destroying enemy armor.

b. *Action Against Enemy Armor.* In an attack against enemy armor, tank units use fire, maneuver, and deception to permit the employment of their weapons at the most effective ranges and from the most effective positions. All

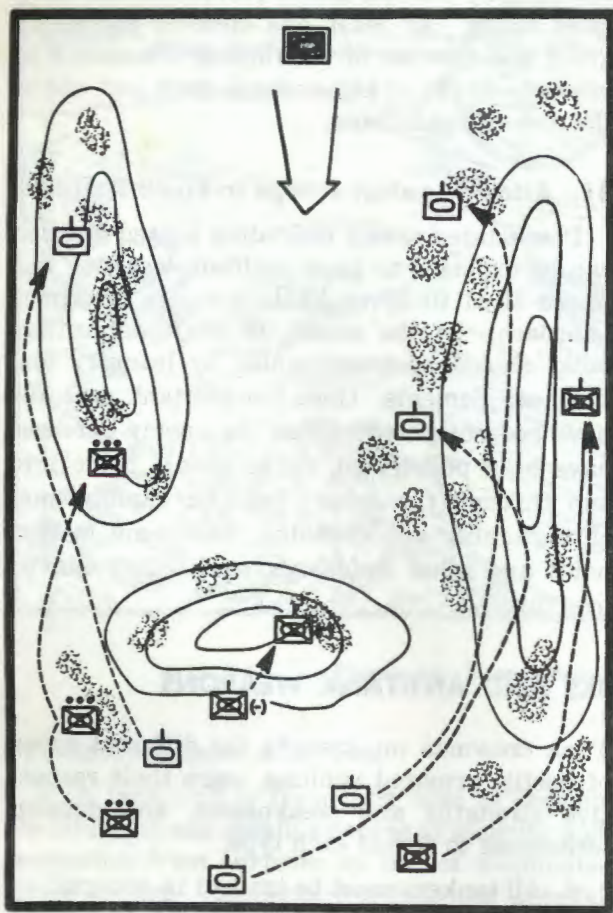


Figure 45. Figure 45 is rescinded. Figure 45 is rescinded. Figure 45 is rescinded.

available cover and concealment must be used; smoke may be employed to restrict the enemy's observation, and to screen movements of friendly elements.

84. Tank Versus Tank—Action

a. Surprise may be attained by rapidly launching an attack against enemy tank elements when and where they least expect to be attacked. Effective reconnaissance determines where the weakest or least secure part of the enemy formation is located.

b. Artillery, nuclear fire support, and tactical air should be used in conjunction with the tank attack. This attack usually should be directed against the hostile flanks. Aggressive ma-

neuvering and accurate fire are combined into a violent and continuous attack (fig. 46).

- (1) Nuclear fire breaks up and destroys the enemy formations and isolates parts of the hostile force so that it can be destroyed in detail. Artillery and mortar fires cause tanks to button up, impede their progress, and make them more vulnerable to direct fire.
- (2) Under favorable conditions, smoke can be highly effective. However, care must be exercised, because a slight change in the wind may shift the smoke to the enemy's advantage.
- (3) In an attack against enemy tanks, some friendly tank elements may be employed in an overwatching role to pin down enemy tanks by direct fire while the remainder of the force closes with the enemy.

c. Requests should be submitted for airstrikes on enemy tank concentrations (par. 48 and FM 17-1). These airstrikes must be carefully coordinated with artillery fires and the attack of the maneuvering force.

d. On occasion, it will be possible for a tank platoon or company to ambush enemy tanks with flanking fire from covered or concealed positions. On such occasions, each tank is assigned a definite target or sector. All tanks open fire together on order (fig. 47).

- (1) The enemy is subjected to several aimed shots before he can recover and return the fire.
- (2) As soon as the first effect of surprise is over, fire and movement is begun against the surviving enemy tanks. This part of the action must be anticipated in advance, so that the attack is immediate and violent.

e. When it is possible to ambush enemy tanks in a defile, the rear and lead tanks should be destroyed first to entrap remaining enemy tanks and restrict their movement. Fire and movement may be employed against the surviving enemy tanks.

85. Tank Versus Tank—Weapons and Ammunition

- a. If the guns of the enemy tanks are infer-

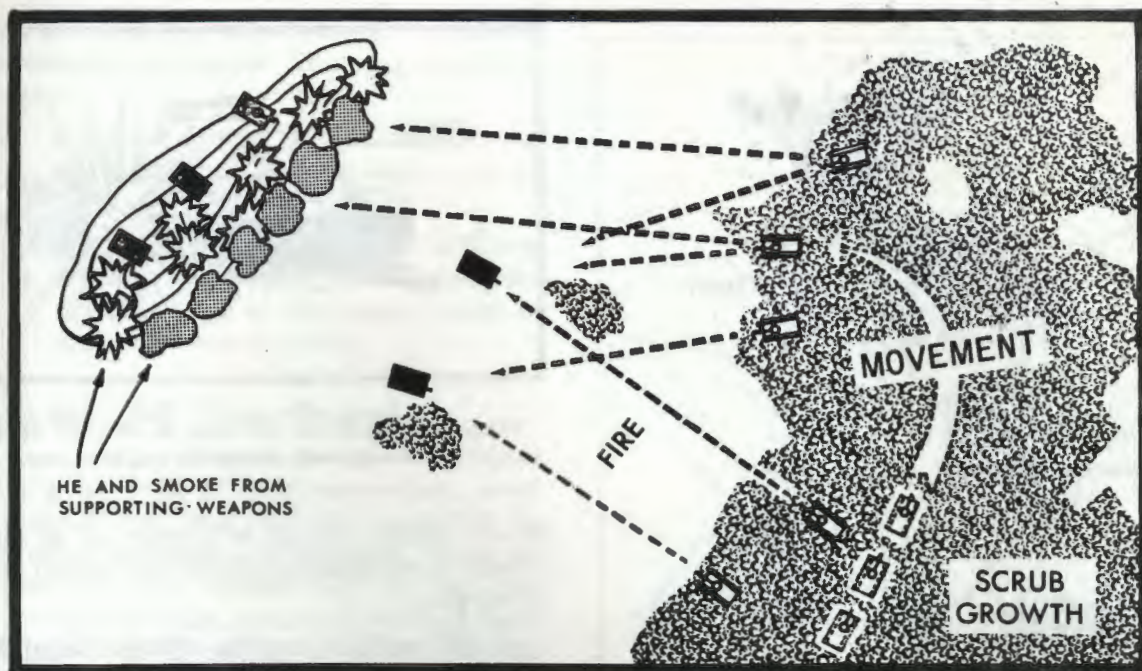


Figure 46. Aggressive maneuvering and accurate fire, combined with fire support from available weapons, should be used when fighting enemy tanks.

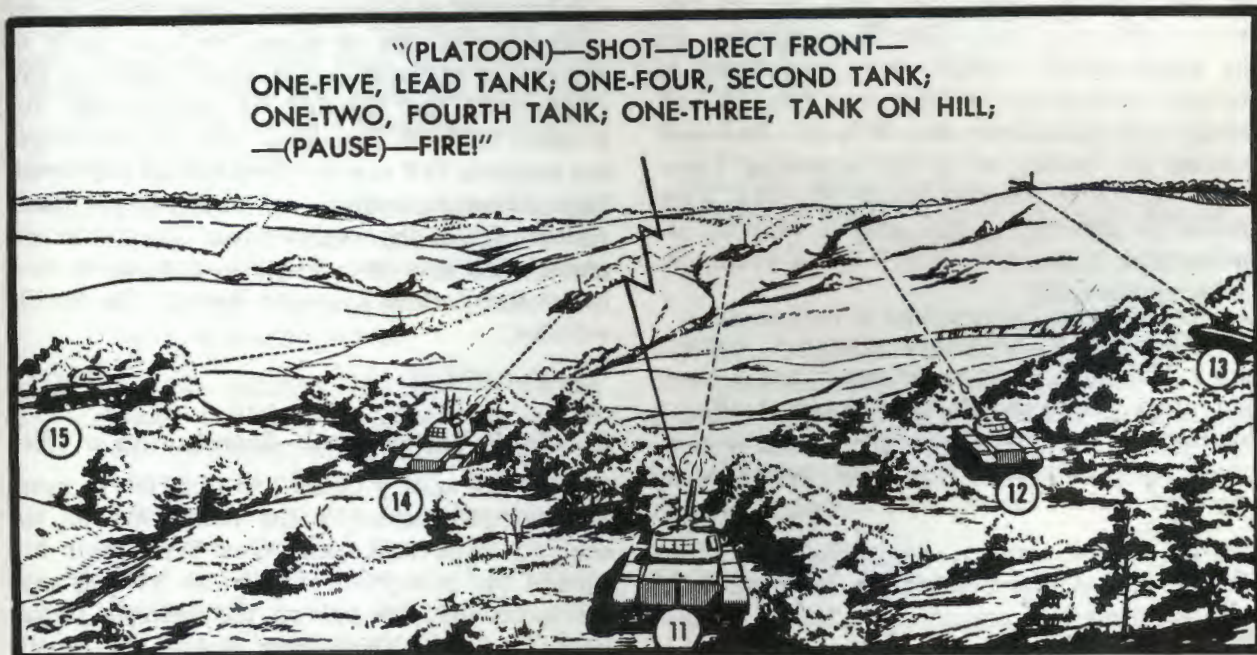


Figure 47. When engaging enemy tanks, the commander assigns each of his tanks a definite target or sector.

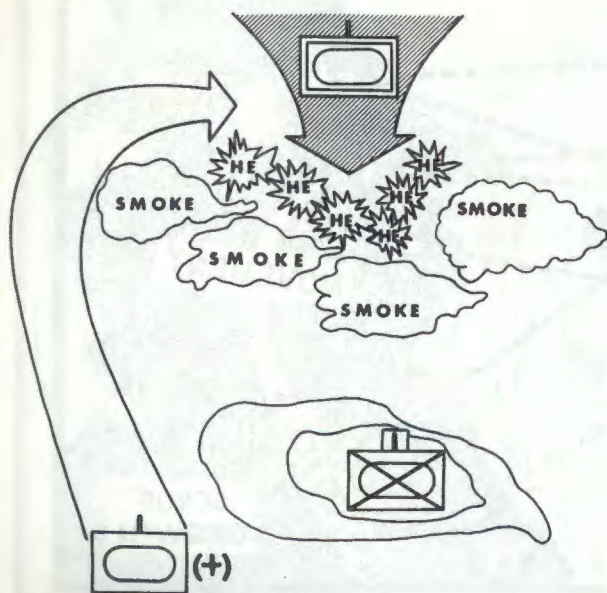


Figure 48. Smoke and HE fires may be used to obscure the vision of enemy tank crewmen while the attacking force closes rapidly to effective range, maneuvering to hit the enemy tanks in the flank or rear if possible.

ior, the friendly tanks open fire beyond the enemy's effective range and destroy them. In the attack of an enemy whose armament is superior, supporting artillery may fire HE and smoke, and tanks may fire WP, to blind and confuse the enemy while the attacking force closes rapidly to effective range (fig. 48). Fire should be directed at the side or rear of an enemy tank if possible. If WP is not available, tanks may fire HE.

b. The armor defeating chemical energy round (HEAT) of ammunition is not dependent upon gun-target range for target effect; therefore, it is equally effective at all normal combat engagement ranges and normally is employed against heavy enemy armor.

c. A kinetic energy projectile's (APDS, HVAP, and APC) penetration is dependent upon its mass and velocity, as affected by the gun-target range and armor thickness of the target being attacked. When using this type projectile, enemy tanks should be engaged at a range that insures penetration. The sides and rear of tanks are thinner in armor than the

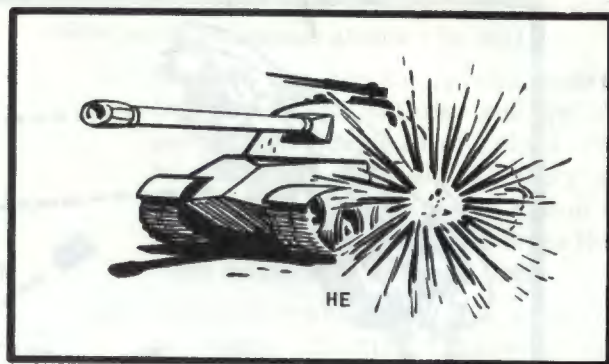


Figure 49. Tank gun HE may be effective against tracks and suspension systems.

frontal plates and can be penetrated at ranges greater than those necessary for frontal armor penetration.

d. HE or HEP may be effective against the tracks and suspension systems of enemy tanks at maximum range (fig. 49).

e. WP may be used to obscure the vision of individual tanks or gun emplacements, mark targets or screen areas.

f. If heavy enemy tanks must be engaged at a range that does not insure penetration, a concentration of fire is placed on each tank to retard its advance, set it afire, make its fire ineffective, and provide an opportunity for friendly tanks to maneuver into an advantageous position. HE and WP fires harass the crews, force them to button up, and obscure their vision. While the enemy tanks are being engaged with this fire, friendly tanks close to a range from which they can destroy the hostile vehicles.

g. See FM 17-12.

86. Tank Versus Tank—Distribution of Fire

a. If the enemy tanks are superior in number, friendly tanks on the flanks fire on the enemy's flank tanks and then shift their fire toward the enemy's center, while friendly center tanks initially fire on the enemy's center tanks and then shift their fire to the hostile flanks. This insures that all hostile tanks are taken under fire and kept under continuous fire. Another method is to smoke some of the enemy tanks and concentrate fire on the others.

b. If the enemy is outnumbered, fire should be massed upon his tanks. This may be accomplished by—

- (1) Ordering several friendly tanks to engage each hostile tank until it is destroyed.
- (2) Engaging each enemy tank with one friendly tank, while concentrating the fire of the rest of the friendly tanks on successive enemy tanks.

87. Antitank (AT) Guns—General

a. Enemy AT gun positions can be expected to have good fields of fire, observation, cover and concealment, and will be protected by mines, other obstacles, and infantry. Guns encountered in open terrain may be dug into hedgerows, open fields, clumps of brush, or farm buildings. Guns in rolling or broken terrain may be in partial defilade, on reserve slopes, or on hill crests. Both towed and self-propelled guns may have one or more alternate and supplementary positions.

b. Antitank guns seldom operate alone. The organization of their positions usually provides for flanking fire, mutual support, and defense in depth. Infantry with machineguns and rocket launchers protect their positions from surprise, while mines and other obstacles may be used to canalize friendly tanks into the antitank guns' fields of fire.

- (1) Flanking fire must be expected, as the enemy usually attempts to locate his guns in positions from which they can fire on the lightly armored sides and rears of passing tanks.
- (2) Mutual support by antitank guns makes it difficult to attack any one of them without coming under the fire of one or more of the others. Their combined fire covers all logical approaches, and they are placed so that they can protect one another. Each gun usually is able to fire at the side or rear of a tank attacking another gun (fig. 50).

c. The antitank defense is flexible. Self-propelled guns shift from position to position, maneuvering around the emplaced towed guns.

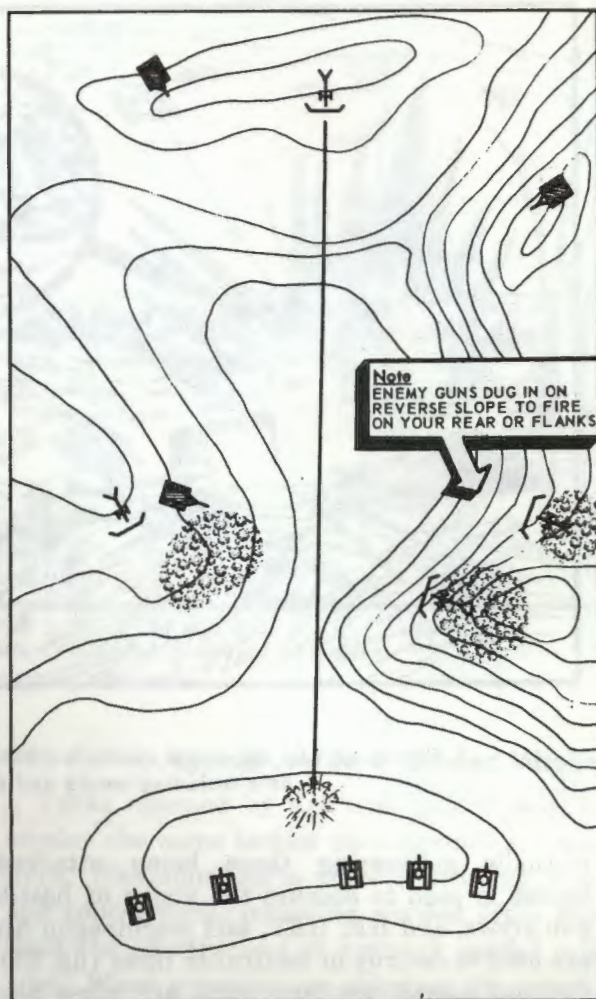


Figure 50. Enemy antitank defenses usually are organized in depth. The first gun to fire may not be the nearest one.

d. Deception is an essential part of antitank defense. A light gun in the rear of the position may open fire first to draw the tanks into the flanking fire of heavier forward guns. Guns on reverse slopes fire into the rear of tanks that have passed their position. Dummy positions may be set up.

88. Attack of Antitank Guns

a. Direct fire is employed against enemy antitank gun positions whenever possible. Although it is desirable to attack antitank weapons by maneuvering to their flanks or rear, the maneuvering force must be careful not to become engaged by other antitank guns that are

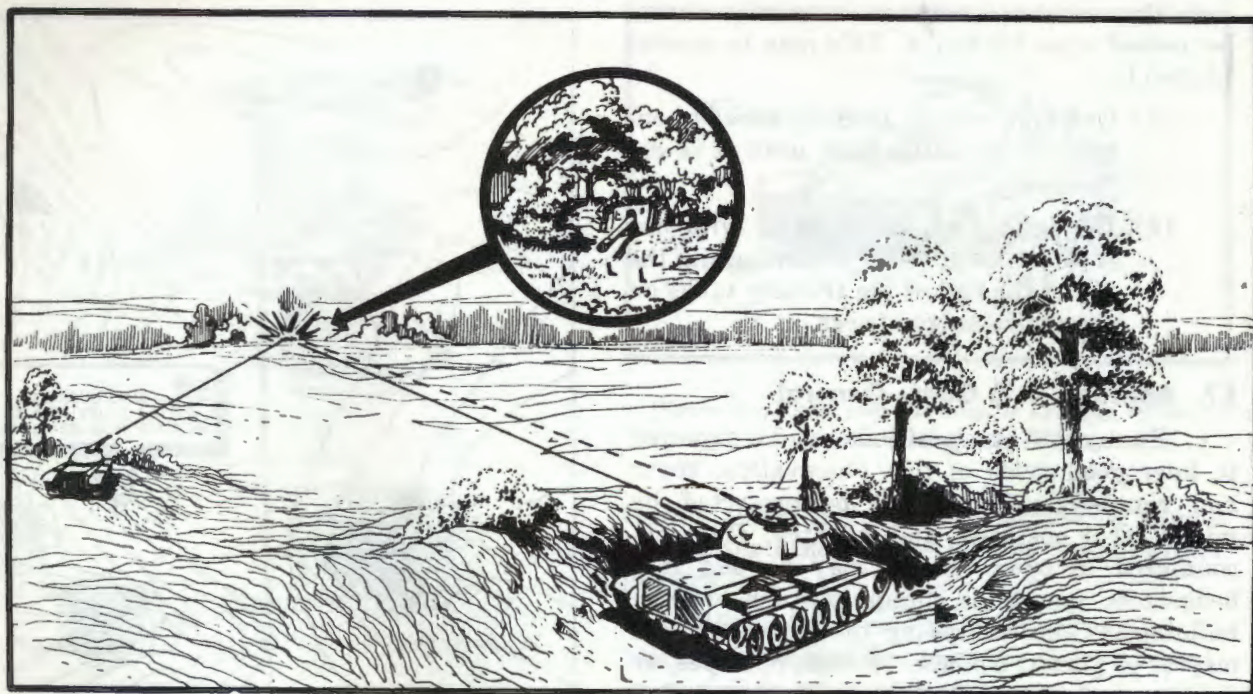


Figure 51. In attacking enemy antitank guns, tank gun HE, machineguns, indirect fires including smoke and the mobility of the tank are used.

mutually supporting those being attacked. Smoke is used to obscure the vision of hostile gun crews, and HE, HEP, and machinegun fire are used to destroy or neutralize them (fig. 51). Because enemy antitank guns are often protected by mines, tanks normally do not overrun the guns, but destroy them with short range HE fire (fig. 52). Attached mechanized infantry or infantry elements may assist by locating enemy tanks and self-propelled guns and designating them as targets to the tanks. When unarmored antitank guns are so positioned that tanks cannot destroy them, attached dismounted infantry move in, supported by tank fire, and destroy the crews with infantry weapons (fig. 53).

b. Tanks engage self-propelled antitank guns as if they were enemy tanks. Towed guns caught moving are practically helpless. Tanks immediately destroy them by fire, machinegunning and overrunning their crews.

89. Attack of Artillery Positions

a. Enemy artillery positions will normally be encountered immediately in rear of the hos-

tile defensive positions. The destruction of this artillery materially assists a breakthrough, as the enemy will attempt to employ it for both direct and indirect fire against the advancing tanks.

b. The tank company maneuvers against enemy artillery. Towed artillery is at a disadvantage when attacked from the flanks and rear, or when caught moving. Tanks engage self-propelled artillery as they would enemy tanks, taking advantage of the relatively limited traverse that characterizes most armored artillery. Enemy heavy artillery, whether self-propelled or towed, is slow and difficult to maneuver and therefore vulnerable to tank assaults when surprised.

90. Individual Antitank Measures

Individual antitank measures include all means employed by dismounted soldiers to destroy tanks or their crews. A courageous infantryman, equipped and trained for such action, may be fully as dangerous as an antitank gun.



Figure 52. *Because antitank gun positions may be protected by mines, they should not be overrun recklessly.*

a. When the tanks are supported by infantry elements, the infantry can assist in protecting the tanks during periods of reduced visibility or in difficult tank terrain.

b. When the leading element of the attack consists of tanks alone, one or more of the following methods may be used.

- (1) The supporting element watches the area immediately around the tanks, placing machinegun fire on anything that moves in their vicinity.
- (2) The advancing tanks use coaxial machineguns to neutralize possible rocket-launcher positions and to keep foot troops down and away from them. HE may be used against dug-in personnel. Flamethrowers, if available, are excellent for this work.
- (3) The advancing tanks also protect themselves by adopting a formation that enables each tank to cover the front or the flank and rear of another.
- (4) The advance of the leading tanks may be covered by artillery airbursts.

91. Action Against Antitank Guided Missiles

Tanks opposed by antitank guided missiles employ the same tactics used against antitank guns. Maximum use is made of existing cover and concealment, including wooded areas that limit the effectiveness of antitank guided missiles. When attacking an objective, the avenue of approach is selected based on cover available, consistent with the accomplishment of the mission. Reliance is placed on speed of movement, use of existing cover and concealment, and positive action to eliminate or reduce the effectiveness of any such weapons encountered by—

a. Placing fire on known or suspected launching sites.

b. Placing smoke and fire on known or suspected control sites.

c. Employing dismounted mechanized infantry elements in covered and concealed approaches to attack either the launcher or control personnel or both.



Figure 53. Infantry attacking hastily occupied enemy antitank gun positions.

CHAPTER 5

RECONNAISSANCE AND SECURITY

Section I. RECONNAISSANCE

92. Reconnaissance, General

a. Reconnaissance is a directed effort in the field to collect information of the enemy and the area of operations.

b. The purpose of reconnaissance is to obtain combat information of the enemy and the area of operations for the production of combat intelligence, which is used by the commander in forming his plan of operation.

c. Reconnaissance and security complement one another and cannot be readily separated. Effective reconnaissance provides a certain amount of security. The activity of a security force provides a certain amount of reconnaissance.

d. For detailed discussion of reconnaissance classifications, agencies, fundamentals, type missions, control and coordination, see FM 5-36, FM 17-1, and FM 17-36.

93. Reporting Information of the Enemy and Area of Operations

All units conduct reconnaissance to some degree. Reconnaissance is continuous on the

battlefield, and all information of the enemy and terrain is reported as it is obtained, including negative information. All personnel and commanders are alert to report information concerning—

a. Location of antitank weapons, mines, and manmade or natural obstacles and barriers.

b. Changes in the location or types of friendly troop units.

c. Progress of the operation.

d. Avenues of approach, routes of withdrawal, and routes of communication.

e. Changes in enemy dispositions.

f. Changes in enemy strengths, by type and number.

g. Enemy attacks; their nature (i.e., air, tank, CBR, nuclear) and size.

h. Probable direction and composition of enemy counterattacks.

i. Changes in enemy weapon fires to include density, direction, size, accuracy, and type shells.

Section II. SECURITY

94. Security, General

a. Security includes all measures taken by a unit to protect itself from surprise or observation by the enemy. Its purpose is to preserve secrecy and to gain and maintain freedom of action.

b. Security is achieved by effectively providing for the detection of a threat, for sufficient time to react to the threat, and for the

avoidance, neutralization, or destruction of the threat. All units are responsible for their own security, regardless of the security provided by other units. A security force for a larger formation must be strong enough, and must be properly located to provide adequate time for the main body to react. However, security measures must not unnecessarily divert forces or effort from the accomplishment of the mis-

sion of the main body. See FM 17-1 for a detailed discussion.

95. Security Forces, Armor

Security for the tank battalion is provided by specifically designated security forces; air and ground reconnaissance to the front, flanks, and rear; liaison with adjacent units; and the composition of the force. Combat service support elements may be protected by being placed in proximity to tactical elements. Depending on the situation, security may be provided by one or all of the following types of security forces. (See FM 17-1.)

- a. Covering force.
- b. Advance guard.
- c. Flank guard or guards.
- d. Rear guard.
- e. Rear area security force.
- f. Screening force.
- g. Forces left in contact.

96. Covering Force, General

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. A covering force engages in any type action necessary to accomplish its mission, but usually conducts an offensive action or a delaying action. The force must not become so engaged as to allow itself to be overrun or bypassed. A tank battalion operating as a covering force should be reinforced with infantry, artillery, engineers, and cavalry elements. All elements should be completely mobile.

c. When operating as covering force in an offensive operation, a tank battalion task force normally advances with companies abreast to insure complete coverage and to eliminate the possibility of unknowingly bypassing enemy elements. At the same time, sufficient strength should be retained in reserve to influence local actions. The reserve is so located that it can

be employed readily to assist in the accomplishment of the mission. Permission to bypass an enemy force capable of inflicting serious damage to the main body must be obtained from the next higher commander.

d. All elements of the covering force, including engineers, artillery, armored cavalry, and air cavalry should be placed under one commander. The covering force commander operates under the direct control of the main body commander. The main body commander specifies the area of operation or the units to be covered.

e. A tank-heavy task force employed as a covering force during defensive operations is initially positioned forward of the FEBA at a distance prescribed by the headquarters assigning the mission. Its actions are the same as those of a tank-heavy task force conducting a delaying action (ch 8). The covering force executes its mission by preparing for and conducting a delaying action from its initial position back through the security elements of units occupying the FEBA. The covering force sector is divided into company team sectors, and the company teams are deployed to cover their assigned sectors. Observation posts and mobile patrols are established and maintained forward of the initial blocking positions until forced to withdraw. Simultaneously flank security and contact with adjacent units must be established and maintained to prevent the enemy from encircling or bypassing the task force. Blocking positions are organized on key terrain dominating likely avenues of enemy approach. Normally a tank-heavy reserve should be maintained. All available tactical air and supporting fires are employed at the earliest opportunity in an effort to destroy, stop, or force the enemy to deploy. Each weapon is employed against the enemy as he comes within its effective range; consequently, the nearer the enemy the greater the volume of fire to which he is subjected. Limited counterattacks are employed as opportunities develop. When forced to displace and upon approval of the commander of the force being secured, the covering force avoiding decisive engagements conducts a delaying action back through the security elements of units occupying the FEBA. Every effort must

be made to deceive the enemy as to the true location of the main defensive position.

f. When employed as a rear covering force to cover a withdrawal or a retirement, the covering force uses the friendly frontline, or a position near it, as its initial position. To perform such a mission, a tank battalion task force uses the techniques described in e.

97. Advance Guard, General

a. An advance guard is a security detachment that operates ahead of the main body and behind the covering force if used 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 limited removal of obstacles, clearing routes, or locating bypasses.

b. The advance guard moves as rapidly as the situation will allow. It performs continuous reconnaissance to the front and flanks and pushes back or destroys small enemy groups before they can hinder the advance of the main body. When the advance guard encounters large enemy forces or heavily defended areas, it acts immediately to develop the situation. It employs every means available to determine the location, strength, disposition, and composition of the enemy. It may then be required to join in the attack by the main body. The advance guard must be far enough in front of the main body to insure that the commander has freedom of action in the employment of the main body. However, it must not be so far in front that it can be destroyed by enemy attack before assistance can reach it. Distances are reduced at night, in close terrain, under conditions of low visibility, and during adverse weather.

c. The advance guard normally advances in column until contact is made. It may move continuously or by bounds. Movement by bounds is employed when contact with the enemy is imminent and the terrain favors this technique.

d. When contact is made, the following occurs:

(1) Deploy.

(a) Tanks should move immediately to positions from which they can fire, observe, or be employed against the enemy.

(b) The immediate action of the commander is to report the enemy contact to his higher headquarters.

(2) *Develop the situation.* This consists of the action necessary to determine the strength, location, composition, and disposition of the enemy encountered.

(3) *Choose a course of action.* After developing the situation, the commander must choose a course of action that is appropriate in the immediate situation and will insure the accomplishment of the assigned mission.

(4) *Report.* The commander then reports to his higher headquarters. This report includes the—

(a) Complete enemy situation as it has been developed.

(b) Course of action the commander will follow.

98. Tank Company and Platoon—Advance Guard

a. A tank company or company team may form the advance guard for a battalion task force or a brigade. A tank platoon may form the advance guard for a company team or a battalion task force. However, in the normal situation where the company team is operating as part of the battalion task force, the leading company team need not employ a platoon as advance guard, as the main body commander will have designated an advance guard for the entire main body.

b. For a suggested formation of a tank company team employed as the advance guard for a larger force, see figure 54. In each situation, the factors of METT will dictate the exact formation to be adopted. Tanks usually lead, in order to place maximum armor-protected firepower forward. Mechanized infantry elements are kept far enough forward in the column to support the leading tank platoon; when required, engineer elements may be

attached to or placed in support of the advance guard. At night or when hostile contact is imminent, the advance guard sets the rate of march; at other times, the advance guard conforms to the rate of the main body. The platoon leader of the lead platoon places himself where he can best cope with any arising situation. Normally the lead tank of the leading platoon is rotated by tanks within the platoon, and the leading platoon by platoons within the company.

c. The leading platoon of the advance guard is responsible for its own all-round security, and there are certain measures that it must take to provide this security.

- (1) All-round observation. In figure 55 it will be noted that the leading tank does not have a primary sector of observation. The reason for this is that its commander is busy selecting the detailed route; however, he still observes to the front and flanks. The second tank is given the primary mission of observing to the front, the next tank to the right flank, the next tank to the left flank, and the last tank to the rear.

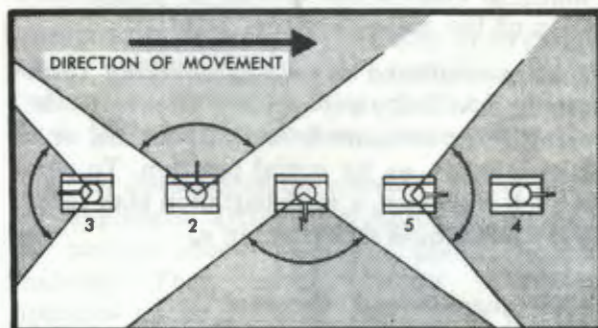


Figure 55. All-round observation, main gun traverses and searches within assigned sector.

- (2) Maintaining designated intervals and distance. This avoids bunching and helps to prevent exposing all tanks of the platoon to enemy fire at the same time.
- (3) All crews remain alert and ready for immediate action.
- (4) Employing reconnaissance by fire before moving out of a covered or concealed position when the enemy's location is not known and during movement (para 77).
- (5) Rapid movement forward.
- (6) Designating air sentinels to watch for enemy aircraft.

d. When his unit is designated as the advance guard, the tank company commander or platoon leader should ascertain from the higher commander the following:

- (1) The route or axis and rate of advance of the main body.
- (2) The frontage to be covered by the advance guard.
- (3) The fire support available from the main body.
- (4) Possible assistance from tactical aircraft and from air cavalry units or Army aircraft.
- (5) The mission of the company or platoon upon completion of its advance guard mission.
- (6) The tactical situation, including both friendly and enemy information.

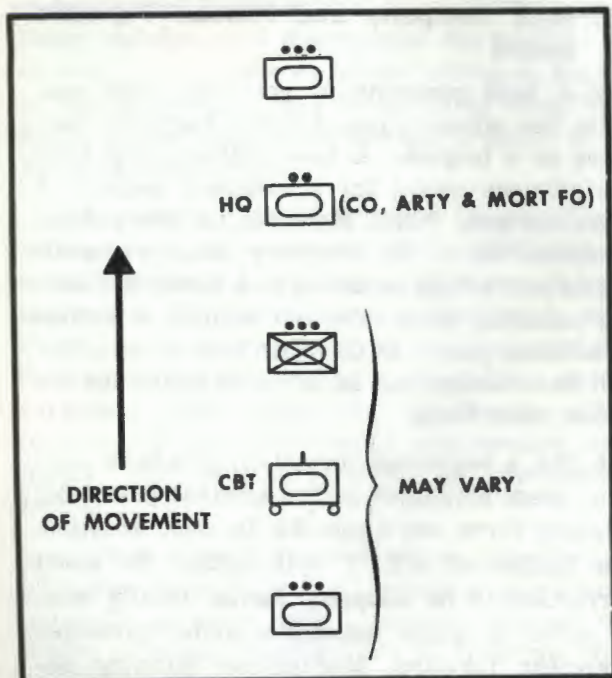


Figure 54. Typical formation, tank company as the advance guard for a battalion task force.

e. When advancing on the road, the advance guard normally attacks directly from march column to destroy enemy forces that attempt to impede its advance.

A standing operating procedure, consisting of several simple battle formations, such as used in battle drill, is useful in dealing with light opposition (see para 65 and 66). This SOP should cover the employment of artillery, mortar, and support from the main body as required. See chapter 6 for details of attacking from march column. Methods of requesting fire support are discussed in FM 17-1.

f. The advance guard commander deploys his force rapidly directing supporting fires against the hostile force while attacking with his platoon(s) in mass. He does not permit parts of his force to remain inactive on the road or in the open. Covered routes of approach to the objective are used to the maximum extent possible. When executing an advance guard mission and support fires are not readily available, timely, or adequate, the tank platoon leader will develop the situation by fire and movement (fig. 57).

g. If the advance guard is unable to overcome the enemy force the main body commander may employ the technique used against heavy resistance. In this situation the leading tank platoon being unable to overcome the resistance, continues to develop the situation employing all available fires, and reports the disposition and strength of the enemy to the company commander. The company commander may order the lead platoon to continue fires against the enemy while the remainder of the team maneuvers to attack the enemy in mass from a new direction.

h. A night advance is conducted generally in the same manner as a daylight advance. Security detachments of the advance guard are strengthened; the mechanized infantry is moved farther forward in the column, and distances between elements are shortened. The rate of advance is slower, and supporting fires are less effective; however, the possibility of gaining surprise is greatly increased. Particular care must be taken to establish the required security before passing through defiles.

99. Flank Guard—General

a. A flank guard is a security detachment that protects the flanks of the main body. A flank guard 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. It employs offensive, defensive, or delaying action as necessary to accomplish the mission. The flank guard is mobile when the main body is conducting an offensive operation or a retrograde movement, and is stationary when the main body is in the defense.

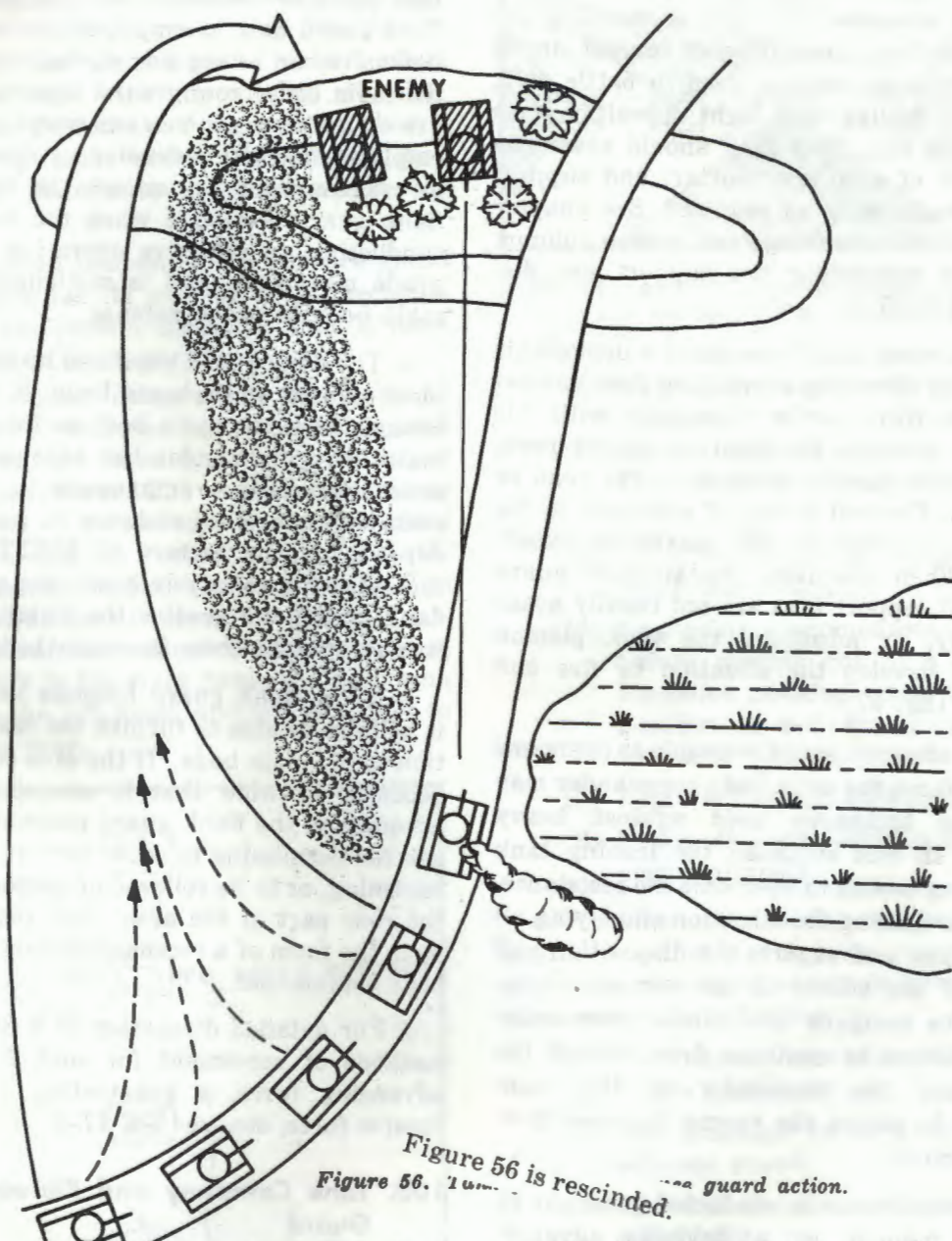
b. The flank guard regulates its rate of movement on that of the main body. It must be far enough from the main body to insure that the main body commander has adequate time and space in which to maneuver to counter an enemy threat. This distance is not fixed, but depends on the factors of METT. All other factors being relatively equal, the stronger the flank guard, the greater the distance at which it may operate from the main body.

c. If the flank guard becomes overextended, it will not be able to furnish the desired protection to the main body. If the area to be secured becomes so wide that it cannot be secured adequately, the flank guard commander should ask for permission to cover part of the area by screening, or to be relieved of responsibility for the rear part of the area. This request should be in the form of a recommendation to the main body commander.

d. For detailed discussion of a flank guard's methods of movement for such forces as an advancing force, a penetrating force, a defensive force, etc., see FM 17-1.

100. Tank Company and Platoon—Flank Guard

a. The tank company seldom is employed as the flank guard for a unit smaller than a brigade. Frequently, the tank platoon operates with the battalion scout platoon when performing this mission. When it so operates, the tanks engage enemy threats discovered by elements scouting and observing. Tanks also may be used to cover roadblocks in conjunction with dismounted elements of the flank guard.



b. Where the road net is available, the flank guard force moves parallel to the route of the main body. It occupies observation posts on commanding terrain along the route of advance and establishes blocking positions to control avenues of enemy approach into the flank of the protected unit (fig. 58). Where no parallel route exists and cross-country movement is difficult, the flank guard force may operate from the same route as the main body. To

provide the required security, the flank guard force commander sends elements out to occupy observation posts on commanding terrain or to establish blocking positions on avenues of enemy approach into the unit's flank. In the execution of a flank guard mission, the flank guard force employs any of three basic methods of movement: alternate bounds, successive bounds, or continuous march. The method of movement selected is dependent upon the fac-

tors of METT and the rate of march of the main body. See FM 17-1 for a discussion of each method of movement.

c. Army aircraft are used as aerial observation posts. This enables a tank unit acting as a flank guard to cover more area and reduces the requirement for ground observation posts.

101. Rear Guard—General

a. A rear guard is a security force that protects the rear of a column from hostile forces during an advance or a withdrawal.

b. During the advance, the rear guard defeats or delays hostile forces attacking the rear of the main body, protects the trains, and collects stragglers. It follows the main body at a distance prescribed by the main body commander and usually moves on the axis of advance of the main body.

c. During a withdrawal, the rear guard covers the disengagement of the main body. It employs delaying action tactics and withdraws by bounds, basing its rate of movement on that

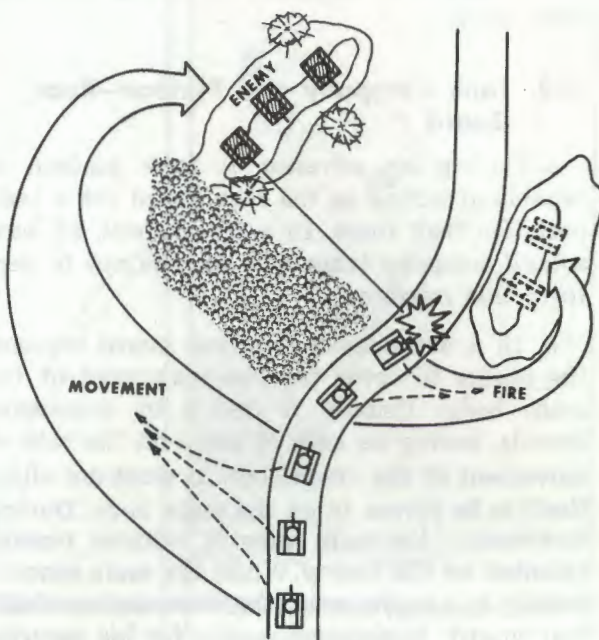


Figure 57. Tank platoon, employing fire and movement during an advance guard action.

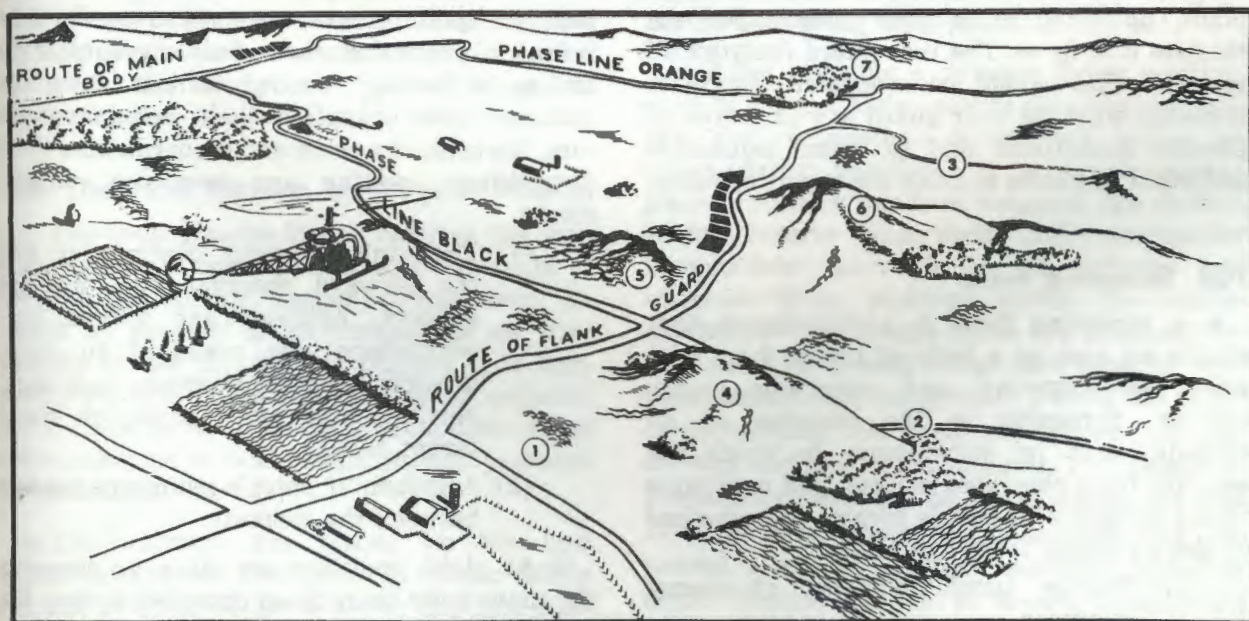


Figure 58. When the road net permits, the flank guard moves parallel to the main body, prepared to block roads (1, 2, and 3), observing from hills (4, 5, and 6), and reconnoitering woods (7).

of the main body or moving in accordance with prearranged plans. The rear guard must not allow itself to be bypassed or driven in on the main body.

102. Tank Company and Platoon—Rear Guard

a. During an advance, a tank platoon is capable of acting as the rear guard for a tank battalion task force. In a withdrawal, at least a tank company team will be required to perform this mission.

b. In a withdrawal, the rear guard engages the enemy to cover the disengagement of the main body. Usually it delays by successive bounds, basing its rate of delay on the rate of movement of the main body. It must not allow itself to be driven in on the main body. During movement the main guns of vehicles remain oriented on the enemy. While his main concern usually is to the rear, the commander of the rear guard is also responsible for his security to the front and flanks. When counterattacking, the rear guard commander must remember that he cannot expect help from the main body, except for fire support. The rear guard does not withdraw, except in accordance with prearranged plans, until the main body commander authorizes it to do so. The rear guard destroys all material that cannot be evacuated. Engineer elements with the rear guard are employed to execute demolitions and to install minefields and other obstacles to delay the enemy advance.

103. Screening Force

a. A screening force is a detachment that shields an area or a body of troops from surprise by observing and reporting enemy activity. Screening is the securing of an extended area by surveillance in which the security force observes, reports, and maintains visual contact with hostile forces. 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 within its capability.

(4) Annoy and harass the advance of enemy forces.

b. Though air cavalry, armored cavalry, and mechanized units are better suited for a screening mission, a tank battalion, suitably reinforced, is capable of performing such a mission. The principles and techniques in FM 17-36 will apply to the tank battalion when conducting a screening mission.

104. The Tank Company on an Outpost Mission

A tank company may be assigned the mission of providing security for a larger unit. The larger unit may be the security force in a mobile defense or other type of security element. The tank company and platoon establishes outposts in the accomplishment of the security mission. The outpost position is held until permission is given to withdraw.

a. The tank company commander assigns sectors of responsibility to his platoons. He will seldom have sufficient forces to allow withholding of a reserve. Mechanized infantry elements attached to the tank company are employed with the tank platoons as the situation and terrain may require. A tank platoon outpost in open terrain normally requires less infantry protection than does an outpost in broken or heavily wooded terrain. Once the platoons have organized their respective sectors, the company commander coordinates their dispositions, making any necessary adjustments.

- (1) The tank company commander and the forward observer plan for fire support. Artillery and mortar concentrations are prepared to cover possible avenues of enemy approach. Nuclear fires are planned on likely target areas.
- (2) A system of patrols maintains contact between the outposts.

b. At night, positions are taken up closer to the main body than those occupied during the day. The tank company commander must coordinate the movement of his platoons from the day to the night positions. The medium range radars are integrated into the outpost system.

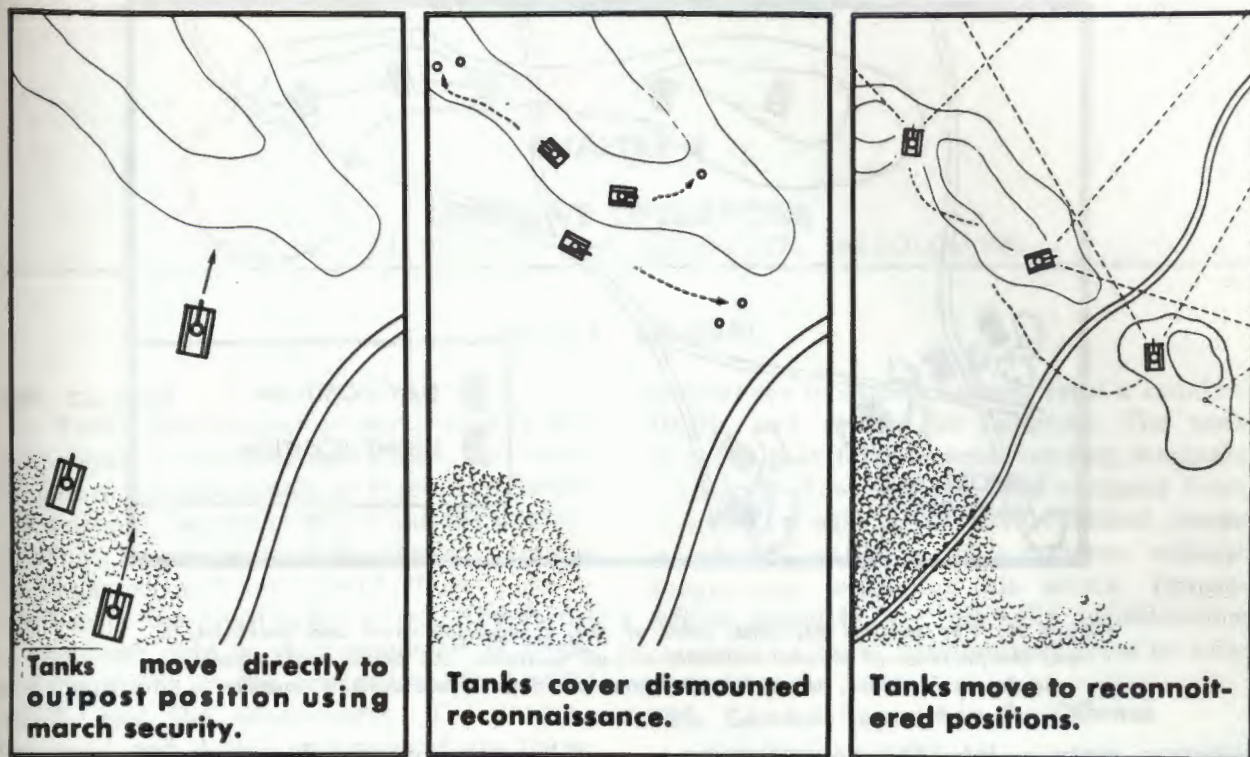


Figure 59. A method of assuming an outpost position.

c. If attacked, the positions are defended with all available weapons, including supporting fires. Estimated strength, composition, and actions of the enemy are reported to higher headquarters.

105. The Tank Platoon on Outpost Mission

a. The tank platoon leader receives the general location of the outposts, and the limits of his sector, from his company commander. He makes as detailed a reconnaissance as time permits before moving his platoon to a temporary position in his general area of responsibility. Once there, he makes a rapid dismounted reconnaissance to locate exact outpost positions for each tank (fig. 59).

b. The outposts are placed on the best defensive ground available to cover likely avenues of enemy approach. For daytime positions, fields of fire, observation, cover and concealment, and the presence of natural obstacles are all desirable, in the order given. At night, tanks should be drawn closer

together. New positions should be occupied before dark using covered routes (fig. 60).

c. After selecting a primary firing position, each tank commander selects an alternate position and reconnoiters satisfactory routes between firing positions. If a supplementary platoon position has been assigned, the platoon leader insures that each tank commander reconnoiters the route to his primary and alternate firing positions within the supplementary position. Range cards are prepared for each position. A good range card must be complete, simple, and easily read. Two of the range cards meeting this basic requirement are the *circular* and *sketch* range cards. For details on preparation and use of range cards, see FM 17-12. Obstacles are supplemented and improved using all available material, including mines. Obstacles should be covered by tank and infantry weapon fires. Necessary sentries should be posted at each obstacle, to warn friendly troops of the location of mines employed in its defense. Precautions are taken to

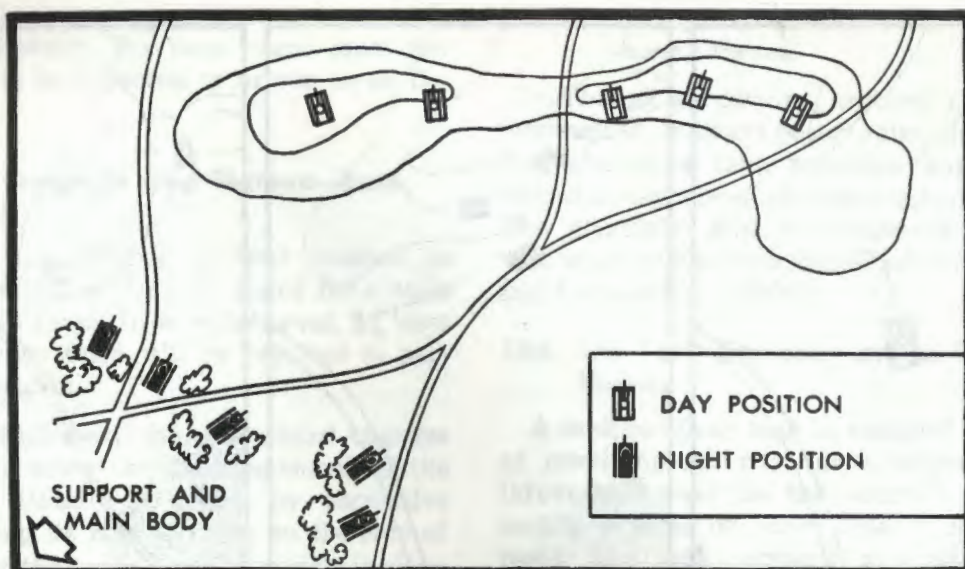


Figure 60. For daytime positions, fields of fire, observation cover and concealment, and the presence of natural obstacles are all desirable. At night, tanks should be drawn in closer, occupying their new positions before dark if possible.

withdraw sentries into the outpost before enemy approach. For details of obstacle construction and mine employment, see FM 5-15, FM 17-1, and FM 20-32.

d. The platoon leader establishes observation posts (listening posts at night) to the front of each of his outposts. Outposts should consist of tanks supported by mechanized infantry or infantry elements. The platoon leader also establishes contact with adjacent friendly units.

e. To insure hits on enemy troops or vehicles advancing along approaches when observation is poor, tanks should be sited to fire down avenues of enemy approach. Daytime positions can be some distance from the avenue of approach.

f. A part of the mechanized infantry or infantry unit may be teamed with the tanks to form one or more outposts on terrain that would be difficult or impassable for the tanks. If this is done, the platoon leader arranges to support the mechanized infantry or infantry element with tank fires.

g. As soon as his sector is organized, the platoon leader reports his exact dispositions to his company commander, submitting a sketch whenever possible. He plans artillery

and mortar concentrations to cover avenues of enemy approach.

h. If the enemy attacks, the observation post gives warning and, on order, withdraws into the outpost, maintaining contact with the enemy. The platoon leader reports the situation and calls for supporting fires. If the enemy force is small, the outpost may ambush it or counterattack. He holds his outpost position until relieved or authorized to withdraw.

106. Employment of Patrols

a. Patrols are small tactical units employed to gain information and to insure security (FM 21-75). A tank cannot be used where stealth is desired. However, in some fast-moving, fluid situations, tank units can be used to advantage in patrols; for example, when it is necessary to establish liaison with an adjacent unit and the area to be moved through contains enemy forces. Tank units participating in patrol actions should be reinforced and prepared to engage in tactical operations to accomplish their mission.

b. Tanks on patrol must not become road-bound. Crewmembers should be prepared to dismount and reconnoiter doubtful areas on foot.

CHAPTER 6

OFFENSIVE OPERATIONS

STANAG 2014, STANAG 2088, SOLOG 17R, and SOLOG 108.

Section I. GENERAL

107. General

a. Tank units conduct or participate in five basic types of offensive operations: movement to contact; reconnaissance in force; the coordinated attack; the exploitation; and the pursuit. Meeting engagements are combat actions which can occur in any type of offensive operation except the coordinated attack. The forms of maneuver used by the commander in offensive operations are the penetration, the frontal attack, and the envelopment. The turning movement and double envelopment are variations of the envelopment, with infiltration and bypass being techniques of movement. The turning movement and double envelopment are normally conducted at division level or above. See FM 17-1 for a detailed discussion of armor offensive operations.

b. Tank units engage in offensive operations to destroy the enemy, to develop the situation, to secure terrain, to divert the enemy's attention, or to achieve any combination of these.

c. Offensive action gives the commander the advantage of the initiative and the opportunity to create or exploit favorable situations.

108. Distribution of Forces in the Attack

a. An attacking force usually employs two elements. These are the maneuvering force and the base of fire. The maneuvering force closes with the enemy by maneuver and destroys him by fire and shock effect. The base of fire pins the enemy to the ground and neutralizes his weapons, thereby providing the maneuvering force with freedom of action. For a detailed discussion, see paragraphs 59 and 60.

b. A third element, the reserve, may be constituted when the tactical situation requires. The reserve is an offensive force used by the

commander to exploit success, repel a counter-attack, and retain the initiative. The tank battalion task force commander may designate a reserve. However, the tank company team commander will rarely have sufficient forces to permit retention of a reserve without dangerously weakening his attack. Uncommitted elements are normally considered a reserve in a tank battalion task force or company team.

109. Combat Support in the Offense

a. Artillery provides—

(1) *Preparation fires during movement to the line of departure.* Preparation fire is an intense prearranged fire delivered in accordance with a time schedule to support the attack. It is designed to disrupt the enemy's communications, to disorganize his defense, and to neutralize his fire support means.

(2) *Support during the attack.* All available artillery fire is used to protect the assault echelon. Fire is placed on observation posts, enemy artillery, targets of opportunity, and areas of resistance (fig. 61). Tanks and mounted mechanized infantry are often covered by artillery airbursts until the mechanized infantry dismount.

(3) *Support during consolidation and reorganization.* Hostile elements are engaged by counterbattery and interdiction type artillery fires.

(4) *Support against counterattack.* Artillery fire is massed against enemy counterattacks. Prearranged interdiction fires may be delivered on routes of approach.

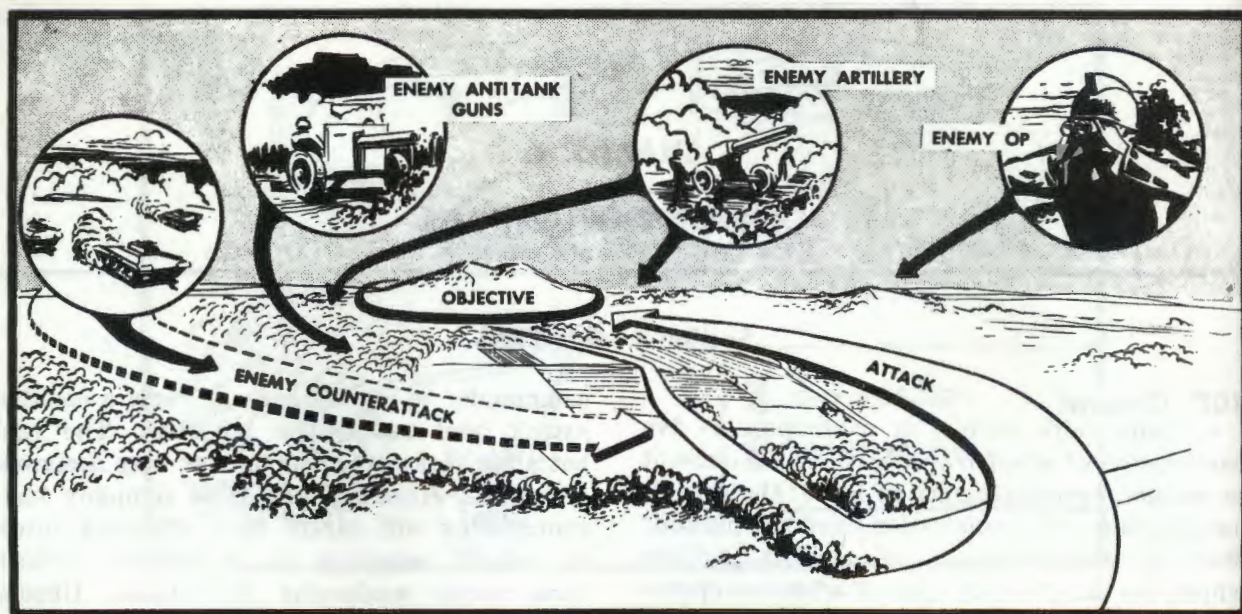


Figure 61. Artillery support during the attack.

(5) *The artillery liaison officer (fire support coordinator.)* Employed to perform the detailed tasks of fire support planning for the battalion task force. He coordinates the organic heavy mortar fire support of the battalion with that provided by artillery units and attack helicopters. At company level, the artillery forward observer assists the company commander in fire support planning and coordination.

b. Engineer. Employed to assist the advance of the maneuvering elements. See FM 5-135 and FM 17-1 for details pertaining to engineer support.

c. Tactical Air Support. Employed to provide column cover, engage targets of opportunity and to destroy hostile reserves. See FM 17-1 for details pertaining to tactical air support.

d. Army Aviation. Employed to support air-mobile operations; to evacuate casualties; to extend the reconnaissance and surveillance capabilities of the ground elements; for command and control; and for resupply (FM 17-1).

e. Air Cavalry. Employed to extend the

reconnaissance and surveillance capabilities of the division, and to increase the security of the maneuver elements. While performing reconnaissance or security mission, they attack hostile ground targets within their capabilities. It is important to realize that these elements do not and cannot perform in the role of tactical Air Force aircraft, but merely supplement the reconnaissance and security capabilities of the ground elements (FM 17-1 and FM 17-36).

f. Battalion Heavy Mortar Platoon. Supports the attack by firing on targets that cannot be engaged by flat-trajectory weapons and by providing screening smoke. Fires of the platoon are coordinated with the fires of the artillery (see app II).

g. Air Defense Artillery. Air defense artillery is employed to provide air defense for the tank units in offensive operations. (See FM 17-1, and FM 44-1 for details pertaining to employment of air defense weapons.)

110. Security

Tank unit commanders must provide for the security of their units during the preparation for, and the conduct of, the attack. After considering all available information, the com-

mander determines the requirement for security and fulfills that requirement with the minimum forces necessary. Security must be provided during the occupation of the assembly area, the conduct of the attack, the consolidation of the position, the reorganization of the unit, and the continuation of the attack. Security is provided by assigning security missions to specific parts of the attacking unit and by the formation adopted for the attack. Depth in the formation gives added security; unengaged elements can maneuver to meet enemy threats. Security may also be obtained by echelonment of a unit to a threatened flank. Security for the maneuvering force may be provided by troops used in the base of fire.

111. Formation for the Attack

a. The initial formation for the attack and subsequent changes to the formation are based upon the factors of METT (mission, enemy, terrain and weather, and troops available).

b. A formation with depth permits greater flexibility in the employment of the attacking force. It also assists in maintaining the momentum of the attack; however, the primary consideration in selecting a formation is that the commander must be able to place all available fire upon the objective at the decisive time.

An attack in depth is favored—

- (1) Against deep objectives.
- (2) When the enemy situation is vague, and major enemy strongpoints or troop locations are not known.
- (3) When a requirement exists for security against a counterattack.

Section II. PREPARATION AND PLANNING

113. General

The success of an attack by a tank unit may depend to a large degree on the deliberateness of the planning preceding the operation. Well-conceived plans, violently executed, will result in successful accomplishment of the unit mission. This section prescribes techniques of planning and preparing for an attack by a tank unit. A more detailed discussion is contained in FM 17-1.

(4) During periods of poor visibility when maximum control is desired.

c. A formation with depth is favored—

- (1) Against limited objectives.
- (2) When major enemy strongpoints and troop concentrations are known.
- (3) When the objective is strongly held by the enemy, and there is a requirement to place maximum fire upon the objective.
- (4) When the situation requires maximum freedom of action by subordinate units.

d. See chapter 3 for a detailed discussion of tank battalion, company, and platoon formations.

112. Control Measures

a. The control measures used by tank units in the offense may include: assembly area, attack position, axis of advance, direction of attack, zone of action, line of departure, phase lines, checkpoints, and objectives. An attack position, if used, is occupied for the shortest possible time; preferably units move through and deploy into combat formations without halting. See FM 17-1 for a detailed explanation of control measures and their use.

b. The fundamental consideration in the selection of control measures for an attack is that the least restrictive measures possible should be used to allow maximum freedom of action to subordinate units. A commander selects only those that provide him the requisite degree of control without hampering the actions of his subordinates.

114. Troop Leading Procedures

The commander of a tank unit normally receives his mission from a higher commander, who specifies the composition of the unit for the projected operation. The commander then must prepare to receive troops placed at his disposal. The commander follows the basic steps in troop leading in preparing for the attack. See FM 17-1 for a discussion of troop leading procedures.

115. Plan of Attack

a. *General.* After the commander has completed his estimate and arrived at his decision, he completes his plan of attack. This plan is simply a detailed translation of the fifth step of the estimate—the decision. At battalion level, details usually are worked out by members of the staff; at company level, the company commander may be assisted by artillery and mortar forward observers and commanders of any attached unit. Subordinate commanders must be kept informed of the part they will perform in the plan, to insure adequate time for them to complete their reconnaissance and plan the details of their action. The plan of attack is designed to insure teamwork and coordination within the attacking force throughout the operation. The plan must be simple, but it must cover all essential details. It includes the scheme of maneuver and the plan of fire support.

b. *Scheme of Maneuver.* The scheme of maneuver is the detailed plan for the placement and movement of subordinate units in carrying out the mission. The scheme of maneuver is designed to move or place the various elements of the attacking force into advantageous positions with respect to the enemy or the objective. In developing the scheme of maneuver, consideration is given to its possible effects on future operations. It includes—

- (1) Task organization.
- (2) Objectives.
- (3) Formation.
- (4) Direction of movement.
- (5) Line of departure.
- (6) Time of attack.
- (7) Attack position (if used).
- (8) Other control measures as appropriate.

c. *Plan of Fire Support.* A well-coordinated plan of fire support covers all available fires, including those of organic and attached weapons, tanks, armed helicopters, supporting artillery, tactical air, and nuclear weapons. Fires support the advance, lifting or shifting at the last possible moment to keep enemy troops fixed until the assault elements are upon them. These fires must lift or shift at the last possible moment but soon enough to prevent losses to friendly troops. The plan of fire support must

be highly flexible. Enemy positions located before the attack are destroyed or neutralized by prearranged fires. In larger units, the plan of fire support is issued as an annex to the operation order. Complete details for fire support planning are contained in FM 6-20-1 and FM 6-20-2.

116. Battalion Task Force—Preparation for Attack

a. The tank battalion commander is assigned his mission by the next higher commander who allots necessary tactical and combat service support to the battalion for accomplishment of the mission. Upon being assigned his mission, the battalion commander accomplishes his troop leading procedure assisted by his staff, fire support representatives, and subordinate commanders. To these assistants the battalion commander announces his concept of the operation, including a tentative scheme of maneuver and general plan of fire support as early as possible during the planning phase, so that they can prepare recommendations relative to their areas of interest.

b. Based on his estimate and the recommendations of his staff, fire support representatives, subordinate commanders, and commanders of supporting units, the plan of attack is prepared and formalized into an operation order, oral or written, and issued to elements of the battalion task force. When time permits, usually at the beginning of an operation, a complete written order is issued. After the operation has begun, oral fragmentary orders are used as necessary for changes and to continue the attack.

c. While the key commanders and staff officers of the battalion are conducting their troop leading, the battalion elements normally are located in assembly areas in which preparations (maintenance and supply) for the coming operation are accomplished. As troop leading is completed, final checks are made so that the battalion can move directly into the attack, avoiding unnecessary delays.

d. Planning and preparations are accomplished to the degree that time permits. In fast moving situations in which there is little time for planning and detailed preparations, the

battalion enters the attack rapidly through the use of fragmentary orders and accelerated troop leading.

117. Tank Company and Platoon— Preparation for the Attack

a. The tank company may attack as a company or as a tank company team of a battalion task force. The battalion order assigns the company mission, objectives, and other control measures and designates the supporting and attached units, along with other pertinent details that the company commander must know to accomplish the mission.

b. Before an attack, the tank company team may assemble in an assembly area designated by the battalion commander. Here, detailed preparations for the attack are completed.

c. Normally, while the company team is preparing for the attack, the company commander joins the battalion commander to receive the

operation order. He usually takes with him the individuals necessary to plan the attack. The executive officer normally remains with the company team and makes certain that the unit is ready for combat. All vehicles and weapons are inspected; company radio nets are checked, and the necessary resupply of ammunition, fuel, lubricants, and assault rations is accomplished. If the company is attached to another unit, the company commander reports to the commander of that unit. Commanders of any units or elements attached to the tank company team report to the company commander. The application of these techniques to all attacks is limited by the time available for preparation and planning the attack.

d. The tank company commander's preparations for the attack normally consist of coordination with adjacent and supporting units, planning and conducting a reconnaissance (fig. 62), making



Figure 62. Commanders of units in the company team make their reconnaissance together.

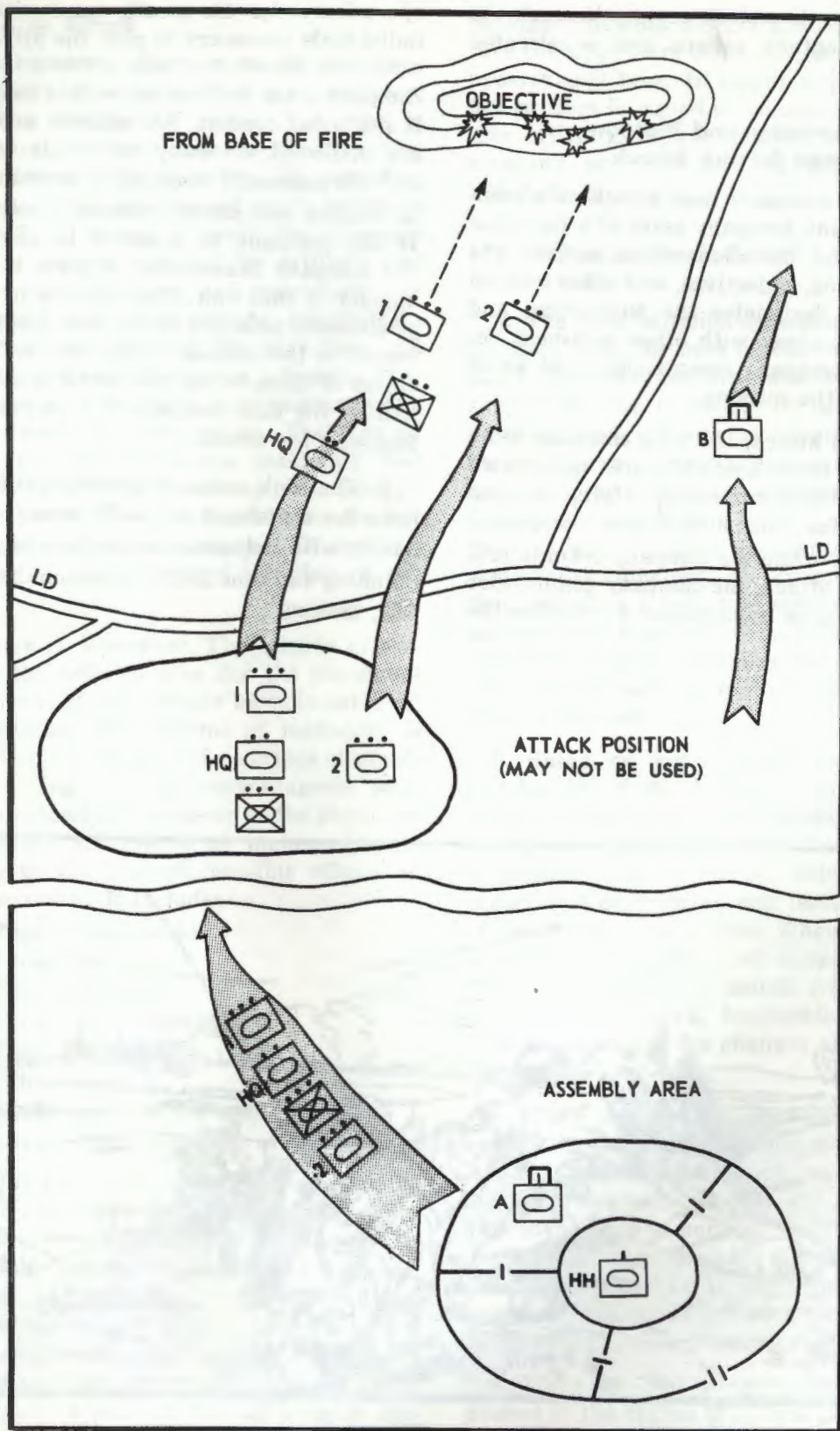


Figure 63. Tank company team plan of attack.

an estimate of the situation, forming a plan of attack, issuing his oral operation order, and moving the company to the line of departure. At all times, he actively supervises the execution of preparations and orders.

e. The tank company commander develops his plan of attack in conjunction with the platoon leaders and the artillery and mortar forward observers. He already has decided, from his estimate of the situation, which course of action is best for his company. The plan of attack will include the who, when, where, how, and if appropriate the reasons for the company's actions in carrying out the assigned mission. In developing the plan of attack, the company commander should consider how he will organize and maneuver his force to accomplish the mission, and how he can best use the available supporting fires (fig. 63).

f. Operation orders should be complete, covering all details of the operation. Brevity is

desirable, but clarity is essential. Oral orders, fragmentary orders, and warning orders are considered standard for tank unit operations. If possible, orders should be issued at a point from which the area of pending operation can be seen; otherwise, the order is issued in the assembly area. Orders should be issued as early as possible to permit dissemination and to permit time for reconnaissance, liaison and planning. For additional discussion of orders, see FM 17-1.

g. Platoon leaders accomplish their troop leading in the same general manner as the company commander.

h. The company team leaves the assembly area so as to cross the SP area at the time prescribed by the battalion commander. When a specific time has not been specified, elements leave at the time necessary to insure reaching designated points as required. Movement to the line or departure or attack position, if used, is conducted as a tactical march.

Section III. METHODS AND TECHNIQUES OF EMPLOYING TANKS AND MECHANIZED INFANTRY

118. General

a. Tank and mechanized infantry units normally conduct offensive operations as battalion task forces and company teams. In the conduct of the attack, the arrival of the tank and mechanized infantry elements at the objective should be so timed as to attain the maximum effects of shock effect and armor protected firepower inherent in the combined arms team. Within the context of this discussion of combined arms forces, the term mechanized infantry refers to carrier-mounted infantrymen; if the infantrymen are dismounted, it is so noted in the discussion. The techniques used by infantry are equally applicable to mechanized infantry elements operating dismounted as part of the tank-infantry team. Tank unit leaders should be familiar with FM 7-11 and FM 7-15.

b. In fast-moving situations the advance of tanks and mechanized infantry can be coordinated by combining the combat formations of each into one mutually supporting formation—tanks preceding mechanized infantry with the

entire attacking force moving forward together. The selection of the attack formation for the tanks and mechanized infantry is based on considerations of the mission, enemy situation, and terrain and troops available as well as on the firepower, security, and control desired by the commander in a given action. See chapter 3, section I for a discussion of combat formations.

c. In slower-moving situations, when the tanks are advancing from one covered position to another, the mechanized infantry may be moved by bounds behind the tanks. Movement by bounds increases the security of the mechanized infantry and reduces the time they are exposed to direct-fire weapons. If the tanks are moving in mass, mechanized infantry usually will follow, by bounds, one or two covered positions to the rear. If the tanks are moving by bounds, mechanized infantry will usually occupy a defilade position behind the rearmost tank elements. In either event, the speed of movement of the mechanized infantry element must be regulated by the force commander to

insure that it is in a position to join the tanks in the assault on the objective.

d. The maneuver force moves in mass without halting. It moves rapidly toward the objective using the selected method of attack. When compelled by enemy action, terrain, or insufficient fires from the base of fire, the force advances by fire and movement. See paragraphs 59 and 60 for a detailed discussion on conduct of fire and movement.

119. Basic Principles

a. The role of attached mechanized infantry or infantry elements in tank company teams is to assist the advance of the tanks by—

- (1) Breaching or removing antitank obstacles within their capabilities.
- (2) Assisting in the neutralization or destruction of antitank weapons.
- (3) Designating targets for the tanks.
- (4) Protecting the tanks against individual antitank measures.
- (5) Leading the attack dismounted when necessary.
- (6) Providing security for tanks.
- (7) Clearing and assisting in consolidation of the objective.

b. The roles of tank elements in tank company teams are to—

- (1) Provide the mobile protected firepower required to enable the combined arms team to advance in the face of the enemy.
- (2) Neutralize or destroy hostile weapons by fire and movement.
- (3) Clear paths for dismounted infantry through wire.
- (4) Neutralize fortified installations with direct fire.
- (5) Support by direct fire when dismounted infantry leads the attack.
- (6) Provide antitank protection.
- (7) Lead the attack whenever feasible.

c. Because tanks desirably lead in the integrated formation, the force commander must consider the distance desired between the tanks and mechanized infantry before starting

the assault. This distance is based upon consideration of four factors—

- (1) *Mission.* If the mission requires rapid, closely controlled movement and if undue enemy interference is not anticipated, 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 and rocket launchers, 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.

d. Tanks and mechanized infantry normally attack in a closely coordinated, mutually supporting formation. This is not to imply that tanks and mechanized infantry are intermingled in the same formation, for tanks usually lead, followed at varying distances by the mechanized infantry.

e. The armored personnel carrier is designed to give battlefield mobility to infantry with a degree of armor protection against artillery fragments, small-arms fire, and effects of nuclear radiation. Loss of armored personnel carriers seriously reduces the mobility potential of mechanized infantry; the commander must not expose them unnecessarily to effective enemy antitank fire.

f. Mechanized infantry should not be dismounted before it is necessary. In the attack, mechanized infantry dismounts in the closest possible, tactically feasible position, preferably in defilade. The assault is normally conducted on foot. In some situations, because of the nature of the terrain or nature of enemy resistance, it may be unnecessary to dismount the mechanized infantry until the objective is overrun. The decision as to when and where to dismount mechanized infantry, if they are to be dismounted, is the decision of the local commander (team commander or platoon leader) based on the existing situation.

120. Methods of Attack for Tanks and Mechanized Infantry

a. There are three general methods of employing tanks and mechanized infantry together in the attack—

- (1) Tanks and mechanized infantry attack on one axis.
- (2) Tanks and mechanized infantry attack on two converging axes.
- (3) Tanks support by fire only.

b. During an attack, any one or more of the three methods may be used. As the combat situation changes, it may become necessary to employ a method other than the one used initially. The attacking force must be capable of changing from one to another as the attack progresses.

c. Regardless of the method or combination of methods used, the following apply:

- (1) Tanks must be employed so that maximum use is made of their battlefield mobility, armor-protected firepower, speed, and shock effect.
- (2) The rate of advance of the attack should be the maximum rate permitted by the terrain and enemy situation.
- (3) The mechanized infantry should remain mounted as long as possible so that—

- (a) The attacking force can move forward under cover of their own artillery fire at the speed of the tanks and armored personnel carriers to close with and destroy the enemy.

(b) The battlefield mobility of both elements of the tank-mechanized infantry team is retained.

(c) Casualties are minimized in areas swept by small-arms and artillery fire.

(d) Artillery airbursts can be employed in support of the attacking force.

(e) A degree of protection is afforded against the effects of nuclear weapons.

(f) The energy of the infantryman is conserved so that he will be better able to fight when needed.

(4) Mechanized infantry normally dismount when it is necessary for them to—

(a) Prevent their destruction by enemy antitank fire.

(b) Breach or remove obstacles that prevent forward movement of the tanks.

(c) Assist in the neutralization or destruction of antitank weapons that are holding up the forward movement of the tanks and armored personnel carriers.

(d) Take part in an assault through heavily wooded areas or very rough or broken terrain.

(e) Lead an assault across defended rivers that cannot be crossed by armored personnel carriers.

(f) Take part in an assault through fortified areas or through defended towns and villages that cannot be bypassed.

(g) Assist the tanks forward under certain conditions of low visibility and restricted fields of fire (darkness, smoke, heavy woods, broken terrain).

(h) Clear a defended objective and assist in the consolidation.

121. Tanks and Mechanized Infantry Attack on One Axis

a. *General.* In the attack on one axis the entire attacking force uses the same approach to

the objective. The infantry may be either mounted or dismounted using varied formations in their advance.

b. Advantages. This method promotes coordination and control, since the entire attacking force is moving in one direction on the same axis. Compared with other methods, it permits close mutual support among elements of the attacking forces and control is simplified.

c. Favoring Conditions. Conditions favoring this method include—

- (1) Attack over open terrain devoid of vegetation capable of concealing armored vehicle movement.
- (2) Only one avenue of approach is available.
- (3) The objective cannot easily be flanked.

d. Tanks with Mechanized Infantry.

(1) *Tanks and mechanized infantry employed in mass.*

(a) The attack of tanks and mounted mechanized infantry units can be coordinated by combining the combat formation into one mutually supporting, integrated formation (fig. 64). The distance between elements in the formation is based on the tactical situation. Tanks lead so they can use their firepower. The armored personnel carriers are located to the rear of the tanks so as not to be unduly exposed, but assist with machinegun fire to the extent possible. This technique is used against enemy positions not strong in antitank weapons.

(b) The arrival of the tanks and mechanized infantry at the objective should be so timed as to provide close mutual support during the assault (para 120).

(2) *Tanks with mechanized infantry, movement by bounds.*

(a) Mechanized infantry follow the tanks by bounds (fig. 65). This tech-

nique of movement increases the security of the mechanized infantry. If the tanks advance as a unit from one terrain feature to the next, the armored personnel carriers must move rapidly into defilade behind successive terrain features.

(b) Control must be exerted to make certain that tanks precede infantry onto the objective in one coordinated assault. This normally requires a rapid final movement by the mounted mechanized infantry to close the distance to the tanks.

e. Tanks with Dismounted Infantry.

(1) When dismounted infantry and tanks are advancing together, the infantry may move between or immediately to the rear of the tanks (fig. 66). As the advance progresses the relative positions of the tanks and infantry are adjusted according to the enemy resistance and the terrain. For instance during an assault the infantry will normally move immediately to the rear of the tanks to permit close mutual support yet allow maximum use to be made of the tanks' firepower.

(2) When terrain, obstacles, or enemy antitank weapons restrict or stop the movement of tanks but permit dismounted infantry to move forward, tanks may temporarily support by fire while the infantry advance. When the infantry attack has progressed sufficiently or an obstacle has been removed, the tanks may move forward, pass through the infantry, and lead the assault. This type of action must not be confused with the method of tanks supporting by fire only, as the intent is for the tanks to participate in the assault of the objective.

(3) When the tanks assault under cover of artillery or mortar airbursts, the dismounted infantry follow at a safe distance behind the airbursts killing or capturing surviving enemy personnel.

(4) The armored personnel carriers should



Figure 64. Tanks and mounted mechanized infantry on one axis.

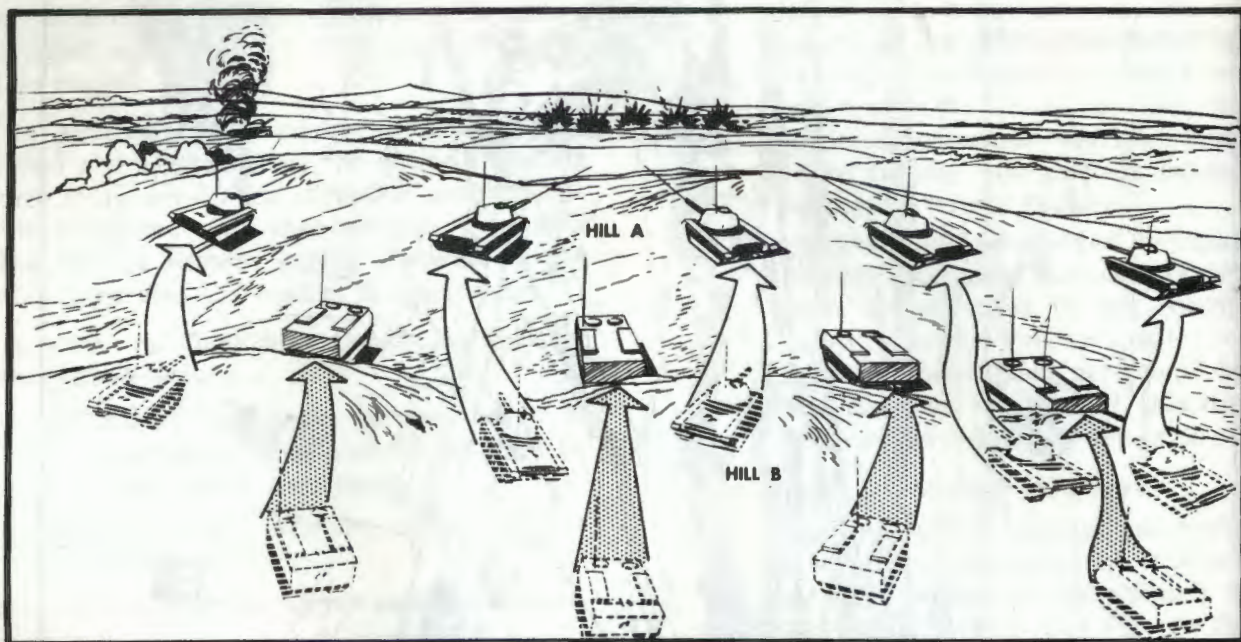


Figure 65. Tanks and mounted mechanized infantry on one axis (movement by bounds).

follow closely behind the infantry to be readily available when needed to continue the attack mounted or to assist in the consolidation of the objective. They may move forward by bounds or follow the attacking force.

122. Tanks and Mechanized Infantry Attack on Two Converging Axes

a. General. The attacking force uses two different axes for the approach to an objective. Two techniques may be used—tanks with mechanized infantry on both axes, and tanks on one axis with dismounted infantry on a separate axis. Coordination of the assault is more difficult than in other methods.

b. Advantages. This method normally achieves the maximum surprise effect, particularly when the elements on both axes are mounted. It provides a greater opportunity for the attacking force to strike the enemy flanks or rear, and it has the advantage of forcing the enemy to fight in two directions. When tanks are employed on both axes, hostile tanks are more often forced to expose their vulner-

able sides and rear to fire from one of the friendly tank elements.

c. Favoring Conditions. Conditions favoring this method include—

- (1) More than one avenue of approach is available.
- (2) At least one avenue of approach provides concealment.
- (3) The objective can be flanked.

d. Tanks with Infantry on Both Axes.

- (1) A force of both tanks and infantry attacks along each axis. On each axis the infantry may be either mounted or dismounted as the situation dictates (fig. 67).
- (2) The movement on each axis of tanks and infantry is governed by the same considerations as when a single axis is used.

e. Tanks on One Axis with Dismounted Infantry on a Separate Axis.

- (1) Normally a force of both tanks and



Figure 66. Tanks and dismounted infantry advancing together.



Figure 67. Tanks and mounted mechanized infantry on two converging axes.

mechanized infantry attacks along each axis. Situations may arise in which it is necessary to employ infantry dismounted on one axis and tanks on another axis (fig. 68).

- (2) When the attacking force is held up by enemy antitank fire or obstacles, dismounted infantry may move along a covered route impassable to tanks in order to strike the enemy flank. The tanks initially support by fire, then move on their axis to the objective. The elements on each axis should arrive on the objective at approximately the same time, or the attack may be so timed that the tanks arrive first, under artillery or mortar airbursts, with the infantry following.
- (3) This technique is employed when one avenue of approach is suitable for tanks but unduly exposes the dismounted infantry while the other can be used by dismounted infantry but restricts or prevents the movement of tanks.

123. Tanks Support by Fire Only

a. The infantry attack to seize the objective, and the tanks support by fire only (fig. 69). Conditions that make it necessary to use this method are—

- (1) Obstacles prevent the tanks from moving in the attack, and an objective must be seized to protect the reduction of the obstacles. For example, it might be necessary for infantry to seize a terrain feature from which the enemy is covering a minefield or roadblock that is holding up the advance of the tanks.
- (2) Ground impassable to tanks must be seized.

b. When unfordable streams must be crossed, tanks support mounted mechanized infantry by fire only. Armored personnel carriers can cross streams unfordable for tanks; therefore, the tanks should take up defiladed firing positions from which they can support by fire the crossing of the armored personnel carriers (fig. 70).

c. This is the least desirable of the three methods and should be employed only when necessary. Even though the shock effect of the tank is lost, its fire support can assist the infantry. As soon as the obstacles are breached or a suitable avenue of approach is uncovered, the tanks move rapidly to join the infantry on the objective.

124. Conduct of the Assault

a. *General.* The desired goal in the assault is to bring the maximum firepower and shock effect of tanks, infantry, and artillery to bear upon the enemy simultaneously to destroy him as rapidly as possible with the fewest casualties, either troop or vehicular, to friendly forces. The commander must achieve this goal by forceful and decisive action coupled with judgment in employing the combined arms team. The assault of a defended position by tanks and mechanized infantry supported by artillery make take three forms—

- (1) *Tanks and dismounted or mechanized infantry assault in coordination.* As the team or task force approaches the objective, the objective is under heavy supporting fires. 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 increases its speed in moving to dismount positions to overcome the loss of time in dismounting and to maintain the proper tank-infantry coordination in the assault. As the force reaches the near edge of the objective, supporting fires are lifted or shifted to the flanks or rear of the objective to prevent escape of the enemy or to break up counter-attack formations. The fires of infantry and tank weapons replace the indirect supporting fires. The mechanized infantry, behind the tanks, stop in the closest, tactically feasible, hull defilade position short of the objective and the infantry dismount. Although a tentative dismount position may have been designated, its location is changed during the attack as required.

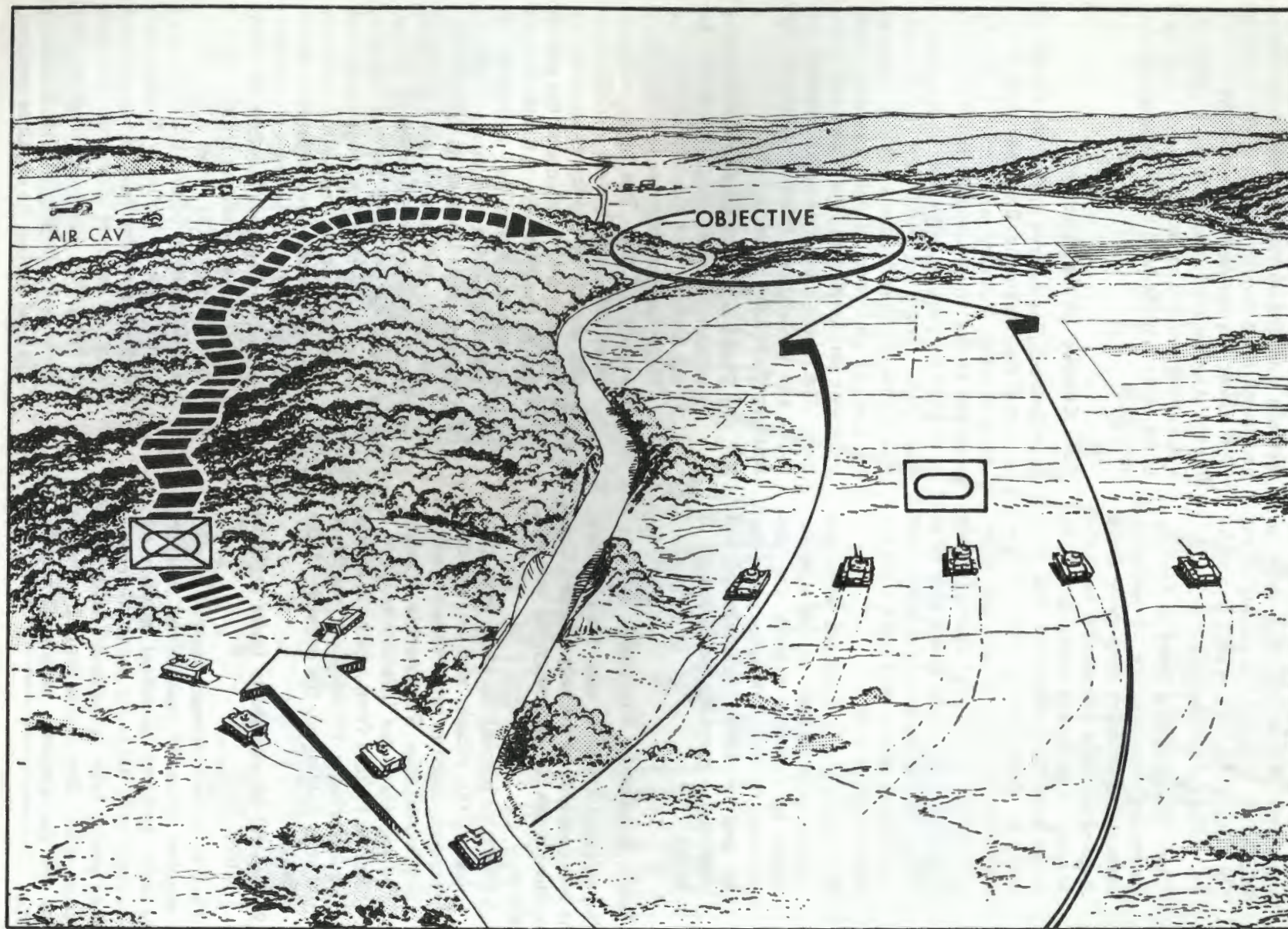


Figure 68. Tanks attacking on one axis with dismounted infantry attacking on a separate axis.

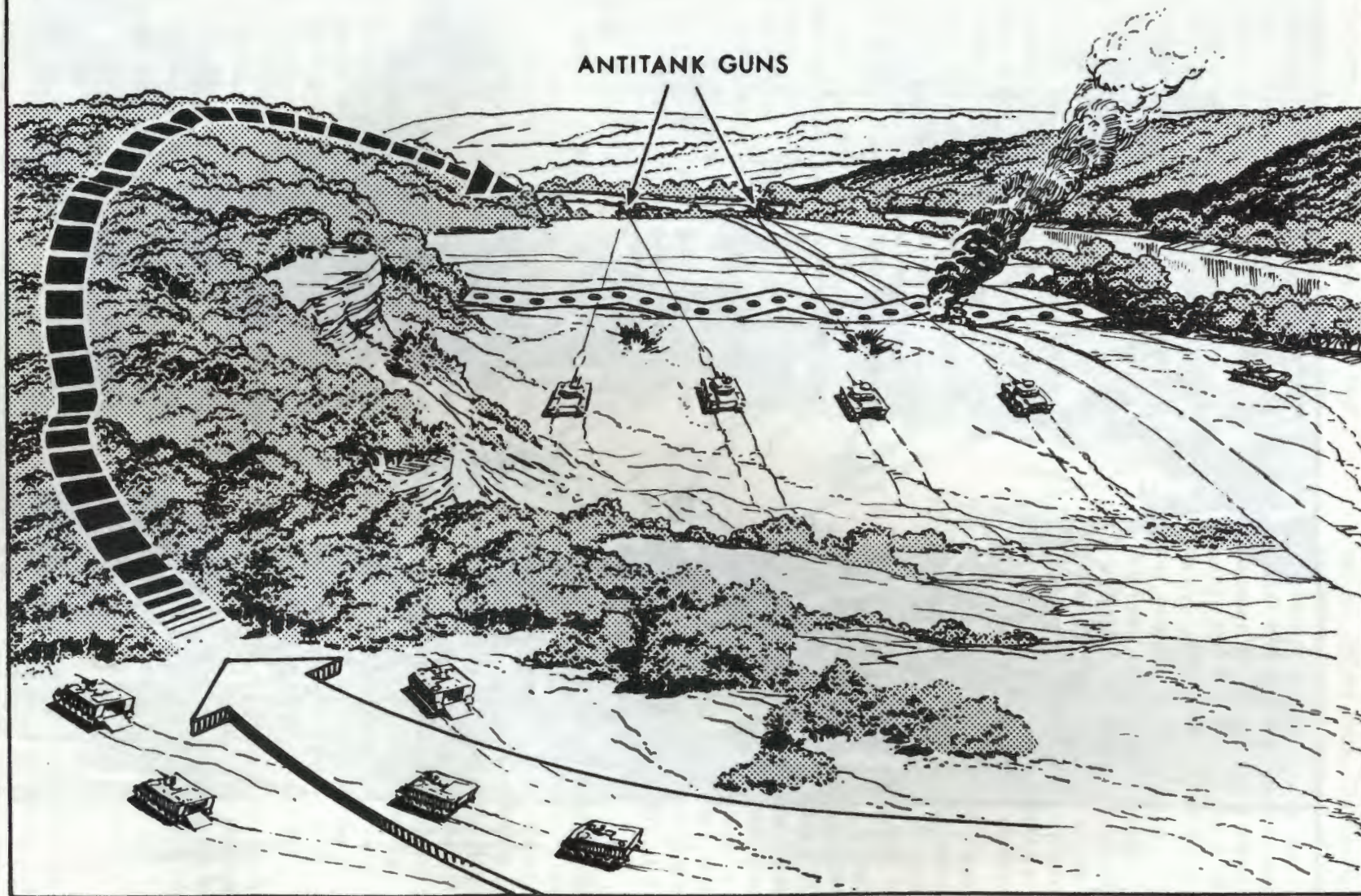


Figure 69. Tanks supporting infantry attack by fire only.

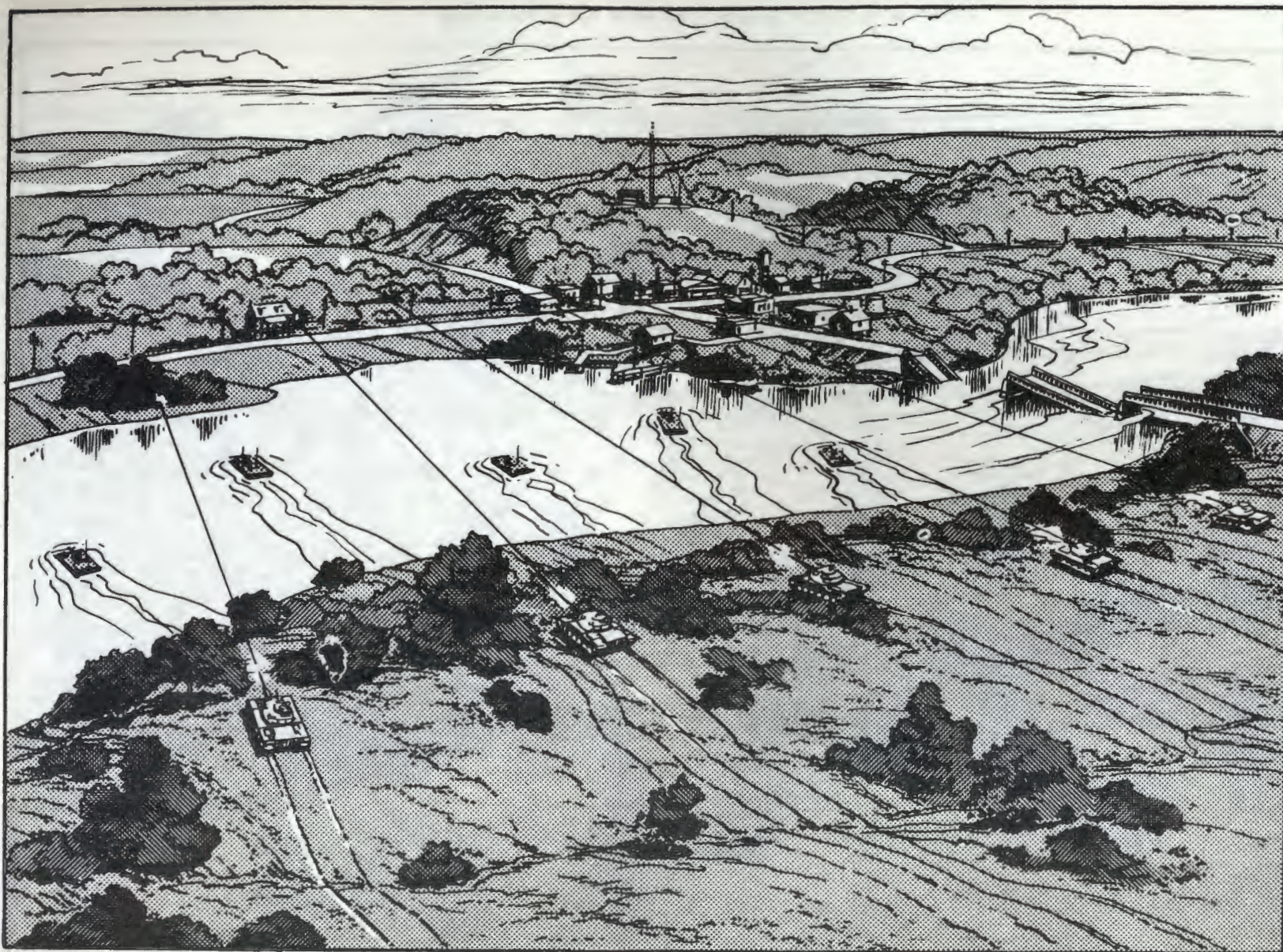


Figure 70. Tanks supporting a river crossing by fire only.

As the tanks assault the objective, the infantry, now dismounted, follow the tanks at such a distance as will provide protection to the tanks by engaging the infantry type targets such as individual antitank weapons and tank killer teams. Whenever possible, the machineguns of the armored personnel carriers are used to support the assault until their fires are masked by advancing riflemen. The successful movement of the attacking riflemen is largely dependent upon the effectiveness of the supporting fires. Normally, enemy resistance will dictate an advance by fire and movement. In this case the enemy position(s) offering resistance must be singled out by rifle platoon and squad leaders as individual objectives. When the fires of the attacking echelons have eliminated or neutralized effective enemy fire, assault fire techniques are employed. The shock effect of assaulting tanks and infantry is multiplied by rapid movement and heavy volumes of fire, including the use of 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 tanks arrive at the far edge of the objective, fire is directed on the enemy dispositions beyond the objective area. Effective placement of this fire reduces materially the enemy's capability of organizing and launching a counterattack. As soon as the objective is seized, the tanks and mechanized 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 positions are carried out.

- (2) *Tanks and mechanized infantry in the mounted assault.* In some situations, when there is limited enemy resistance or because of the nature of the terrain, it may be unnecessary to dismount the mechanized infantry until

the objective is overrun. The mounted assault differs from the dismounted assault in the employment of supporting fires and relative time that mechanized infantry is dismounted, if necessary. In the mounted assault, the integrated force may assault the objective under cover of overhead artillery and mortar fire. Under cover of this fire, tanks and mechanized infantry move onto the objective and may immediately continue the attack. If it is necessary to secure the objective by dismounted action, supporting fires are shifted to isolate the objective.

- (3) *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 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 and again lead in the attack.

b. Coordination and Cooperation in the Assault. The tank-mechanized infantry grouping is a team 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 by careful coordination and complete cooperation among the individuals of the tank and mechanized infantry platoons and their leaders, and between platoons and company teams. Lack of such coordination may lead to one or more of the following undesirable situations:

- (1) *Undue separation between tanks and mechanized infantry in the assault.* This condition may permit the enemy to man his weapons, destroy supporting dismounted infantry, and attack unsupported tanks at extremely close ranges.
- (2) *Armored personnel carriers mingle with or precede tanks in the assault.*

Such action exposes the armored personnel carrier to fires it was not designed to withstand. Further, infantry mounted in carrier has little power to counterattack. However, this does not preclude actively supporting the team with carrier-mounted machinegun fire whenever the situation permits.

- (3) *Cruising the objective.* Unless tank commanders and armored personnel carrier commanders or drivers are given specific directions as to their mission upon completing the assault, vehicles may needlessly be exposed to enemy fire as a result of confusion and resulting unnecessary, uncovered movement on the position.
- (4) *Armored personnel carriers left in exposed positions.* The vehicle commander must insure that the driver places the vehicle in a protected or defilade position immediately after the squad dismounts to preclude its loss from antitank or other fires.
- (5) *Remaining mounted too long.* Vehicle commanders, platoon leaders, and company commanders must realize that remaining mounted too long may expose the vehicle and its squad to needless destruction by short range weapons manned by determined enemy soldiers.

c. Rejoining of Armored Personnel Carriers and Squads on the Position. Once the assault has cleared the position, it is necessary to bring armored personnel carriers forward to rejoin their units. Any of several techniques may be employed, but the method used must be coordinated with vehicle drivers before the mechanized infantry dismounts.

Section IV. CONDUCT OF THE ATTACK

125. Conduct of the Attack by the Maneuvering Force

a. The maneuvering force, composed of all available tank and infantry units that can be profitably employed, moves in mass from the LD to the objective. In this respect, mass is with reference to movement without fragmentation

- (1) *Radio.* All armored personnel carriers are provided with vehicular radios that net with the sets carried for dismounted use. If this technique is employed, the range of the transmitting station must be considered and the driver must constantly monitor the radio.
- (2) *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 depends on a route clear of the enemy for its success and is the slowest method.
- (3) *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 is dependent for success on constant scanning of an area by the driver, visibility in the area, availability of pyrotechnics to which this meaning may be assigned, and possession within the unit of the signal device.
- (4) *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 keeping the last man in sight. This technique has the advantage of keeping armored personnel carrier close to its unit with little time lost in remounting, but may result in its loss if the unit becomes involved in a fire fight.

of the force while recognizing proper dispersion of and within the force. This technique of movement capitalizes on the strength of the tank, maximizes shock effect, and reduces vulnerability of enemy fires.

b. The maneuvering force must close on the objective in the shortest possible time with

maximum combat power. The longer the force is exposed to enemy fire, the greater its loss. Movement is made by routes affording the best available cover and concealment. Rapid movement and the use of all available supporting fires multiply the closing shock of the maneuvering force. If the maneuvering force is forced to employ fire and movement, aggressive action must be taken to insure that movements are executed rapidly and that the entire force continues to advance on the enemy. At the earliest opportunity, as the situation permits, or in preparation for the assault, the advance in mass is resumed.

c. The maneuvering force places maximum fire on the enemy as soon as it is within effective range. This fire reinforced by all available supporting weapons hinders the enemy observation and movement, and destroys his troops and defenses.

126. Battalion Task Force—Conduct of the Attack

a. The battalion task force crosses the line of departure at the time prescribed by the brigade operation order. When preparatory fires are used, all available artillery and mortar fires commence just before, or as the battalion begins its attack. If a nuclear preparation is used, it is normally fired before the conventional fires. Only necessary combat and combat support elements move to the line of departure as the attack begins. Reserves, other combat support, and combat service support elements are moved forward as planned, or on order after the leading company teams have begun their attack.

b. The battalion task force commander controls fire support and the movement of his company teams.

c. As leading elements advance, supporting fires are lifted or shifted, usually by the forward observers accompanying the company teams. The company teams, moving in mass, close onto and assault their objectives.

d. Throughout the attack the leading company teams make maximum use of all available supporting fires. Indirect-fire weapons may displace by echelon to provide continuous support or, particularly in mobile operations, continue

to move until needed. Radiation detection teams with attacking companies report dangerous radiation areas. These areas are bypassed or crossed rapidly in vehicles to reduce radiation exposure.

e. The reserve, if constituted, normally follows the maneuvering company teams. The reserve may be so placed in the formation as to provide security for the command; this is especially true of an element that is considered a reserve merely because it has not been engaged. The reserve is located where it can best perform its mission, support the attack, or cover the flanks. As soon as the maneuvering force reaches the objective, the reserve may close onto the position to assist in consolidating and repelling counterattacks. The commander of the reserve keeps abreast of the situation by liaison and observation. He continually formulates plans to cover the commitment of his unit to any probable type of action or mission.

127. Tank Company Team and Platoon—Conduct of the Attack

a. The tank company team crosses the line of departure in an attack formation at the time prescribed in the battalion operations order. Supporting fires are used to fix the enemy in his position and cover the maneuver of the team. The company team commander normally moves the entire team in mass. When conditions exist as noted in paragraph 60, the team commander may employ fire and movement. When the situation permits, the company team resumes the advance in mass. Enemy resistance that does not constitute a threat to the accomplishment of the company team mission may be engaged by organic weapons and supporting fires and, with the permission of the battalion commander, bypassed.

b. The tank platoon crosses the line of departure in an attack formation at the time prescribed by the company commander. The platoon moves in mass and participates in fire and movement, as part of the company team.

c. A tank company commander with the maneuvering force controls the advance of his platoons. He keeps his battalion commander advised of all changes in the situation. He obtains

artillery and mortar support through the artillery and mortar forward observers with his company, either on his own initiative upon encountering heavy resistance or at the request of a platoon leader. Similarly, air strikes, nuclear fires, and air cavalry elements armed with rockets and guided missiles may be requested through command channels.

(1) A tank platoon leader with the maneuvering force controls his unit in the attack on the objective. While maintaining his platoon's place within the maneuvering force, he varies the platoon formation to meet changes in the situation confronting him. His major concern is to push the attack.

(a) The platoon leader's tank is a fighting vehicle constituting 20 percent of the platoon's firepower. The platoon normally fights as a unit with the platoon leader directing the action of his five tanks; his tank is not merely a platoon headquarters. The platoon leader exercises command over the entire platoon. While the platoon leader fights his tank, he has two constant considerations—he must not become so involved in fighting his own tank that he forgets to control the action of the whole platoon; his actions must not indicate to the enemy that his is a command tank. When the platoon leader is fully occupied in fighting the platoon as a whole, he can assign his gunner a sector of fire, with the gunner firing at about the same rate as the rest of the tanks. The platoon leader positions his tank within the platoon where he can best control and influence the action. He observes in all directions, noting any evidence of enemy activity and the progress of other friendly units and keeps his company commander informed of the terrain and enemy resistance encountered, reporting any changes in the situation.

(b) Upon meeting strong resistance or targets that his tanks cannot

engage effectively, the platoon leader requests supporting fires through his company commander. He adjusts artillery and mortar fire if a forward observer is not available, and requests other fire support as required through command channels.

(2) The actions of the tank commander in the conduct of the attack include—

(a) Direct the movement of the tank in a sound tactical manner.

(b) Direct the fire of the tank weapons.

(c) Maintain contact with the platoon leader (visual or radio).

(d) Make constant reconnaissance.

(e) Keep the platoon leader informed of the situation.

d. The company teams and platoons press the attack as rapidly as possible using all available fire support. As elements reach a position at or in front of the objective (or enemy position) the assault is begun.

128. Assault on the Objective

The assault of the objective may be made employing one of three methods (para 120). (Whichever method is used, the tanks destroy enemy groups, defensive works, weapons, and emplacement by direct fire. The riflemen close with and destroy the enemy in close combat and protect the tanks from individual antitank weapons.) Each rifle squad is located in a formation according to the directions of the mechanized rifle platoon leader. Supporting fires increase as the company and its platoons close on the objective. They shift to isolate the objective as the company team begins the assault. As soon as the assault starts, the tanks advance onto the objective, firing their machineguns. The tank may be halted briefly to destroy appropriate targets with the tank main gun. Armored personnel carrier machineguns may be used to support the assault until masked by advancing riflemen. Infantrymen use assault fire to close with the enemy. During the assault, the tanks provide support for the infantry, who will be clearing the objective. The tanks advance to the far side of the position, where they prepare for a possible counterattack and for the continuation of the attack to the next

objective. See paragraph 124 for methods and techniques of employment of tanks and mechanized infantry in the assault.

129. Actions on the Position

a. General. The actual occupation of the objective is the critical stage of the attack. This is the stage during which control is most difficult and the time when an aggressive enemy delivers a carefully planned and coordinated counterattack, covered by all available supporting fires. When an armor unit has assaulted and seized an assigned objective, it enters into activities called actions on the position. These actions are consolidation and reorganization. In nuclear warfare, the actual seizure of the objective will often be followed by either a continuation of the attack or rapid move to dispersed locations from which the unit can dominate the position, but avoid presenting a lucrative nuclear target. Such actions will be in accordance with plans made by a higher commander.

b. Battalion Task Force — Consolidation. Consistent to the degree possible with previous plans, and as soon as the assaulting forces have seized the objective, the following actions are taken:

- (1) Eliminate any remaining enemy pockets of resistance.
- (2) Prepare to meet counterattacks. Elements of the force take up defensive positions on terrain controlling avenues of enemy approach. Elements not required for this task disperse to other locations to avoid presenting a lucrative nuclear target.
- (3) Prepare to continue the attack. The commander makes a map and visual reconnaissance of the future area of operations, issues necessary fragmentary orders to subordinates.
- (4) Improve defense posture. Elements of the force on the position continue to organize and improve their defensive posture until ordered to continue the advance. Plans for repelling enemy counterattacks also continue.

c. Company Team Consolidation. As soon as

leading elements of the assaulting forces reach the objective, the following actions are taken with the greatest possible speed to destroy remaining enemy resistance, prepare to move to dispersed locations, avoid presenting nuclear targets, or to continue the attack on order.

- (1) The leading tanks take up defilade or concealed positions from which they can dominate the position and destroy enemy vehicles, weapons and troops by fire (fig. 71). Tank commanders employ hand grenades against dug-in enemy troops where the use of the tank guns might endanger friendly troops. If enemy tank hunters are active, the leading tank unit commander may request artillery and mortar airbursts over his position until friendly infantry arrive (fig. 72). Both tanks and infantry should avoid the sky line; tanks must not cruise aimlessly.
- (2) As he arrives on the position, each tank platoon leader goes to his assigned sector and takes up a position where he can regain visual contact with, and full control of, his platoon. As the remaining tanks of his platoon arrive, he assigns them general position areas and sectors of fire. He establishes local security, posting observers to warn of enemy activity and contacting friendly units on his right and left (fig. 73). The company takes immediate action to—
 - (a) *Hold the position against counterattack.* The subordinate unit's security measures are coordinated to provide for all-round observation and defense. Tanks are positioned to cover the logical avenues of enemy approach. The mechanized infantry organize hasty defensive positions. Through the artillery and mortar forward observers, arrangements are made for supporting fires to protect the newly captured positions.
 - (b) *Continue the attack.* The tank company commander makes a map and

RIGHT



Figure 71. The leading tanks take up defilade or concealed positions from which they can dominate the position, and destroy visible enemy weapons by fire.

visual reconnaissance of the terrain between him and the next objective and issues any fragmentary orders that may be necessary. When necessary, guides are sent back to meet supply trucks, company maintenance section, and medical aidmen. No action will be taken, however, that will interfere with immediate preparations for continuing the attack.

- (3) Troops on the position continue to organize and improve their defensive arrangements until ordered to continue their advance. Measures to be employed against enemy counterattacks are determined before the attack and are included as part of the attack order.

d. Reorganization on the Position. Reorganization pertains to the unit. It includes all the actions taken to restore maximum combat effectiveness and control. It may include—

- (1) *Reports.* All subordinates report ac-

complishment of their mission, and the status of troops, equipment, and supplies.

- (2) *Replacement of casualties.* So far as possible, losses are replaced.
- (3) *Evacuation.* Arrangements are made for the evacuation of troop casualties, prisoners of war, and damaged equipment.
- (4) *Supply.* Ammunition and equipment are redistributed as required; requests for additional ammunition, fuel, and other supplies are initiated; any supplies received are issued if time permits. Vehicles are resupplied on position or in a covered area immediately behind the position. Resupply must be accomplished as rapidly as possible yet not in such a manner as to result in unnecessary casualties.
- (5) *Communication.* Contact is restored with any units temporarily out of communication.

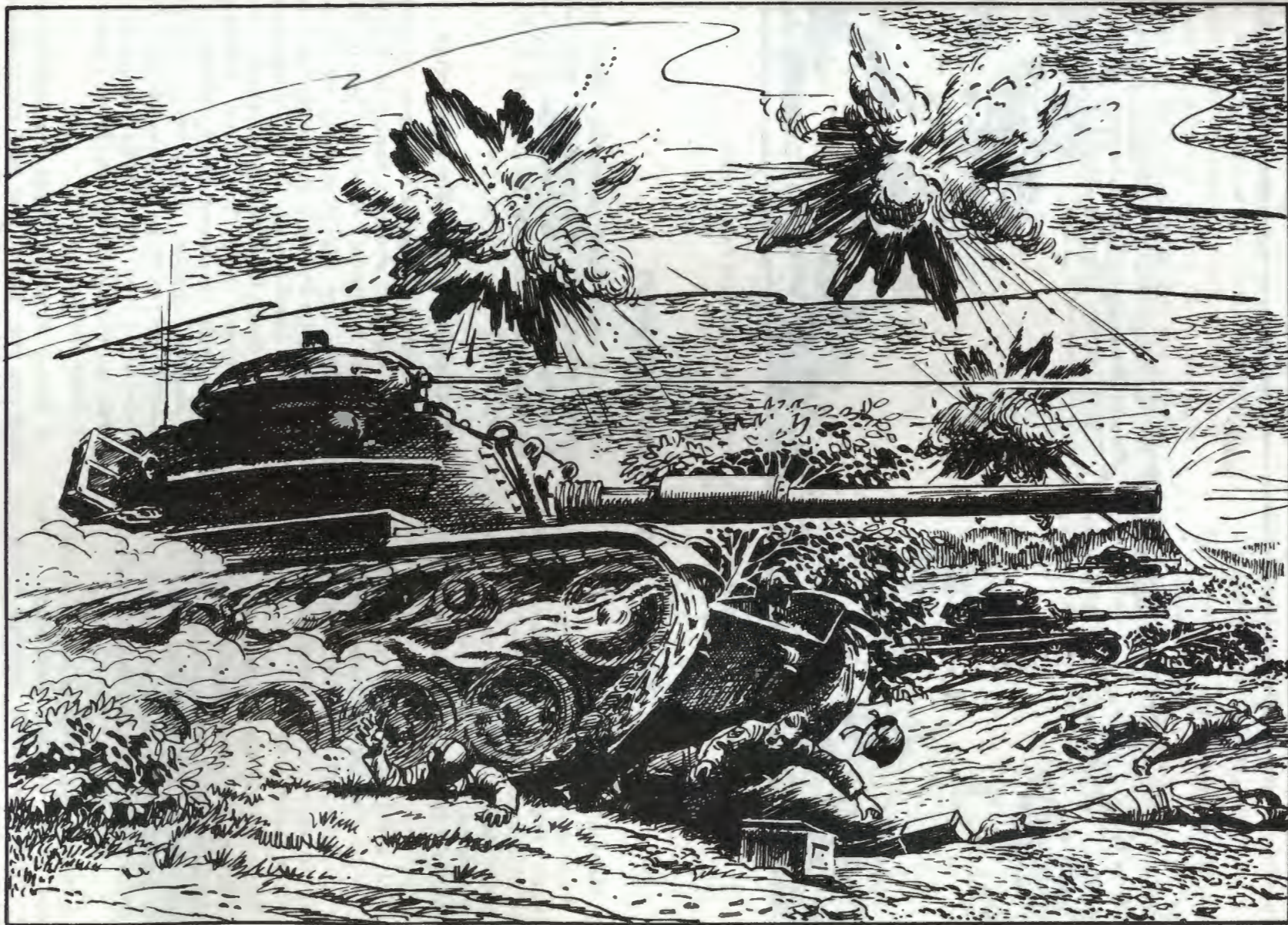


Figure 72. Tanks on the objective under cover of artillery and mortar airbursts.

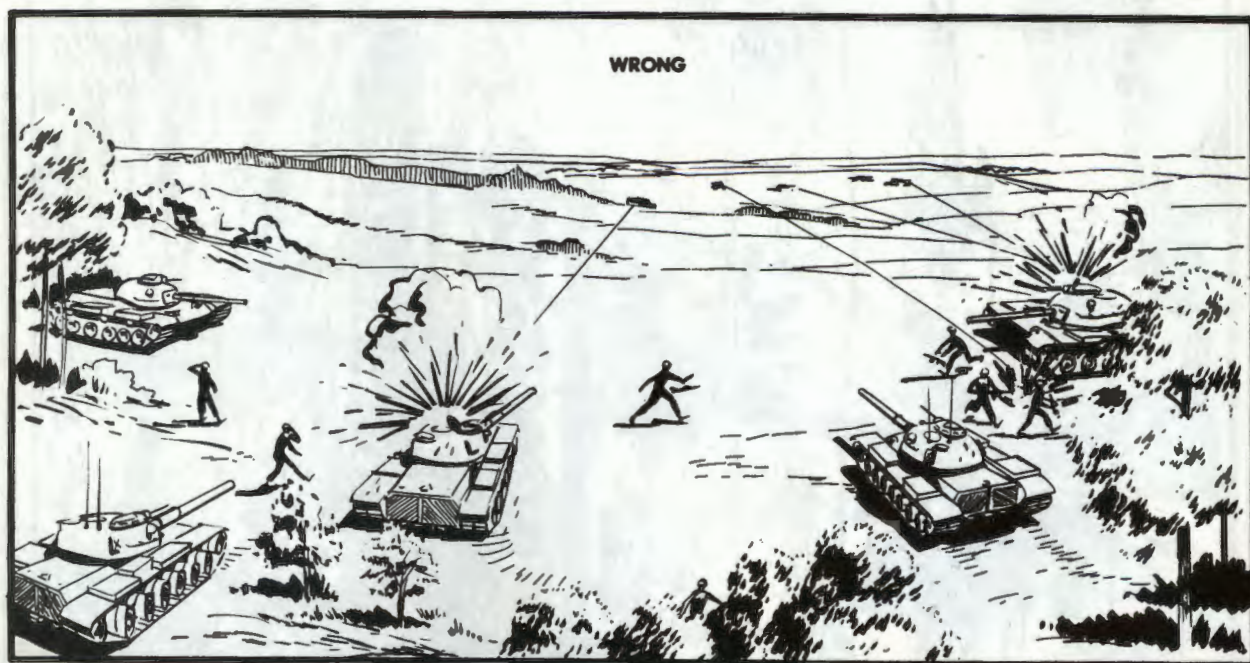


Figure 73. Tanks should rally on the objective in their assigned sectors within visual distance without crowding together.

Section V. EXPLOITATION AND PURSUIT

130. General

a. Exploitation is the following up of previous gains to take full advantage of success in battle. It is a phase of the offensive that destroys the enemy's ability to reorganize an effective defense or to conduct an orderly withdrawal in the face of threatened destruction or capture.

b. The exploitation is initiated when an enemy force is having recognizable difficulty in maintaining its position. Although local exploitations may appear insignificant, their cumulative effects can be decisive.

c. Depending on the situation and its task organization, the tank company teams and tank battalion task force can exploit their own success; can be the exploiting force for a higher headquarters; or can be part of a follow and support force for another exploiting unit.

d. Pursuit is an offensive operation whose purpose is the complete destruction of the enemy force. The pursuit normally follows a

successful exploitation, occurring when the enemy attempts to disengage and withdraw from the battlefield. Whenever this happens, the attacking force must be prepared to initiate a pursuit.

131. Characteristics of the Exploitation

a. *General.* An exploitation force operates through a gap or around a flank and usually is assigned a physical objective deep in the enemy rear. The exploiting force strives to reach the objective with maximum force in the shortest possible time. The exploiting force does not concern itself with any actions of the enemy except those that could seriously interfere with, or prevent accomplishment of, the assigned mission. Thus, enemy forces frequently are reported and bypassed with the permission of the next higher commander. Terrain permitting, exploitation forces advance on a broad front.

b. *Enemy Situation.* When the exploitation stage has been entered, the local enemy situa-

tion will almost certainly be one of confusion and partial disorganization. A rapid exploitation will further cause the enemy dispositions to disintegrate. Enemy resistance will consist mainly of delaying actions by small units, defense of scattered dispositions, and reliance on obstacles, both defended and undefended. As the attack penetrates deeper into the enemy's disposition, his disorganization increases proportionately.

c. Objectives. Objectives in enemy rear areas include—

- (1) Enemy reserves and artillery.
- (2) Command, communication, and supply installations.
- (3) The rear or flank of strongly held positions.
- (4) Vital terrain features or critical

points, such as defiles, road junctions, railroad centers, and bridges.

- (5) Linkup with friendly airborne or air-mobile forces.
- (6) Nuclear delivery agencies or storage sites.

d. Freedom of Action. After entering the exploitation phase, the tank unit commander should have greater freedom of action than before, because the rapidity of the attack necessitates instant decisions. However, permission must be requested from the next higher headquarters before making major deviations from the original plan.

e. Nuclear Support During the Exploitation. Nuclear weapons increase the speed of the advance. Used in conjunction with relatively small forces they can eliminate resistance that might otherwise require deployment of a sizeable force. In the exploitation, nuclear fires are used primarily on targets of opportunity. These fires are used to destroy hostile reserves and seal enemy escape routes. When nuclear fires are used, the tank unit commander's main concerns are to—

- (1) Take adequate precautions for the safety of his unit when in the vicinity of friendly detonations.
- (2) Integrate nuclear and nonnuclear fires.
- (3) Exploit the effects of friendly nuclear weapons.
- (4) Insure that tree blowdown, rubble, and secondary fires do not interfere with the maneuver of the force.

f. Organization of the March Column. The exploiting force must be organized to attack from multiple mutually supporting march columns.

g. Attacking Enemy Dispositions. When the leading elements of a company march column make contact with enemy forces, the company must rapidly deploy to attempt to overrun or bypass the enemy force. Company commanders should have maximum freedom of action, and should report to battalion the situation as it develops. If the enemy resistance is too heavy for the company, yet cannot be bypassed, the company commander must develop the situa-

tion and report to the battalion commander. The battalion reserve or follow and support forces strengthen the company, execute a coordinated attack, or both in accordance with the principles of the penetration or the envelopment.

h. Command. Command in exploitation depends, to an unusual degree, on aggressiveness, initiative, boldness, an understanding of tactics, constant alertness, and force. A thorough knowledge of the higher commander's plan will assist in carrying out the assigned mission.

i. Control. The march column must be controlled so that it can react quickly and best apply its force. Strict march discipline is a basic requirement.

132. Security in the Exploitation

a. General. Each commander is responsible for the security of his unit. An armor unit engaged in exploitation is, because of its position deep in enemy territory, particularly vulnerable to enemy attack on its flanks and rear and to harassment by small pockets of resistance and guerrilla forces. Therefore, security becomes increasingly important.

b. Security During Movement. On the move, security is provided by security forces; by air and ground reconnaissance and surveillance to the front, flanks, and rear; by liaison with adjacent units; and by the formation of the column. Combat service support elements in the column are protected by placing combat elements close to them. Depending on the situation, column security may be provided by one or all of the following types of security forces (see ch 5):

- (1) *Advance guard.* Normally used by leading elements and should be a reinforced tank unit.
- (2) *Flank guard or guards.* Units are responsible for their own flank security.
- (3) *Rear guard.* May be a reinforced tank unit or a reinforced mechanized infantry unit.
- (4) *Army aircraft.* Army aircraft reconnoiter to the front, flanks, and rear.
- (5) *Air cavalry.* See paragraph 109e.

c. Security at the Halt. When the head of the column is halted, the remainder of the column continues to move forward, coiling up in available space on each side of the axis and near the head of the column. Elements coil in prearranged formations, ready for instant action in any direction. Local security measures are taken. Passive air defense means must be considered for security from air attack and surveillance. Commanders immediately move to the head of their units to determine the reason for unexplained halts.

133. Composition of Exploiting Force

a. General. In the exploitation, tank units must be capable of performing any type of ground operation and be able to start an action in the minimum amount of time. They must be so organized that the commander has under his control all elements he may need to accomplish his mission. A battalion task force must include tanks, mechanized infantry, engineers, and adequate combat service support elements; supporting fires must be provided by artillery and organic indirect-fire weapons. Close coordination with air cavalry units and supporting tactical air must be achieved.

b. Mobility. Mobility becomes increasingly important during exploitation. Combat and combat service support elements must be highly mobile.

c. Organization. The task organization and order of march are based on consideration of the factors of METT (mission, enemy, terrain and weather, and troops available). The order of march must correspond to the order of anticipated employment.

d. Tanks and Mechanized Infantry. Tanks and mechanized infantry are distributed in depth throughout the march column. These units are employed to lead the attack, maneuver to either flank, and secure the column by their positions. A tank-heavy force normally will be the leading element.

e. Command Group. The commander must be well forward in the column so that he can obtain early firsthand information of any situation arising to the front. His personal observation will permit rapid decisions, formulation of

plans, and issuance of orders. The command group normally travels in rear of the leading subordinate unit of the main body (para 46).

f. Artillery. The attached or supporting artillery normally remains in column until resistance is met. To insure adequate fire support for the leading elements, artillery should be so placed in the column that it can support the head of the column. An artillery battalion may employ an advanced battery, or the entire battalion may be placed in one position well forward in the column. In either case, it is essential that sufficient tanks and mechanized infantry precede the artillery to crush moderate resistance, to develop the situation in the event of heavy resistance, and to provide protection for the artillery itself.

g. Engineers. Engineers are positioned well forward. An element of the engineer unit supporting the exploitation should be located with the leading elements so as to be immediately available to undertake such tasks as locating, marking and removing mines; removal of obstacles; repair or clearance of roads and bypasses; provision of assistance in crossing gaps and streams; and the conduct of road and bridge reconnaissance to determine the load bearing capacity and condition of each in an effort to maintain the momentum of the force.

h. Command Post. The command post is located where its control facilities can best be used in the conduct of operations.

134. Speed in the Exploitation

Speed is essential to successful exploitation. Speed and aggressiveness assist in achieving surprise, a vital factor to success. When the exploiting force moves rapidly, the enemy is seldom able to maneuver his troops to interfere seriously with the exploitation. However, speed must not be confused with haste.

135. Battalion Task Force—Conduct of the Exploitation

a. In the conduct of an exploitation, combat action by the tank battalion task force consists most frequently of short engagements launched from march column. When resistance is encountered that cannot be quickly overcome, the

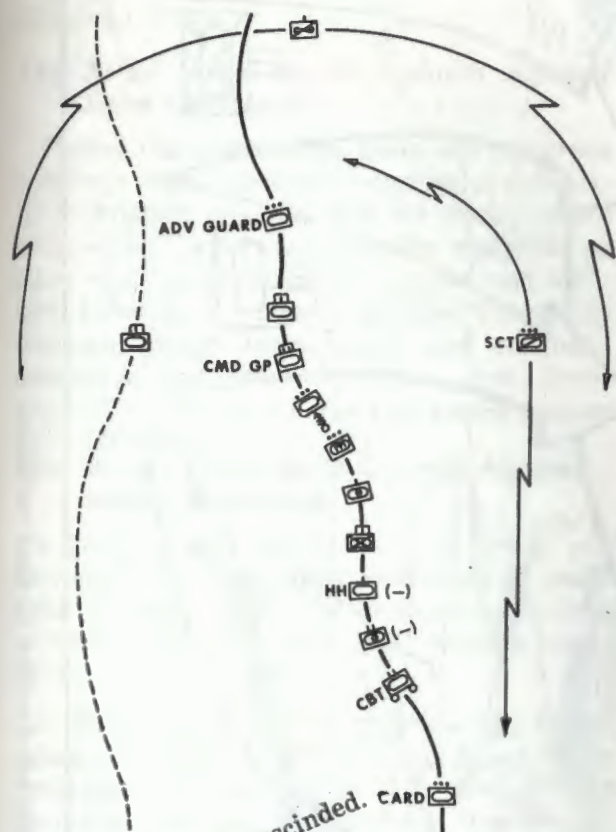


Figure 7. *Figure 74 is rescinded. organization and order of march, to battalion task force, exploitation.*

battalion either launches a coordinated attack or bypasses the resistance. A unit bypasses only with the permission of the next higher commander; this permission may be included in the mission.

b. The battalion takes full advantage of existing routes when conducting an exploitation. Company teams may move on separate routes with the remainder of the battalion following one or more of the leading teams.

c. The exploitation is characterized by fluid situations and an extremely effective form of offense is the attack against successive dispositions (fig. 75). Such attacks are characterized by the employment of elements of the unit against several dispositions in rapid succession — sometimes concurrently. This method of attack can be used to save time when the entire strength of the unit is not needed to take each individual disposition.

- (1) Within a battalion task force, company teams may be formed for the attack of successive dispositions. The strength of each company team will vary with enemy strength on the disposition. The operation begins with an attack on the first disposition. As soon as it has been seized, or as soon as the task force commander is certain that the attack force will be able to clear it of enemy troops, he orders a team to attack the second disposition while the clearing process on the first is being completed. In a like manner, a third team may attack through or around the team on the second objective to seize a third disposition. The attack by each team should be supported by the fires of another team and tactical aircraft if possible.

- (2) This method of attack may be used to clear small inhabited areas on the route of an exploiting column. A battalion task force often can clear a series of villages in a relatively short period of time.

136. Tank Company in Exploitation

The tank company normally is used as part of a larger exploiting force. However, when suitably reinforced with mechanized infantry and tactical support, it is capable of limited independent action, such as reducing isolated strongpoints, seizing and holding critical defiles or key bridges, or acting as a flank guard. The tank company team normally attacks from march column in the exploitation. When the tank company team attacks from march column to exploit a situation, it normally moves directly into the attack.

137. Attack From March Column, General

The attack from march column differs from the coordinated attack in that there is little time for preparations, such as detailed reconnaissance and deliberate planning. Instead, the tank unit attacks swiftly and in mass, obtaining the full effect of shock action with a minimum of delay. An attack from march column demands speed and aggressiveness. The initiative must be seized and retained. Lacking specific orders, the company commander or the platoon leader takes whatever action that

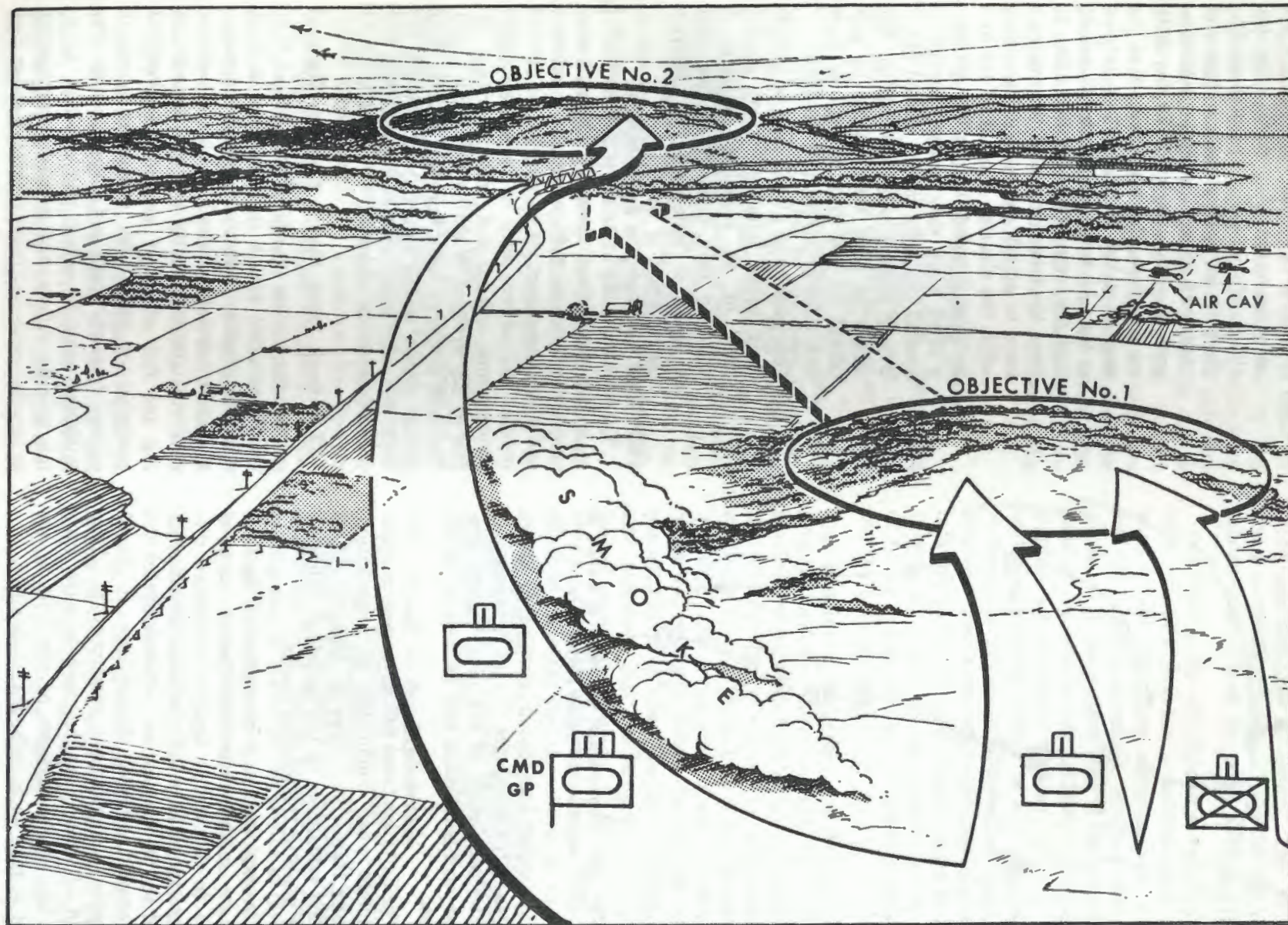


Figure 75. Attack of several objectives in rapid succession.

he believes is required to carry out his assigned mission.

138. Attack From March Column Against Light Resistance

During the exploitation, there are numerous occasions when, because of surprise or inferiority of numbers or armament, the enemy cannot offer serious resistance. Columns of trucks or other vehicles, towed antitank guns, and artillery, infantry, or cavalry in close formation, bivouacs, supply installations, and command post are all profitable objectives. See paragraphs 78 through 81 for the attack against light resistance.

139. Attack From March Column Against Heavy Resistance

a. If the enemy resistance is so heavy and stubborn that the leading elements can make little progress, it may be necessary for them to contain the enemy until other friendly forces arrive.

b. Figure 76 shows an attack from march column by a tank company team against heavy resistance. As the leading tank platoon was unable to overcome the resistance, it continued to develop the situation, and reported the disposition and strength of the enemy to the company team commander. The leading platoon, in this case, covers the deployment of the remainder of the team. The company commander has the leading platoon continue to fire from its deployed position while the remainder of the team maneuvers. Artillery, air strikes, nuclear fires if appropriate, and mortar fires are requested to support this type of operation. Forward observers are usually present with the team, and supporting fires are included in the plan of attack. The next higher commander may order the resistance to be bypassed, or the team may be required to block or hold the enemy for the maneuver of the battalion task force. If the leading platoon leader or team commander desires to bypass resistance, he must obtain permission from the next higher commander.

140. Attack From March Column—Reduction of a Roadblock

a. Most roadblocks will be located at narrow defiles where maneuver is difficult and normally

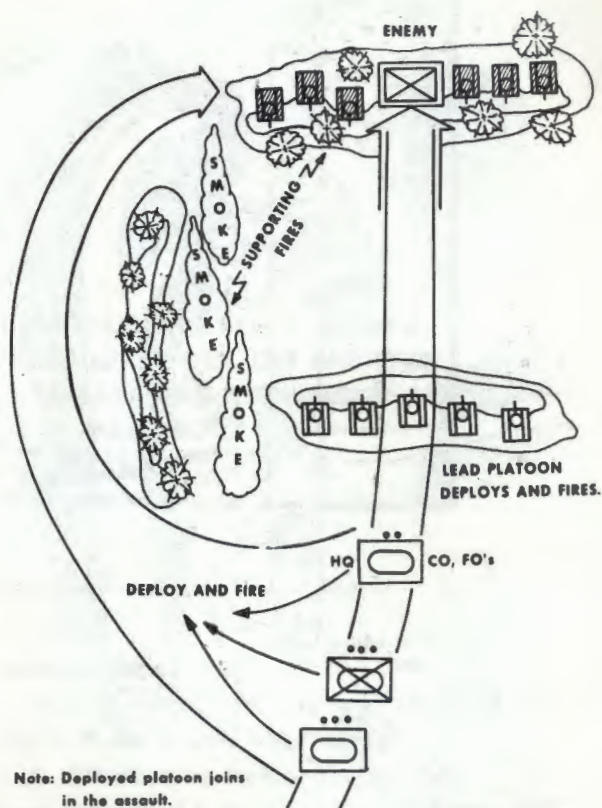


Figure 76. Attack from march column against heavy resistance.

will be defended by antitank guns, mines, and automatic weapons. The leading tank platoon leader makes a quick estimate and seeks to envelop the roadblock by employing the basic principle of fire and movement. All possible fire is brought to bear on the roadblock and its defenders. If tank maneuver is not possible, he deploys, takes defenses of the roadblock under fire, and reports to the company commander. In many cases mechanized infantry or infantry, along with any accompanying engineers, will be required to reduce the roadblock, with the tanks supporting by fire. Fire support will be requested. No attempt should be made to overrun an obstacle with tanks; it may be mined and booby trapped. However, once the task of removing barriers at the obstacle begins, tanks and tank dozers may be used to remove bulky objects such as logs.

b. Figure 77 shows an attack of a roadblock by a tank company team. The leading platoon

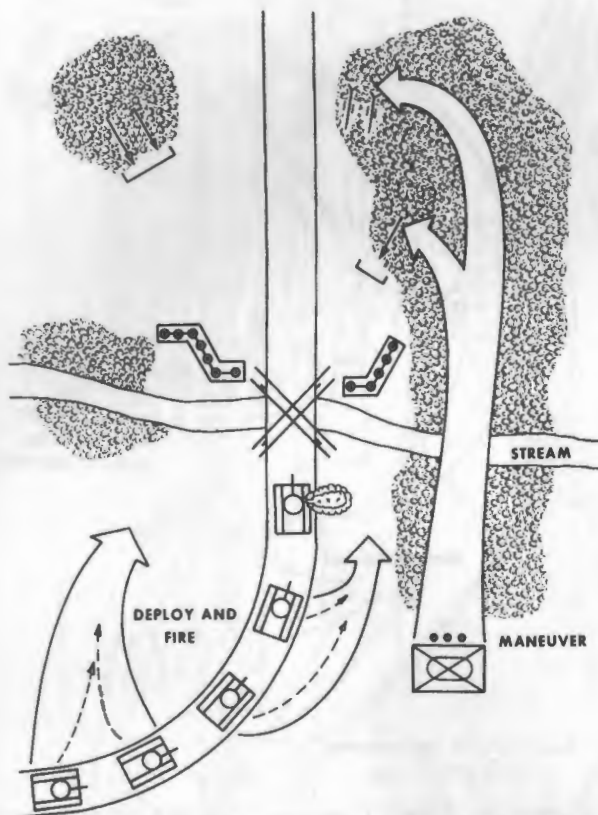


Figure 77. Attack from march column to reduce a roadblock.

141. Continuation of the Exploitation During the Night

To exploit success to the fullest, the advance is continued throughout the night. A night advance is conducted in generally the same manner as a daylight advance; however, security forces are strengthened, the distance between vehicles is shortened, and the leading tank elements are more heavily reinforced with mechanized infantry. When enemy resistance is encountered and it is necessary to attack, the attack will be conducted in accordance with the principles set forth for night operations (FM 17-1). The rate of advance is usually slower at night, and supporting fires are less effective, but there is a better chance of gaining surprise.

142. Pursuit

Pursuit is a phase of exploitation to capture or destroy a specific body of enemy troops. The enemy troops may be static or moving, and the pursuit force must orient its movement on the enemy concentration. Divisions or brigades may be simultaneously assigned pursuit missions and missions of taking physical objectives. However, battalion-size units normally executes only one of the missions at a time.

143. Conduct of the Pursuit

a. Contact with the enemy must be gained and maintained. The employment of Army aircraft facilitates command and control and provides observation of the enemy's movements and early warning of substantial buildups. Air cavalry units assist ground units by conducting reconnaissance and security operations and destroying hostile ground elements within their capabilities. Available Air Force aircraft provide column cover, destroy enemy elements, and provide information.

b. Pursuit is accomplished by the use of two distinct forces—direct-pressure force and envelopment force. A direct-pressure force exerts heavy pressure on the enemy. This force drives in or envelops the enemy's covering forces or rear guards, forcing the enemy's main body to halt and deploy to defend itself. At battalion level there is a little difference between pursuit

was proceeding along the road in column. When it approached the stream, it encountered a roadblock that was covered by antitank guns and automatic weapons. The platoon leader made a quick estimate, determined that he could not move forward, and reported to the company commander. In this instance, the terrain prevents the tanks from enveloping the enemy position; they support by fire, along with available mortars and artillery, the maneuver of the mechanized rifle platoon. The mechanized infantry platoon maneuvers dismounted through the woods and closes with the enemy. The tanks and artillery then lift or shift their fires according to a prearranged plan or on order of the attacking mechanized infantry platoon leader. Once the enemy is either destroyed or dispersed, the mechanized rifle platoon and supporting engineers assist the tanks over or around the obstacle and the company continues on its mission.

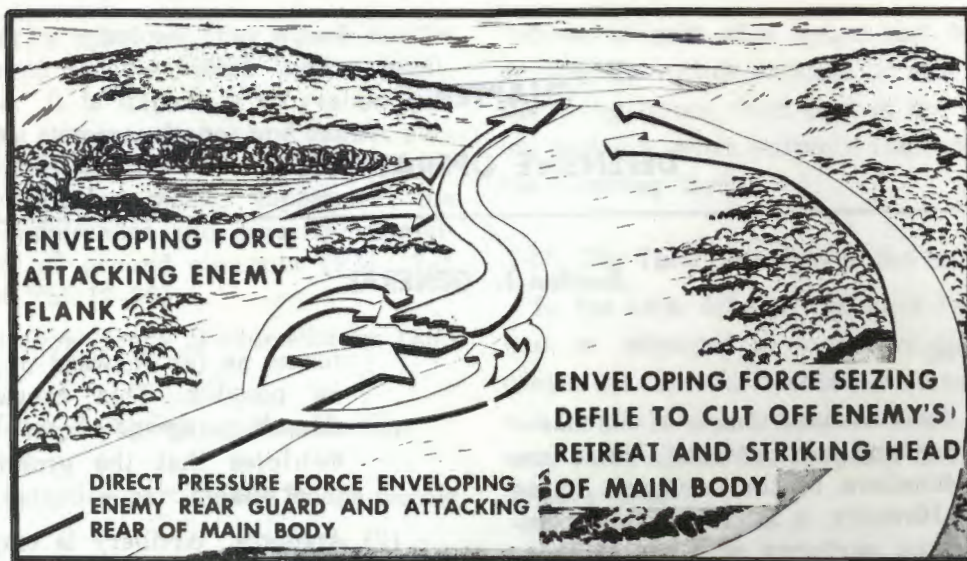


Figure 78. Actions of the direct-pressure force and enveloping force in pursuit.

and other phases of exploitation; at platoon level, there is almost none.

c. The mission of the envelopment force is to get in the rear of the enemy, block his retreat, then attack to destroy him in conjunction with an attack by the direct-pressure force. When terrain and tactical conditions permit, the encircling force advances along routes parallel to the enemy's route of withdrawal to reach critical points—defiles, bridges, etc.—before the arrival of the enemy's main body. However, when the enemy cannot be outdistanced, the envelopment force may strike the enemy's flank. A detailed discussion is contained in FM 17-1.

144. Additional Considerations in the Offense

See FM 17-1, for a detail discussion of—

- a. Tank sweeps.
- b. Counterattacks.
- c. Raids.

d. Night attacks.

e. Employment of the tank-mounted searchlight in battlefield illumination.

f. Attack of a fortified area.

g. Attack of a built-up area (street fighting).

h. Attack of a defile.

i. Attack in woods.

j. Attack of a river line.

k. Minefield breaching (includes actions upon encountering mines).

l. Employment of armor in conjunction with airmobile and airborne operations. See FM 7-11 and FM 7-20 for discussion of infantry in airmobile and airborne operations.

m. Jungle operations.

n. Desert operations.

o. Operations in deep snow and extreme cold.

p. Mountain operations.

q. Stability operations.

r. Envelopment.

CHAPTER 7

DEFENSIVE OPERATIONS

Section I. GENERAL

145. General

a. There are two basic forms of defense—mobile defense and area defense. There are various combinations of the two basic forms (FM 17-1). However, a tank battalion, company, or platoon performs only one of three tasks regardless of the form of defense adopted by higher headquarters—defense of specific terrain; participation in a counterattack; or delay. For a discussion of the forms of defense, see FM 17-1.

b. The commander organizes and conducts the defense through application of the following basic considerations as discussed in FM 17-1:

- (1) Proper use of terrain.
 - (2) Security.
 - (3) All-round defense.
 - (4) Defense in depth.
 - (5) Responsiveness.
 - (6) Dispersion.
 - (7) Maximum use of offensive action.
 - (8) Antitank and antimechanized defense plans.
 - (9) Integration and coordination of defensive measures, including—
 - (a) Fire planning.
 - (b) Barrier planning.
 - (c) Mutual support.
 - (d) Surveillance planning.
 - (e) Counterattack planning.
 - (10) Time and space.
 - (11) Defense against air attack.
- c. Combat support in defense operations.
- (1) *Air Support.* Close air support is used to assist engaged units, to attack enemy forces along the FEBA and to attack enemy armor and mechanized

forces as far forward of the FEBA as possible. This causes attrition thus reducing the number of armored vehicles that the ground elements must defeat.

- (2) *Artillery.* Artillery is employed well forward to take the enemy under fire at extreme ranges and force his early deployment. Fires are planned to interdict enemy avenues of approach, deliver harassing fire, destroy enemy formations, and provide continuous fire support throughout the operation (FM 17-1).
- (3) *Engineer.* Necessary engineer support normally will be placed in direct support of, or attached to, the tank battalion. Engineers prepare demolitions and create barriers within the battalion area of operations. Emphasis is placed on slowing and halting the advance of enemy armor and mechanized forces (FM 17-1). Nuclear demolitions are integrated into the obstacles system as required (FM 17-1).
- (4) *Army Aviation.* Tank units are provided Army aviation support as required. Army aircraft are used for command and control; to extend ground reconnaissance and surveillance capabilities, and adjustment of artillery and mortar fires; and for casualty evacuation and resupply (FM 17-1).
- (5) *Air Cavalry.* Air cavalry is employed to augment the reconnaissance and surveillance effort and to increase the security of the maneuver elements. While performing reconnaissance or

security missions, they attack hostile ground targets within their capabilities. It is important to realize that these elements do not and cannot perform in the role of tactical Air Force aircraft, but merely supplement the reconnaissance and security capabilities of ground elements (FM 17-1 and FM 17-36).

- (6) *Battalion Heavy Mortar Platoon* (app II).

146. The Tank Battalion in the Mobile Defense

The tank battalion participates in the mobile

defense as part of a larger unit that is conducting the mobile defense. It may be part of the fixing forces, form part of the reserve, or, on occasion, when suitably reinforced, act as the covering force.

147. The Tank Battalion in the Area Defense

In the area defense, the tank battalion can best be employed as a reserve for a higher command. The tank battalion normally should not be assigned a sector to defend. It may be used to reinforce the brigades in the forward defense area.

Section II. BASIC CONSIDERATIONS FOR THE ORGANIZATION OF THE DEFENSE

148. Organization of the Ground for Defense

Measures for increasing the effects of fire and maneuver take precedence over all other work in the defense. The ground is organized to assist in bringing accurate fire on the enemy while avoiding his fires, and to impede enemy movement while facilitating that of friendly elements. Camouflage is used at every opportunity, with emphasis given to concealment from the air. Every effort is made to take advantage of natural cover and concealment. Normal priority of work is—

- a. Clearing of fields and preparation of counterattack routes.
- b. Preparation of defensive positions.
- c. Strengthening of the defensive position.
- d. Preparation of routes for supply and evacuation.
- e. Establishment of a communication system, with emphasis on warning of enemy approach.

149. Clearing of Fields of Fire and Preparation of Counterattack Routes

The clearing of fields of fire and preparation of counterattack routes receives first priority. Weapons are located in positions where they can best place effective fire on the enemy; sectors of fire are cleared. A reconnaissance is conducted based on tentative counterattack

plans to determine the requirements for the preparation of routes to permit the rapid movement of counterattacking forces.

150. Preparation of Defensive Positions

a. The battalion commander assigns defensive positions or sectors to his companies or company teams. When positions are assigned, the battalion commander may also designate such supplementary positions as necessary for the execution of the battalion task force scheme of defense. Each company or team commander then reconnoiters his assigned position or sector and, on the basis of that reconnaissance and all available information, locates his platoons to cover avenues of approach into his position or sector. Successive reconnaissance by lower unit commanders results in fixing the exact location of the smallest units and their weapons (fig. 79).

b. Each unit improves its defenses as soon as the position is occupied. It clears fields of fire where necessary. Primary and alternate firing positions are selected for each tank and crew-served weapon. In the construction of obstacles, priority is given to the most likely avenues of enemy approach (fig. 80).

- (1) *Primary firing position.* The primary position is the best available position from which the mission can be accomplished. The platoon leader designates

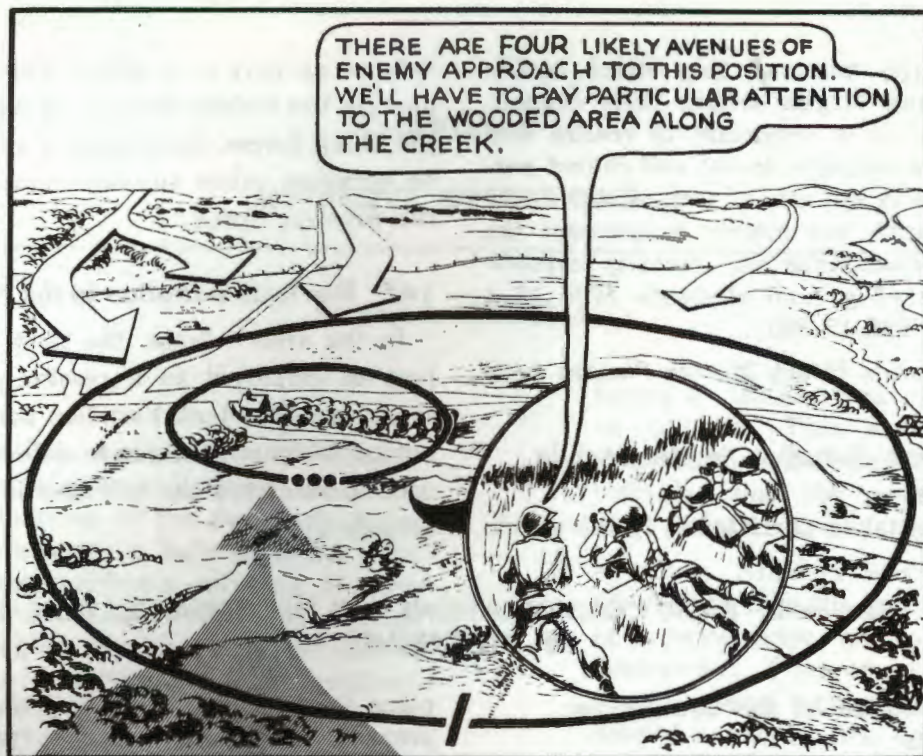
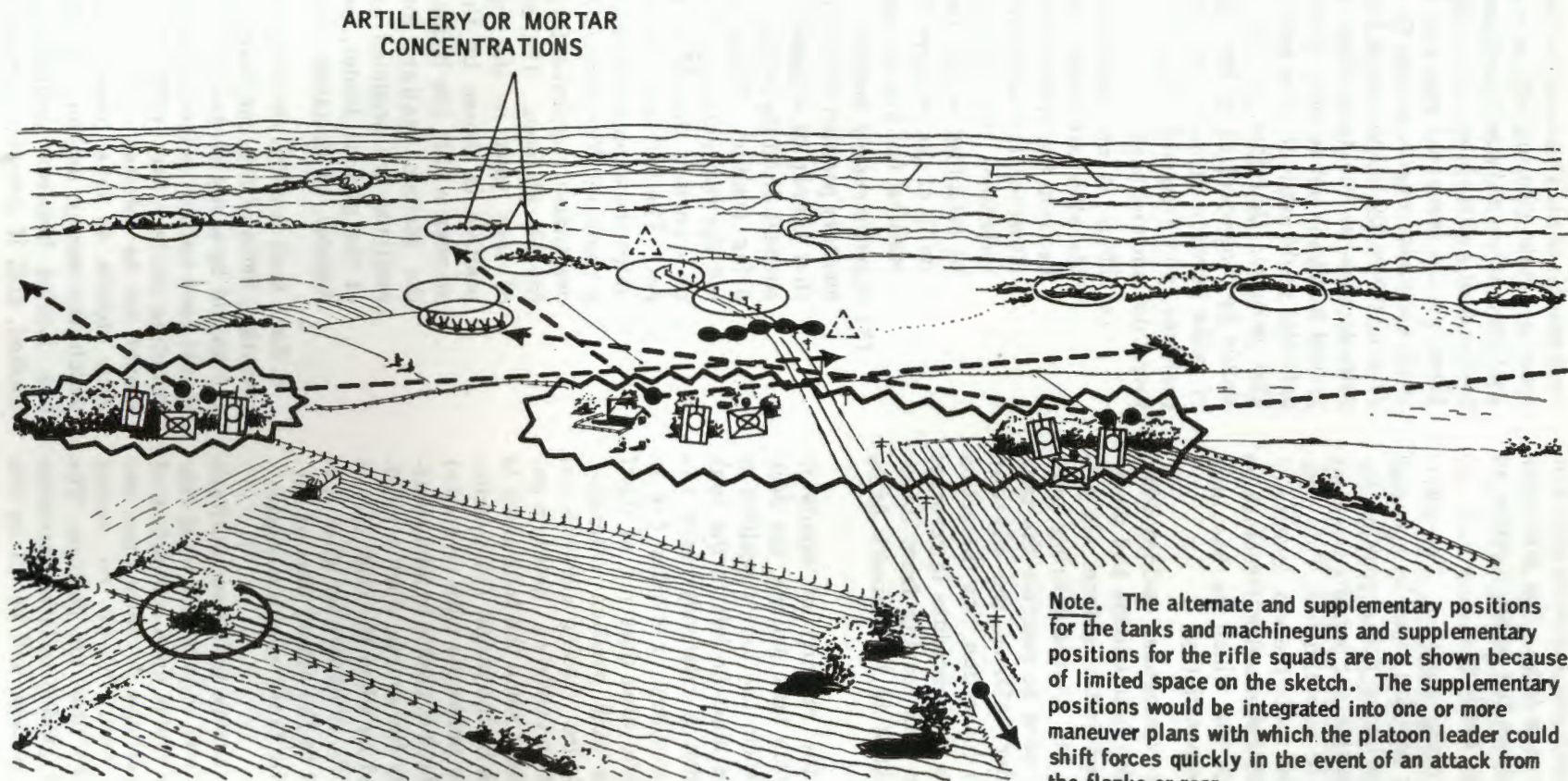


Figure 79. Commanders conduct reconnaissance, select positions, and plan the organization of the position.



Note. The alternate and supplementary positions for the tanks and machineguns and supplementary positions for the rifle squads are not shown because of limited space on the sketch. The supplementary positions would be integrated into one or more maneuver plans with which the platoon leader could shift forces quickly in the event of an attack from the flanks or rear.

Figure 80. Organization of the position.

a general area and a specific direction of fire for each tank. The tank commander selects the exact location of his primary position.

(2) *Alternate firing position.* The alternate firing position is to be occupied when the primary firing position becomes untenable, yet permits the same mission to be accomplished. This position, and the route thereto, is selected by the tank commander. It must be in the area for which he has been assigned responsibility.

(a) The tank commander decides when his position is untenable and moves on his own initiative from his primary to his alternate firing position. As soon as possible the tank commander informs the platoon leader of his action. As the action continues the procedure is reversed with the tank moving from its alternate back to its primary firing position.

(b) Due to the rapidity of events in tank versus tank actions, the decision of when the tank's position is untenable must be left to the tank commander. A relatively heavy volume of artillery or mortar fire in the general area does not of itself render a tank position untenable. Antitank fire using conventional ammunition renders a position untenable only when the tank itself is known to be the target (by proximity of the projectile path or strike) and the tank is unable to immediately destroy the source. Such a situation could be when the tank cannot pinpoint its adversary or when it is subjected to the aimed fires of several hostile tanks simultaneously.

(b.1) Against an enemy that uses antitank guided missiles, the tank commander must consider his position untenable upon completion of each engagement (perhaps no more than two or three rounds), even though no enemy rounds have impacted near his position. The accuracy of antitank guided missiles increases the probability that a tank will be hit by the

first missile fired. The more rounds a tank fires from a single position, the more likely it is that the tank will be acquired and in turn hit by the first antitank guided missile fired at it. However, the comparatively slow speed of the antitank guided missile allows the tank to take evasive action by withdrawing behind the terrain as soon as the tank fires. The antitank guided missile is not so slow, however, that the defender could evade it after seeing it in flight. The defense, therefore, in its early stage, should be characterized by frequent movement of tanks between primary and alternate firing positions, and frequent changes from hull to turret defilade and back.

(c) There is no specific distance that the alternate firing position should be from the primary firing position. However, the tank commander must remember that his adversary will be scanning within the close proximity of the primary firing position waiting for him to reappear.

(3) *Supplementary position.* The supplementary position is for firing on targets that cannot be engaged by a tactical element from its primary or alternate firing position. These positions permit the reorientation of the unit's fire or a portion thereof to the flanks or rear. The battalion commander designates the supplementary positions for a company. The company commander designates supplementary positions for his platoons. The exact location of each tank in the supplementary position is chosen by the tank commander within the limits specified by the platoon leader. Supplementary positions are occupied only on order of the platoon leader, company commander, or battalion commander.

c. Each tank position should possess good observation, fields of fire, concealment, and cover, and should be easily accessible. These positions should have natural protection from enemy fire including nuclear fires (FM 17-1). Positions should not be selected close to landmarks or such objects as lone trees or chimneys, on which the enemy artillery is likely to place fire. Routes between positions are selected, marked, and, if necessary, improved.

d. Range cards are prepared for appropriate weapons at all positions. When time permits, tank commanders and gunners reconnoiter the terrain within range of their weapons, actually ranging to select reference points along probable routes of enemy advance. This tends to insure that effective fire can be delivered in smoke, darkness, and fog. Artificial obstacles should be sited to protect the positions and to force the advancing enemy under the flanking fire of the defender's tank guns. For further discussion, see FM 17-1 and FM 17-12.

e. Infantry elements erect necessary camouflage to conceal their activity, site their weapons along principal directions of fire, and dig in; they are prepared to fight in any direction.

f. Command posts, mortars, and combat support units are normally incorporated within the defensive positions for protection. They should be located in concealed, defiladed positions.

g. The armored personnel carriers provide

mobility, increased means of radio communication, and tactical supply and evacuation. Their vehicular machineguns provide additional firepower for the defense. The armored personnel carriers are integrated into the all-round defense of the position.

h. For additional detail and discussion related to strengthening the position, use of mines, chemicals, preparation of routes for supply and evacuation, command and control, and fire planning, see FM 17-1.

151. Defense by a Tank Battalion in a Perimeter

a. In the conduct of offensive, defensive, or retrograde operations, it may become necessary for a tank battalion task force to establish a perimeter to defend itself. The task force commander analyzes the factors of METT (mission, enemy, terrain and weather, and troops available). He then assigns sectors to his company teams. He should maintain a tank-heavy reserve so located that it can move quickly to any part of the defensive system.

b. The company teams organize dominating and key terrain in their assigned defensive sectors. They establish their positions in the defensive area to provide the reserve adequate room for maneuver. Freedom of maneuver for the reserve is essential.

c. Company teams assigned defensive sectors normally must defend extended frontages. As a result, they must organize their positions to insure complete domination of likely avenues of approach into their sectors. Each company assigned a sector of the perimeter defense establishes a security force. These forces are disposed on the exterior of the perimeter to prevent surprise attack by providing early warning of enemy approach. The distance at which this security force operates in front of the defensive positions depends upon the enemy and terrain. The battalion reconnaissance platoon may operate forward of company security

forces providing observation over routes leading to the perimeter, be integrated into the security echelon designated by the task force commander, or may be attached to a company occupying the perimeter. If used in a security role, the platoon may be made a part of the reserve upon withdrawal into the perimeter.

d. The task force commander, in determining how much of his force to employ in the establishment of the position and how much to keep out as his reserve, considers the enemy situation, the terrain and weather, the strength and condition of the companies, and the mission of the task force. Normally, the reserve is tank-heavy, and the bulk of the infantry is placed on the perimeter.

e. The headquarters elements of the battalion are located in the least vulnerable position within the defensive position, preferably in defilade for protection from direct fire.

f. The fire support plan includes all available fire support. The tank battalion task force on an independent mission may have artillery attached. The artillery is located where it can best support the perimeter.

g. Medium range radars are positioned to cover avenues of approach in accordance with the battalion surveillance plan developed by the battalion S2 (FM 17-1).

h. The forces on the perimeter make every effort to stop an enemy attack. If the perimeter is penetrated or is on the verge of being penetrated, the reserve may be committed to attack the enemy force. If the counterattack is successful and the enemy threat is eliminated, the perimeter is maintained as originally established. If the counterattack is not successful, it may be necessary for the task force commander to order that sector of the perimeter under attack to withdraw to previously prepared supplementary positions to regain freedom of maneuver for both the forces under attack and the reserve.

Section III. MOBILE DEFENSE

152. General

a. Elements of the mobile defense consist of security forces, fixing forces, and the reserve (FM 17-1 and FM 17-30).

b. The success of the mobile defense depends upon timely and accurate information of the enemy, and the ability of forces within the defense area to move rapidly. Aggressive re-

connaissance is conducted to determine the strength, composition, direction, and time of the enemy attack, and all information pertinent to the area of operation. Security is of vital importance in the mobile defense; units must not be surprised or prematurely engaged. All commanders must take positive action to insure that communication is maintained and that their units are prepared at all times to move rapidly to support the scheme of defense.

153. Tank Battalion Task Force as a Security Force

When a division is conducting a mobile defense, the division's armored cavalry squadron normally is assigned the covering force mission. If the situation requires, however, a tank battalion task force or brigade may be assigned this mission. When so employed, the battalion is normally assigned a covering force mission forward of the FEBA. To accomplish such a mission, the tank battalion must be reinforced with mechanized infantry and engineers, and be supported by artillery, Army aviation, and air cavalry. The battalion task force organizes company teams to operate across the extended front common to this type mission. Once organized for combat, the battalion task force conducts a covering force operation as discussed in paragraph 96 and FM 17-1 and FM 17-36.

154. Tank Battalion Task Force as Part of a Fixing Force

a. The plan of defense is based upon the plans developed by higher headquarters. After studying the terrain and reconnoitering the area, the battalion task force commander develops his plan of defense (fig. 81). It includes plans to deny key areas within his battalion task force sector. These plans include the selection of blocking positions critical to his plan of defense and company team counterattacks to insure retention of the positions. Based on the size, number, and location of the blocking positions, the terrain, the troops available, and the counterattack plans, the commander determines the assignment of sectors and blocking positions and the composition of company teams.

b. The battalion task force commander indicates to his company team commanders the general trace along the forward edge of the battle area (FEBA) to be organized by the company teams and designates company sectors within which blocking positions may be designated to be occupied initially or on order.

c. If the width of the sector and the terrain permit, the battalion task force commander selects a disposition that will provide depth to his defensive sector. This is accomplished by placing one or more company teams in depth. A tank battalion as part of the fixing force does not normally hold a reserve.

d. The battalion task force commander, in organizing his task force for combat, normally assigns tank-heavy teams in sectors favorable to hostile armor approach, and mechanized infantry-heavy teams in sectors to cover likely avenues of dismounted enemy approach. Terrain within the task force sector may favor balanced teams. The battalion heavy mortar platoon is employed in general support to provide fire support across the front of the battalion task force sector and at maximum range in front of the FEBA.

e. The battalion task force commander next considers the security of his task force during the organization and preparation for the defense. The battalion scout platoon and company teams in the forward defense area establish observation posts to the front of the forward defensive positions. Communication is established between the observation posts and the forward company teams. Patrols and observation posts are established as necessary to the flanks to insure security for the battalion formation.

f. Ground surveillance radars are sited to cover probable avenues of enemy approach. See paragraph 52 and FM 17-1.

g. To preserve security during the organization of, and preparation for, the defense, and to insure that the battalion task force does not present a nuclear target, the task force commander may assign company team assembly areas for the initial movement of his teams into the forward defensive area. The assembly areas are normally well forward in the

company team sectors, and are located where ground masses provide maximum protection from enemy weapons. The assembly areas are used as bases from which the company teams organize and prepare assigned blocking positions and their initial defensive positions. The assembly areas should provide maximum cover and concealment and permit rapid movement to assigned positions.

h. Counterattack plans are developed concurrently with the organization of blocking positions and initial defensive dispositions. Battalion task force counterattack plans are made to accomplish the fixing force commander's plan of defense. Control measures outlined in paragraph 158*b* are designated for each counterattack plan.

i. Certain blocking positions may be used as supplementary positions from which the enemy can be engaged if penetrations or attacks from certain directions occur. The scheme of defense also includes the use of blocking positions from which units therein can support by fire, or conduct limited-objective attacks against enemy forces that threaten another position.

j. The battalion task force command post (less command group) is located to the rear, where it will receive protection by the tactical disposition of the company teams. Elements of the division artillery may be located within the battalion task force area. Liaison and communication are established with such elements, and the location of the artillery units is coordinated with the dispositions of the company teams. The battalion combat trains are located in the general area of the battalion task force command post; all vehicles not essential to the immediate defense are organized into field trains and located with the brigade trains.

k. The battalion task force may be assigned a position in depth within the forward defense area or may be designated as the brigade reserve when the brigade is defending during the mobile defense (FM 17-30) may be designated as the brigade reserve. In such a case, the battalion task force may be assigned any one or a combination of the following tasks to support the fixing force commander's plan of defense:

- (1) Act as a counterattack force for the fixing force.
- (2) Cover the withdrawal of forward troops.
- (3) Delay to prepared blocking positions to support the counterattacks by the division.
- (4) Deny key terrain within the forward defensive area.
- (5) Be prepared to join the division reserve in the conduct of a counterattack.

155. Organization of the Company Team Sector as Part of Fixing Force

a. When the company team commander receives the battalion task force commander's plan for the defense, he coordinates the team's movement into the initial assembly area. As soon as possible, he makes a reconnaissance of his area to develop his plan for the defense (fig. 82).

b. The company team commander develops his plan to support the battalion task force scheme of defense. This includes selection of routes, lines of departure, task organization, and initial formations for each counterattack plan and the organization of each blocking position as required. In addition, the company team commander studies the terrain to determine the plan of defense of his initial position. This may include occupation of defensive positions to defend the FEBA, limited counterattack, or delaying back to a blocking position selected by the battalion task force commander. Each route is reconnoitered by key commanders, and movement is rehearsed if time permits.

c. Positions for platoons are selected in each defensive position to provide long-range fires and be mutually supporting. Tanks are located to provide long-range fires; mechanized infantry are dismounted and located to protect the tanks from tank-killer teams and to cover likely avenues of dismounted enemy approach. Sentinels are located to the front and flanks to provide local security. Routes to supplementary positions are reconnoitered, and the task organization for the occupation of each blocking position in the sector is determined.

d. The plan of fire support is developed. Range cards are made for tanks and appropri-

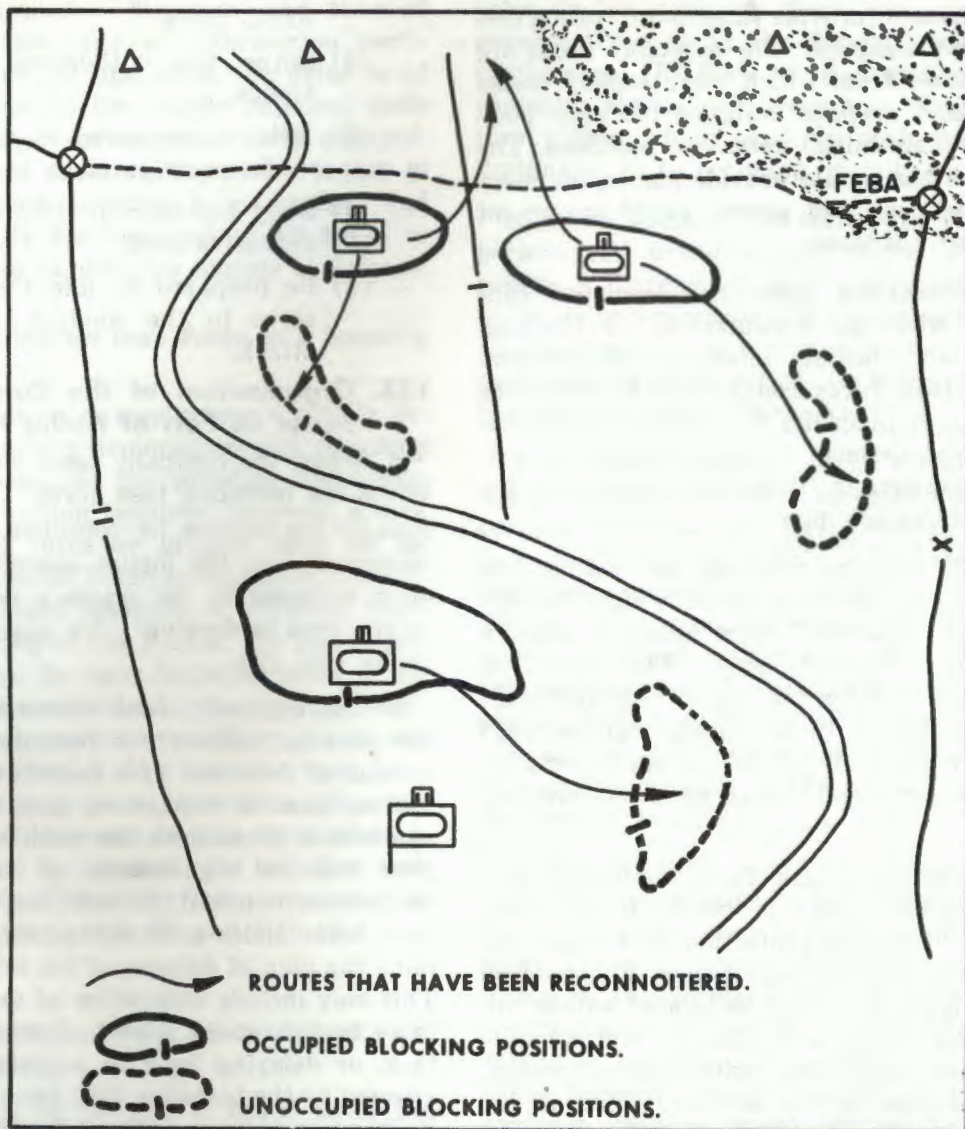


Figure 81. Example of a battalion task force organization of a defensive sector.

ate weapons for other positions. Overlays are made and submitted to the battalion task force commander, showing the organization and planned fires for the initial position and for each blocking position within the company team sector. Illumination plans are made as required.

e. Blocking positions normally are selected on key terrain. The company team commander may delay occupation of the position until the enemy has advanced to a point where his employment of a nuclear weapon against the

blocking position would also endanger his force. The bulk of the company team may be located in a company team assembly area or other covered position that permits rapid movement into the blocking positions.

f. Terrain is normally the primary factor that influences the method of employing platoons of a tank company team. A team commander may be able to organize his entire team on one terrain feature, or he may be forced to assign platoons to separate terrain features. Thus, a company team could have three sep-

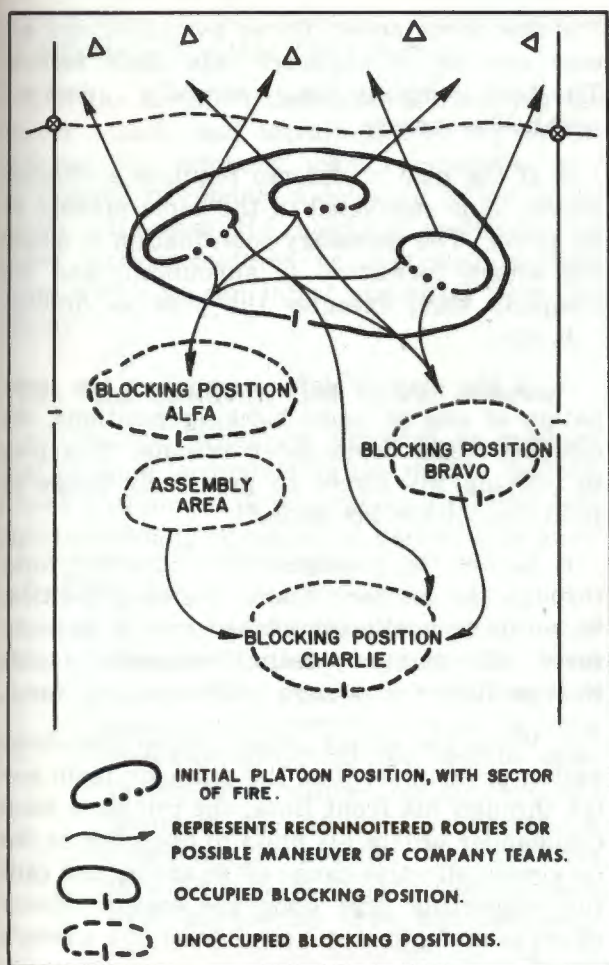


Figure 82. Example of company team organization of defensive sector.

arate platoon positions within the team position. Further, it may have one platoon occupying one terrain feature while the remainder of the team occupies another terrain feature. In some instances, due to the nature of the terrain and width of sector, platoon positions may be out of immediate fire support range of other elements of the company team. Mutual support by movement between platoon positions is essential; mutual support by fire is desirable. To be considered mutually supporting by fire, each platoon must be able to give some assistance by fire to an adjacent platoon under attack without movement from its position.

g. Based on the plan of defense, the company team may be required to prepare one or more supplementary blocking positions to

which it can move against enemy forces threatening another unit of the battalion. These blocking positions must provide for mutual support by movement to the assistance of the threatened unit, supporting it by fire, reinforcing it, or counterattacking the enemy force.

156. Conduct of Battalion Task Force, Fixing Force Mission

a. As early as possible, depending upon the development of the situation by the covering force and actions of the enemy attacking force, the brigade commander informs the battalion task force commander of the brigade's plan of defense. This plan may be any or a combination of the following:

(1) A tank sweep (FM 17-1) to destroy advancing elements of the attacking enemy.

(2) Stop and fix the enemy in front of the FEBA for a counterattack by the division reserve or for a nuclear strike.

(3) Have one or more battalion task forces stop and fix the enemy in front of the FEBA for a counterattack by one or more battalion task forces.

(4) Have one or more armored battalion task forces delay back to prepared blocking positions, and be prepared to assist the division reserve counterattack.

b. If the scheme of defense is a counterattack by the brigade, the brigade commander designates the counterattack plan to be executed or develops a new plan based upon the enemy's action. The battalion task force commander insures that his companies remain mobile and prepared to execute the counterattack.

c. If the scheme of defense is to stop and fix the enemy in front of the FEBA, the task force commander initiates his scheme of defense to accomplish this mission. One or more company teams may be ordered to defend key terrain while others conduct a limited-objective attack.

d. The observation posts adjust supporting fires on the enemy to slow or stop his attack. Army aircraft and air cavalry are used to locate enemy reserves behind the initial attacking formation and to seek targets for artillery and nuclear weapons. In addition, air cavalry engage hostile ground targets within their capabilities. The Air Force supports units in

contact and engages enemy armor and mechanized forces as far forward of the FEBA as possible to cause the maximum possible attrition, thus reducing the number of armored vehicles that the ground forces must defeat. When forced by enemy action, observation posts withdraw through the FEBA to assume new missions.

e. As the enemy attacking force comes within effective range of the defending force, supporting fires are delivered against the enemy to inflict maximum casualties. As contact is gained, the battalion task force commander initiates actions to stop, destroy, repel, and disorganize the enemy and to divert him toward an area suitable for his destruction. The enemy is kept under relentless pressure and is given no opportunity to establish himself in the battalion task force sector. Every effort is made to disorganize the enemy attack formation, to separate elements of his attacking force, and to upset his plan of attack.

f. When an attack is directed against the battalion task force sector, the commander seeks to retain his mobility to shift his firepower to the critical area. If certain blocking positions are in danger of being overrun, he may order forces on these positions to occupy supplementary positions. Company teams may be ordered to support blocking positions that are under heavy attack. This is accomplished by a limited-objective counterattack, supporting fire, or actual reinforcement of the forces on the positions.

g. As the attack increases in strength and the initial company team positions are in danger of being defeated, the battalion task force commander may be forced to conduct a delaying action, using the blocking positions selected in depth.

157. Company Team, Conduct of the Fixing Force

a. Within their area of responsibility, the company teams may resist the advance of the enemy by defense of key terrain, by counterattack, or delay of the enemy.

b. Company team commanders assign positions and sectors of fire to platoons based on

the task force order, forces available, and enemy avenues of approach into their sectors. The tank company team normally does not withhold a reserve.

c. If the plan of defense requires a counterattack, it is conducted in the same manner as an attack. The necessary coordination is made; the attack formation is announced, and the company team executes the plan as ordered (ch. 6).

d. If the plan of defense requires the occupation of one or more blocking positions, the company team commander executes this plan by moving his forces to previously prepared positions within his sector.

e. Before the passage of the covering force through the company team's forward position, liaison is normally established by the covering force. The company team commander assists in expediting the passage of the covering force.

f. When the enemy action forces the observation posts in front of the company team sector through his front lines, the company team commander orders his units to open fire at the maximum effective range of weapons, and calls for supporting fires upon the enemy. Every effort is made to stop and disrupt the enemy's attack.

g. As the enemy attack develops, the company team commander must be prepared to move on order to supplementary positions, conduct limited-objective counterattacks to relieve pressure on other blocking positions, or move to a position from which the company team can better engage the enemy.

h. Situations will exist when it is necessary to hold key terrain, and when there is a requirement for the company team to remain in a blocking position. In this situation, the company team conducts the defense as described for the area defense. Maximum effort is made to stop and disrupt the enemy attack before the enemy can assault the position. If the enemy succeeds in advancing to a position where he can assault, the commander calls for final protective fires in front of his position. The authority to call for platoon final protective fires is normally delegated to platoon leaders on the FEBA. During firing of the final pro-

tective fires, tanks continue to engage targets of opportunity within their sectors.

i. If the battalion task force is receiving the enemy attack, and terrain is not key to the defense, the company team commander may be ordered to conduct a delaying action in his sector. He uses the blocking positions and other terrain features as delaying positions from which he can inflict casualties upon the enemy.

158. Tank Battalion Task Force, Reserve

a. *General.* When the armored or mechanized division is conducting the mobile defense, a tank battalion task force given a reserve mission is normally employed as part of a brigade.

b. Plans.

(1) When a tank battalion task force is employed in the reserve, the task force commander prepares counterattack plans for the employment of his force based on orders of the brigade commander who outlines his concept and prepares the overall counterattack plans for the brigade. The battalion task force plans include control measures, supporting fires, and necessary coordination as discussed in FM 17-1. Control measures include but are not limited to—

- (a) Lines of departure.
- (b) Direction of movement denoted by axis of advance (arrow) or direction of attack (arrow) dependent upon the degree of control required.
- (c) Objective(s). Additional control measures, if required, may include attack positions and routes thereto, and boundaries.

(2) Final approval of the reserve's counterattack plans must be given by the commander conducting the mobile defense. After plans have been approved, key members of the battalion task force are made familiar with the plans and given an opportunity to reconnoiter the attack area. Enemy action seldom permits the reserve to execute its attack exactly as planned.

The tank battalion task force commander must be prepared to modify quickly any attack plan to insure success, regardless of what course of action the enemy follows.

c. *Reconnaissance.* Formulation of the attack plans should be preceded by a thorough reconnaissance of the attack areas designated by the commander conducting the mobile defense. The attack by the reserve should take place over terrain favoring the attacker. It should strike the enemy from the flanks or rear and pin him against an obstacle.

d. *Initial Locations of the Reserve.* A tank battalion task force employed with the reserve usually is positioned to add depth to the forward defensive area. The task force commander, as a matter of second priority to the completion of the counterattack plans, organizes a position on key terrain within his assigned area. However, no action is taken that would interfere with the rapid movement of the task force in implementation of any of its counterattack plans. The initial location of the reserve is determined by the next higher commander. Its location should facilitate the use of the best routes to any threatened point.

e. *Decision to Commit the Reserve.* The decision to commit the reserve is based to a large extent on the information furnished by the forward elements. When committed, the reserve attacks swiftly, and in mass, over previously reconnoitered routes, to hit the enemy with the maximum surprise, firepower, and shock effect.

f. *Conduct of the Counterattack.* When the reserve is committed, the reserve force commander assumes command of the area between his line of departure and his objective. After passage by the reserve, the mission of the fixing force may continue to be blocking, delaying or canalizing the enemy. The reserve is given priority of supporting fires and close air support during its counterattack.

159. Conduct of the Battalion Task Force, Reserve

a. At the decisive time and place, the reserve is employed in a counterattack role to

destroy the enemy. If possible, the counter-attack is launched before the enemy attack gains momentum. Once the enemy has been canalized into a preselected area and orders have been issued committing the reserve, all available fires are brought to bear on the enemy. Nuclear strikes may be used initially to destroy enemy forces. Close air support is used to attack enemy concentrations and to prevent its reinforcement.

b. Frequently it may not be possible to canalize the enemy into the preselected areas, but the action, as it develops, may create areas that facilitate destruction of the enemy.

c. Upon completion of a successful counter-attack, the battalion task force may return to a prearranged location or assume another mission.

d. In the event of a major penetration of the forward defensive area, the battalion task

force must be prepared to assume the mission of fixing forces while other elements of the division conduct a counterattack. The battalion task force must also be prepared to conduct a delaying action if the strength of the enemy attack makes such action necessary.

e. For details concerning the attack see chapter 6.

160. Conduct of Tank Company as Part of the Reserve

The company team commander must formulate his plans to support the battalion task force missions. Actual rehearsals are conducted when time permits. As a minimum requirement, key members of the team should make a map and ground reconnaissance of routes, attack positions when used, lines of departure, blocking positions, and objectives. For details concerning the attack, see chapter 6.

Section IV. AREA DEFENSE

161. Missions of the Tank Battalion in Area Defense

a. The area defense should exploit to the maximum the offensive capabilities of the tank battalion. In this type of defense, the tank battalion must be assigned missions where it can use its mobility and shock effect to the greatest possible extent under the existing conditions. These missions include—

- (1) Acting as the reserve for a larger force.
- (2) Forming a general outpost for a larger force.

b. In area defense, the tank battalion is best employed as the reserve. On occasions the battalion may be employed as part of the forces of the forward defensive area. When such instances occur, the battalion should be heavily reinforced with infantry.

c. Additional details of the area defense are contained in FM 17-1.

162. Security Forces, General

Security echelons consist of a general outpost and combat outpost. The general outpost

is established by the division commander. Combat outposts and local security are established by elements holding the forward edge of the battle area.

163. The Tank Battalion on a General Outpost Mission

The general outpost is normally organized and controlled by the division or higher commander. The mission of the general outpost is to obtain timely information of the location, strength, and activities of the enemy, to disorganize and delay his advance, and to deceive him as to the true location of the battle area.

a. Though an armored cavalry squadron is normally used for such a role, the tank battalion, reinforced with mechanized infantry or infantry, and air cavalry, and supported by engineers, artillery, and Army aviation, may be employed to form all or part of the general outpost for the division. The exact location of the general outpost is normally prescribed by the division commander.

b. When given a general outpost mission, the tank battalion task force commander makes a

personal reconnaissance of the position, supplemented by a map and aerial photo study. Based on the mission and reconnaissance, he makes his plans, including security measures, dispositions and frontages of troops on the position and on advantageous delaying positions in the rear, organization and coordination of fires, organization of the ground, means for deception and disorganization of the enemy throughout the action, and movement to successive positions in the rear. Extended frontages are covered by increasing the intervals between units; these intervals are covered by observation and fire.

c. Battalion actions during conduct of a general outpost mission are essentially the same as for a covering force mission. Unless the outpost is required to hold for a definite time, it begins its withdrawal to subsequent positions as soon as it is apparent that a superior enemy force is deployed for action and outposts are likely to become decisively engaged. The action upon each successive delaying position is designed to create as great a change as possible in the direction of the enemy attack, and to bring about the deployment of the maximum number of hostile units.

164. The Combat Outpost

The combat outpost is normally located on the first high ground in front of the forward edge of the battle area. It is normally far enough forward to deny the enemy close ground observation of the battle area. The elements of the combat outpost are usually furnished by the forward forces occupying the FEBA. If a tank battalion task force is given a sector along the FEBA to defend, a company team or the battalion scout platoon may be used as its combat outpost, or appropriate portions of the COP may be assigned to the company teams. The platoon may be reinforced if necessary. Artillery and other supporting fires usually are furnished to the combat outpost from firing positions in the battle area.

a. The combat outpost, within its capabilities, performs the same missions as the general outpost.

b. The combat outpost maintains contact with security forces to the front and flanks,

and with the forces in the battle area. Routes are reconnoitered and coordination is made for the rearward movement of the combat outpost through the forward defense area.

c. The combat outpost maintains contact with, and assists in covering the withdrawal of, the general outpost. It seeks early contact with the enemy to bring supporting fires upon his forces as they advance. The combat outpost withdraws on order of the commander controlling its actions; normally, it is withdrawn before it becomes involved in close combat with the enemy. The withdrawal is made by previously selected routes that do not interfere with fires from the battle area.

165. Organization and Functions of Battalion Task Force on the FEBA

The brigade or division commander confronted with an armor avenue of approach into his sector, may direct a tank battalion task force to defend a position in depth on the FEBA to maximize the use of the battalion antitank capability. The battalion commander makes a reconnaissance of the terrain and assigns company-size defensive areas along the FEBA. Boundaries are designated between company teams in the forward area. The defensive areas should be mutually supporting by fire if the terrain and the width of sector permit. The battalion commander designates blocking positions he deems essential for the accomplishment of his mission. A plan for organization of the ground, a plan of fire support, and a plan for surveillance are made. Communication is established between the combat outpost and the task force command post. Routes are reconnoitered, and coordination is made for the rearward movement of the combat outpost through the FEBA.

166. Conduct of the Battalion Task Force as Part of the Forces on the FEBA

a. The success of the area defense depends upon the retention of terrain, maximum application of firepower in front of the FEBA, and timely execution of counterattacks to destroy or eject enemy penetrations. The commander conducts the defense aggressively. The defense progressively disrupts and weakens

the enemy. The situation may require that certain ground be held regardless of the cost or risk involved; therefore, no commander may evacuate his position without approval of his higher headquarters.

b. Forces in the defense area engage the enemy at maximum effective range. As the enemy continues to advance within range of other weapons, the volume of fire is increased. If the attack is not disrupted by the close defensive fires and the enemy prepares to assault the position, final protective fires are delivered. Commanders may reinforce these final protective fires with the fires of additional weapons.

c. The tanks normally remain concealed in the vicinity of their primary firing positions, moving into them when the enemy attacks.

d. The tank positions, including alternate firing positions, should be located within occupied areas. In some cases, it may be necessary to extend the occupied area to include suitable tank positions. One of the advantages of the tank as an antitank weapon in the defense is its ability to move under small-arms and artillery fire.

e. For maximum coordination, flexibility, and control in area defense, tanks are not attached to units below company level.

167. Organization and Functions of the Reserve, General

a. The reserve is constituted from forces not required to hold the FEBA. The reserve is located on, or to protect, key terrain. It is positioned to block penetrations from the front and flanks. Counterattack plans are developed for possible penetrations by the enemy; counterattack plans are developed to strike the enemy in front of the FEBA or to the flanks. Objectives, routes, lines of departure, and directions of attack are selected for each counterattack plan. Key individuals reconnoiter the terrain covered by each counterattack plan. The reserve also prepares plans to reinforce frontline units or to cover the withdrawal of frontline units. The reserve should be tank heavy; however, its exact composition is determined after a study of the factors of METT. Depending upon the frontage assigned and the terrain, each unit in the area defense, from the company team through the division, retains a reserve whenever possible.

b. All available combat and combat support forces of the defenders may be used to participate in the counterattacks. Plans must be sufficiently flexible to permit the reserves of frontline battalion task forces to participate in the counterattacks.

c. Forces in the battle area not heavily engaged may be moved to supplementary positions from which they can deliver fires upon the flanks of the penetration. These forces may conduct limited objective attacks to seal off the enemy force in the penetration. Nuclear weapons may also be used to assist in blunting or to seal off an enemy penetration.

168. Conduct of Battalion Task Force as Brigade Reserve

A battalion task force may be assigned a reserve mission as part of a brigade. The task force commander studies the terrain and selects company team positions that block likely avenues of enemy penetration. After consideration of the factors of METT, he determines the task organization for each team. In locating and organizing his forces, he considers the counterattack plans developed by higher headquarters. Plans are developed to execute these counterattack plans. Supplementary positions are selected to meet enemy threats from the flanks, and each is reconnoitered and organized.

169. Conduct of Tank Company as Part of the Reserve

A company team may be designated as the reserve for a battalion task force or brigade. When a team is given such a mission, the higher commander designates its location. The reserve position is organized for all-round defense and normally permits the team to support forces on the forward positions by fire. Supplementary positions to the flanks are selected and organized. Plans are developed to carry out or support the counterattack plans of the task force, to reinforce forces on the FEBA, and to block enemy penetrations.

170. Tank Platoon in Defensive Combat

a. Whenever possible, tanks avoid disclosing their positions and hold their fire until the enemy tanks are within effective range of the

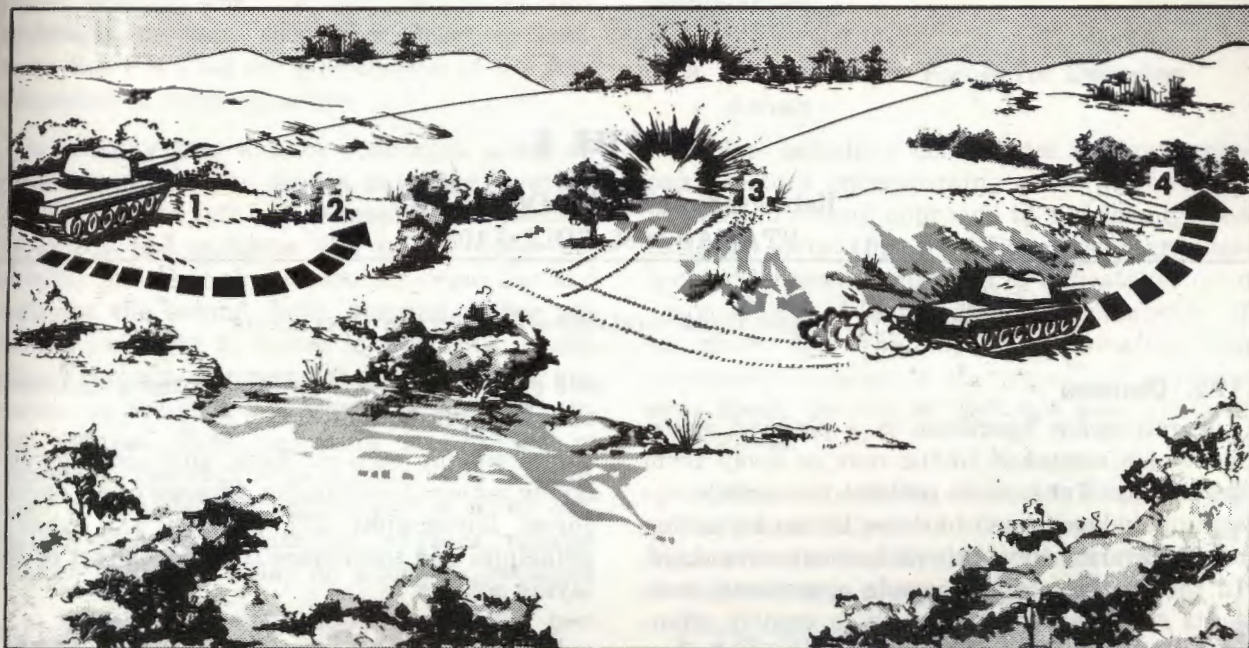


Figure 83. Individual tanks shift from their primary firing position to their alternate firing position and back as one or the other becomes untenable (para 150b).

main tank gun. Although their primary target is hostile tanks, they engage armored personnel carriers, enemy infantry, supporting weapons, hostile aircraft, and other targets as discussed in paragraphs 74 through 77.

b. The tank platoon leader controls the fire and movement of his platoon. Individual tanks shift from their primary firing position to their alternate firing position and back as they deem necessary (fig. 83). These shifts are made rapidly and the platoon leader must be kept informed. Supplementary positions are occupied only on order of the platoon leader. It is imperative that all positions and routes thereto be preplanned and reconnoitered as indecision or delay in moving from one firing position to another may result in unnecessary casualties. Once the direction of the hostile main effort is determined, the commander responsible for the defense of the position may direct the platoon leader to move most of his tanks to oppose it.

c. The tank platoon may be employed in conjunction with the mechanized infantry or in-

fantry battalion reserve, for small-scale counterattacks. Such an action is especially appropriate in situations where the enemy force consists almost entirely of infantry or when the accompanying enemy tanks have been destroyed.

171. Additional Considerations in Defense

See FM 17-1 for a detailed discussion of—

a. Defense applicable to—

- (1) Jungle, desert, and mountain operations.
- (2) Operations at defiles.
- (3) Limited visibility operations.
- (4) Stability operations.
- (5) CBR operations.
- (6) Rear area security operations.

b. Night combat techniques, mine warfare, use of obstacles, and employment of ground surveillance radar.

CHAPTER 8

Retrograde and Relief Operations STANAG 2088, SOLOG 108

Section I. Basic Considerations—Retrograde Operations

172. General

A retrograde operation is a planned movement of a command to the rear or away from the enemy. Tank units conduct retrograde operations when forced to do so by enemy action or voluntarily to obtain a tactical advantage. In the conduct of retrograde operations, tank units seize every opportunity to employ offensive actions in accomplishment of their mission, and they must be prepared to resume the offense when the situation becomes favorable for resumption of the attack.

173. Types of Retrograde Operations

There are three types of retrograde operations—retirement, withdrawal, and delaying action. See FM 17-1 and FM 61-100 for a detailed consideration of the types and purpose of retrograde operations.

174. Tank Units in Retrograde Operations

Tank units normally participate in retrograde operations as part of a larger force.

a. Retirement. The retirement begins after a unit has disengaged from the enemy and regained freedom of action; the operation consists primarily of a tactical road march (FM 17-1). (The material contained in the remain-

der of this chapter is limited to the withdrawal and delaying action.)

b. Delaying Action. Tank units conduct delaying actions to delay the advance of an enemy force. Paragraphs 177 through 185 contain principles and techniques for the conduct of delaying actions.

c. Withdrawal. Tank units conduct day and night withdrawals to regain freedom of action. Paragraphs 186 through 190 contain doctrine for the employment of tank units in withdrawals.

175. Combat support as discussed in paragraph 145c is also applicable to the delay.

176. Control Measures

a. Control measures used in retrograde operations include: phase lines, checkpoints, coordinating points, sectors, routes, and delay positions. (See FM 17-1 for a detailed discussion of control measures.)

b. In selecting control measures, the commander should allow maximum freedom of action at the small unit level; however, missions and details of execution will be more detailed than in other operations.

Section II. DELAYING ACTION

177. General

a. A delaying action is an operation in which maximum delay and damage are inflicted on an advancing enemy without the delaying force becoming decisively engaged in combat. *A unit is decisively engaged when it has lost its freedom of maneuver and no longer possesses the*

capability of initiating planned action by the introduction of firepower or maneuver at its echelon. The tank battalion, because of its mobility and armor-protected firepower, is well suited for a delaying action mission. When such a mission is given, the battalion usually delays on successive positions. Delay on successive po-

sitions consists of organized resistance on an initial position and the continuation of this resistance through successive delaying positions. See FM 17-1 for a discussion of the fundamentals of delaying action.

b. A delay may also be conducted using alternate positions. In such a case, the delaying force is divided into two elements. One element organizes and occupies the initial delay positions; the other simultaneously organizes and occupies the second delay position. When the forward element is forced to withdraw, it displaces through or around the rear element and moves to, occupies and organizes the next delay position. This procedure is repeated as necessary. The requirement for a reserve is fulfilled by the element not in contact. Tank battalions seldom operate on a front narrow enough to permit delay on alternate positions.

c. Tank battalion delaying positions normally are not organized in great depth. They are strong in firepower, with the bulk of the force concentrated forward on likely avenues of enemy approach. A tank battalion conducting a delaying action is divided whenever possible into two major echelons, the delaying force and a reserve. Companies normally do not designate reserves. The battalion commander controls the action by assignment of company sectors and phase lines, and by designation of battalion alternate or successive delaying positions. The basic considerations for the defense listed in paragraph 145b are also applicable to the delay.

d. FM 17-1 discusses planning and organization for the delay in detail.

178. Reconnaissance and Selection of Delaying Positions

A reconnaissance to select delaying positions is made as early as possible. Likely avenues of approach are located, and plans are made to deny their use to the enemy. In selecting delaying positions, the tank unit commander considers the same factors as those considered in selection of any defensive position. He selects positions affording long range fields of fire with routes suitable for withdrawal and lateral movement, and establishes priorities thereon. Additional delaying positions are selected be-

tween the delaying positions specified by higher headquarters.

179. Disposition of Forces for Delaying Action

a. The battalion commander assigns company sectors encompassing the most likely avenues of enemy approach to and through the battalion sector (fig. 84). Boundaries are designated between companies to indicate sectors of responsibility. Where possible, each avenue of approach and the terrain dominating the avenue are assigned to one unit. Each company zone should include at least one good route of withdrawal.

b. When a battalion reserve is designated it is located initially in an area from which it can block or move rapidly to any threatened point, or can execute a counterattack rapidly.

c. The battalion command post is located well to the rear, to avoid the necessity of frequent displacement and interference with the actions of the tactical elements of the battalion. The command group, however, should remain well forward with the engaged elements and should be among the last to withdraw. The combat trains are located to the immediate rear of the next delay position where they can effectively support the operation yet avoid interference with combat elements.

d. The company commander deploys his platoons to cover likely avenues of enemy approach into his sector (fig. 85). In a wide company sector with several good avenues of approach, all platoons may be used on line. However, whenever possible, at least one tank platoon should be positioned to provide some depth. This platoon differs from a reserve in that its primary function is to deepen the position by reinforcing the defenses of the forward platoons. Attached mechanized infantry or infantry elements are placed where they can best protect and support the tanks and cover parts of the sector not covered by other fires.

180. Task Organization of a Tank Battalion Task Force Conducting Delaying Action

a. A tank battalion conducting a delaying action normally has mechanized infantry or in-

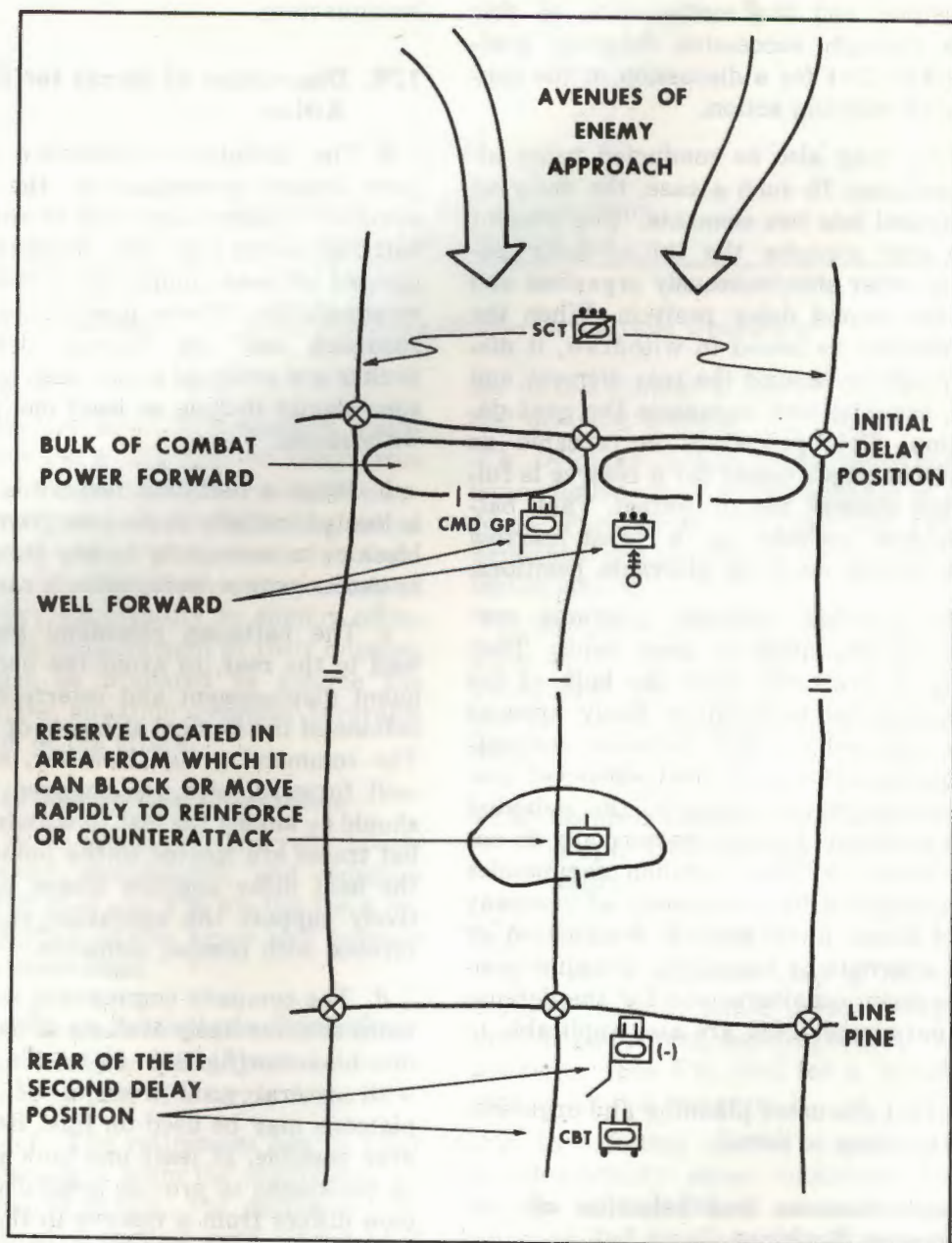


Figure 84. Tank battalion task force dispositions on a delaying position (schematic).

fantry attached. The resulting battalion task force may be either tank-heavy or balanced. A typical tank battalion task force may consist of two organic tank companies and a company of mechanized infantry. In turn, the organization of company teams by the task force commander is based on a consideration of the factors of METT. A company team may consist

of a company of tanks less one tank platoon with one or two mechanized rifle platoons attached. The task force reserve is normally tank-heavy, but must have sufficient mechanized infantry to operate effectively anywhere in the task force sector .

b. The battalion scout platoon may be re-

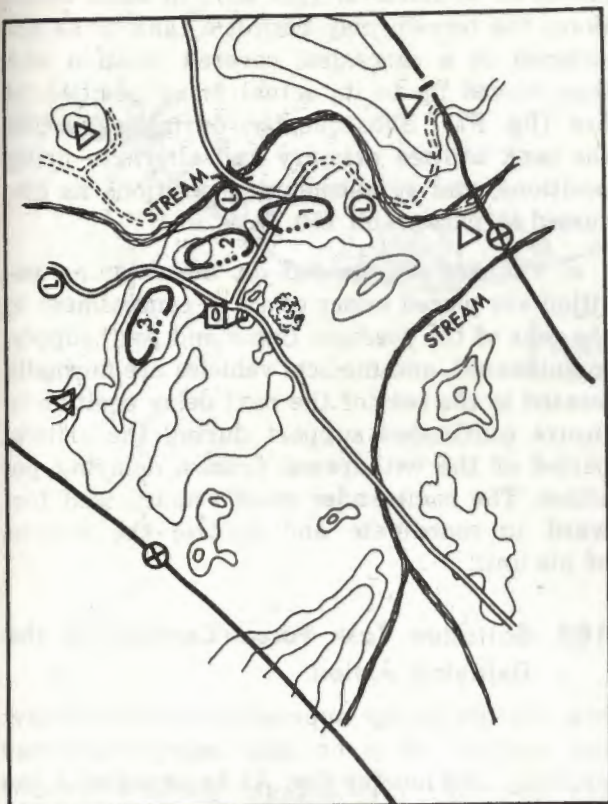


Figure 85. Tank company delaying position.

tained under task force control for the execution of such missions as flank guard or reconnaissance within the position or the rear. Sections, or squads when the battalion is operating on an extremely wide front may be attached to company teams, to conduct observation or patrol missions, or to assist in the reconnaissance of the next delaying position (app. III).

c. The battalion heavy mortar platoon normally is retained under task force control. In accomplishment of its mission, the platoon is positioned where it can best support the forward company teams.

181. Security in Delaying Action

a. *General.* During a delaying action, the enemy will make every effort to envelop and destroy the delaying force. The battalion task force commander must be particularly careful that the enemy does not turn his flank or surprise him in position. Continuous reconnais-

sance provides one of the best sources of security. Ground reconnaissance may be extended by ground radars, Army aircraft, and air cavalry. Close coordination between adjacent units is essential to avoid presenting an exposed flank to the enemy.

b. *Security to the Front.* If elements of the delaying force are not in contact with the enemy, action must be taken to prevent surprise of the delaying force and to provide early warning of enemy approach. The battalion scout platoon may be used as a security force forward of the company delaying positions. Observation posts are established to the front of delaying positions during daylight. These are replaced by listening posts at night. Routes from the position out to the observation post are chosen very carefully to avoid detection by the enemy.

c. *Security to the Flanks.* A tank unit on the delaying position must establish its own flank security by all-round observation, patrols, and contact with adjacent units. Careful reconnaissance enables the delaying force to locate avenues of approach the enemy is likely to use in an effort to envelop the delaying force. Leading elements of any enemy force attempting to advance along such avenues can be blocked or ambushed. When not otherwise used, the battalion scout platoon should be assigned the mission of screening an exposed battalion flank.

d. *Reference.* For additional details and discussion of control measures, combat support, employment of fires, and use of obstacles in the delaying action, see FM 17-1.

182. Occupation of A Delaying Position

a. The occupation of a delaying position by a tank unit is generally the same as for any defensive position. However, the commander places greater emphasis on engaging the enemy at maximum effective range and on disposing his forces so that he can efficiently execute the planned withdrawal to the next delaying position.

b. Basic factors to be considered for the occupation of a delaying position by a tank unit include—

- (1) Primary firing positions.
- (2) Alternate firing positions.
- (3) Supplementary positions.
- (4) Observation.
- (5) Long-range fields of fire.
- (6) Cover and concealment.
- (7) Hull and turret defilade.
- (8) Preparation of range cards.
- (9) Security (includes observation posts, patrols, ground surveillance radar, and use of infantry to protect tanks).
- (10) Coordination with other elements, including fire support.

c. Preparation of the position is continued as long as time permits. Primary and alternate firing positions are selected in the supplementary positions. Tank commanders familiarize themselves with the routes to these positions. Armored personnel carriers are placed in hull defilade and concealed; their cupola machine-guns are integrated into the fire plan. Anti-tank weapons are sited where enemy armor is most likely to appear in sectors assigned to the infantry.

d. Maximum use is made of crew-served weapons. The commander usually tries to position his tanks in hull defilade near the topographical crests of terrain features to obtain long-range fields of fire and access to covered

routes of withdrawal (fig. 86). In some situations, the terrain may permit a tank to be positioned in a concealed, covered location and then moved up to its actual firing position to fire (fig. 87). Subsequently, during an action the tank utilizes primary and alternate firing positions, and supplementary positions as discussed in paragraph 150.

e. Vehicles not needed on the delaying position are placed under cover or concealment to the rear of the position. Command post, supply, maintenance, and medical vehicles are normally located to the rear of the next delay position to insure continuous support during the critical period of the withdrawal from a delaying position. The commander must remain well forward to coordinate and control the actions of his unit.

183. Battalion Task Force—Conduct of the Delaying Action

a. As the enemy approaches the first delaying position, he is brought under long-range artillery, and mortar fire. As he closes with the position, he is engaged by all weapons of the delaying force at maximum effective range to force him to deploy, reconnoiter, and execute other time-consuming maneuvers.

b. The company teams normally are withdrawn from the delaying position before be-

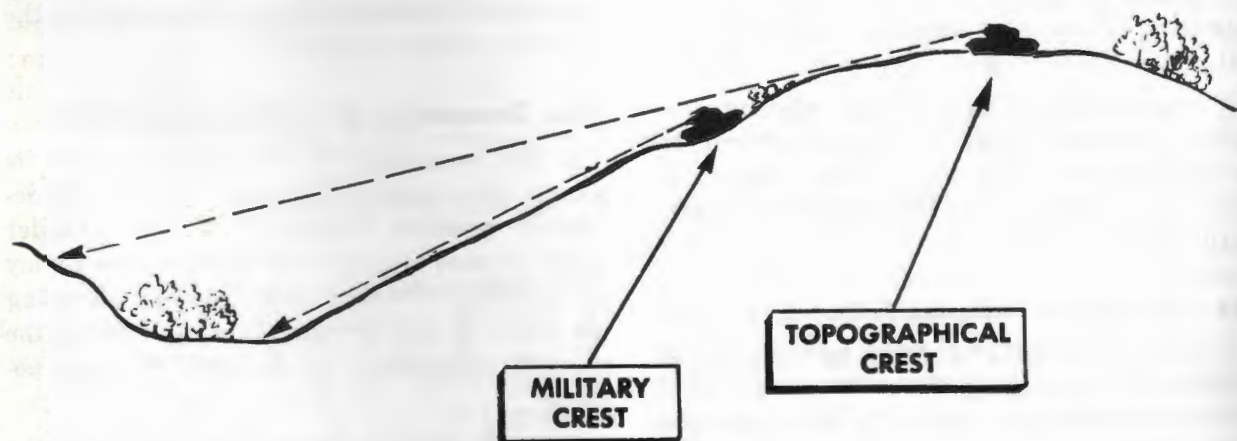


Figure 86. Tank firing position near topographical crest.

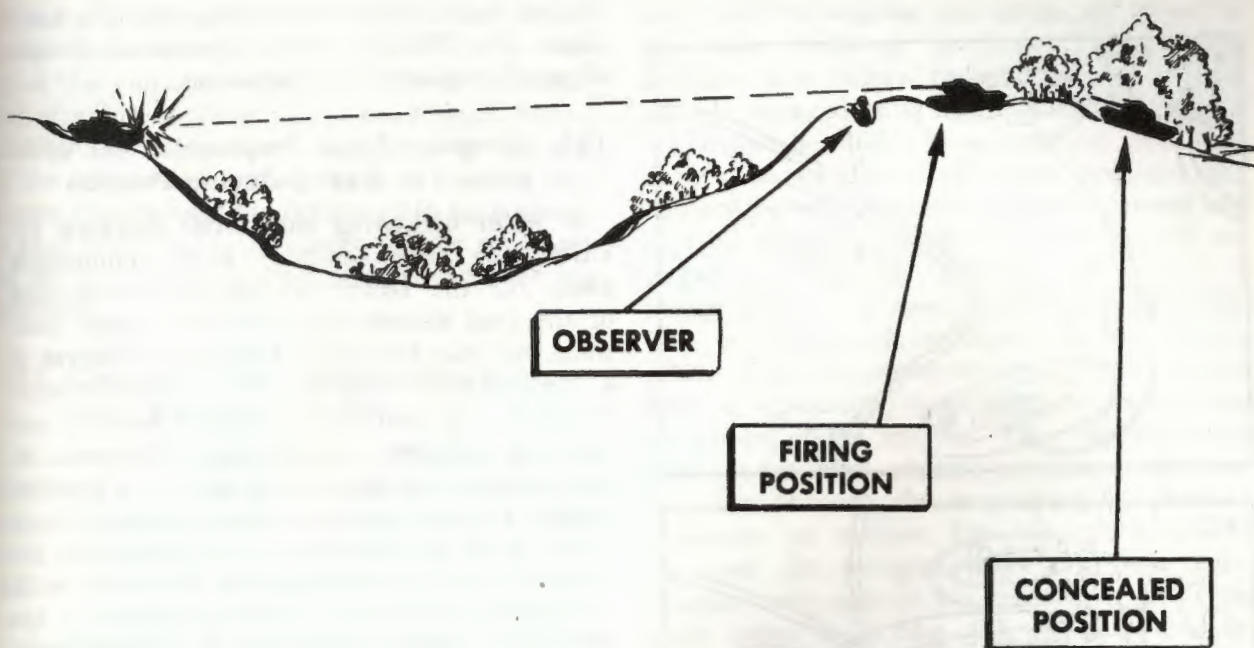


Figure 87. Concealed tank position.

coming decisively engaged with the enemy. The teams do not withdraw unless authorized to do so by the battalion task force commander. The successful employment of the delaying force is largely dependent upon proper timing. Proper timing is the result of thorough reconnaissance, adequate security, and timely combat information. The next senior commander must always be kept informed of the unit situation to insure the issuance of orders for the withdrawal of the unit before it becomes decisively engaged.

c. When the battalion task force receives the order to withdraw, it executes a continuous delay to the next designated delaying position. Although the company teams have considerable freedom of action within their assigned sectors, the task force commander coordinates their movements to insure that one team is not endangered by the too-rapid withdrawal of an adjacent team. Just before the withdrawals, some elements of the delaying force, preferably forces least heavily engaged, displace directly to the rear and occupy the next designated delaying position (FM 17-1). The remainder of the unit maintains contact with the enemy and

continues to inflict delay between the first position and the next rearward delaying position employing all favorable terrain. Forces remaining in contact should be composed primarily of tanks. These units, when threatened with decisive engagement, slowly withdraw toward the next position when ordered. When the enemy has advanced within range of forces on the intermediate delaying position, he is subjected to the fires of elements occupying that position. Those elements provide overwatching fire to the delaying elements that have remained in contact. When forced back by the enemy, the elements that have remained in contact rejoin that part of the team that has moved back to the intermediate delay position. When he is no longer able to hold the position without becoming decisively engaged, the team commander repeats the procedure.

d. The battalion task force reserve is used to counterattack to extricate a heavily engaged unit, destroy an enemy penetration, block an enemy threat to the front or flanks, cover the withdrawal of elements of the delaying force, or to reinforce one or more elements of the delaying force. When a counterattack is conducted

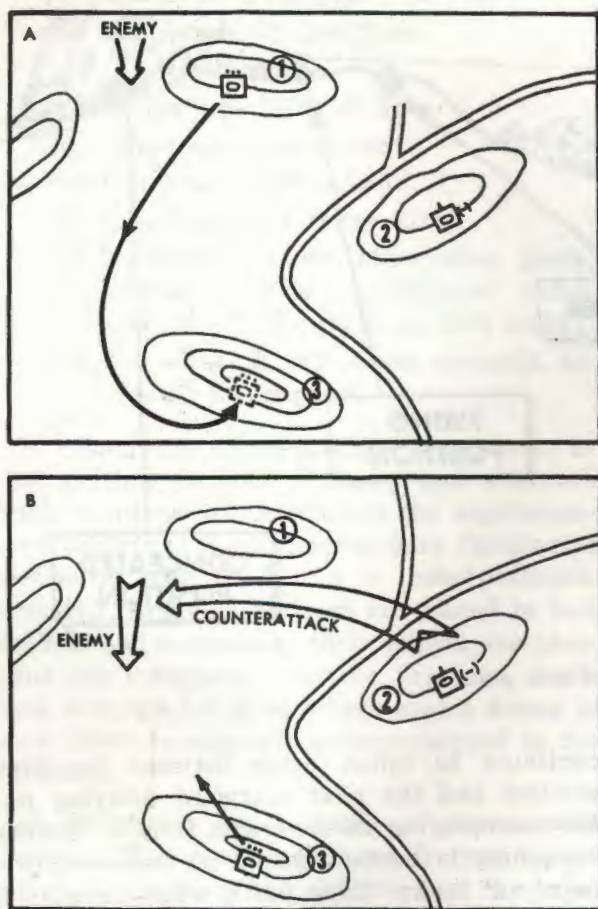


Figure 88. Tank company delaying action. In situation A, a tank platoon withdraws from position (1) to (3). In situation B, the remainder of the company counterattacks from position (2).

to assist in extricating a heavily engaged force, the action consists of a strike against an enemy flank just in rear of his forward elements. This action is conducted as a tank sweep and may be conducted without a terrain objective (FM 17-1).

e. Command, control, and timing of counterattacks are most critical. The commander must exercise utmost vigilance to insure that his unit does not become so involved with the enemy that it cannot break off the action. These counterattacks are for limited objectives and are supported by artillery, mortars, nuclear weapons, and elements of the delaying force. Similarly, company teams may execute counterattacks for the same reasons but on a more

limited scale. Figure 88 illustrates this technique. See FM 17-1, for a discussion of technique of employment of reserves.

184. Company Team Preparation for Withdrawal to Next Delaying Position

a. After occupying the initial delaying position, the tank company team commander plans for the reconnaissance and occupation of the next delaying position. Rearward positions that may be occupied during the course of a delaying action, and the route or routes thereto, should be thoroughly reconnoitered in advance. A complete plan for the withdrawal to, and organization and defense of, such a position should be the result of this reconnaissance. When prior reconnaissance is impossible, the delaying force reconnoiters to the rear while it engages the enemy. Reconnaissance to the rear is frequently conducted by a representative of the company team commander usually his executive officer. Any elements of the battalion scout platoon that may be attached can be used for this reconnaissance. In addition, attached scout platoon elements may be employed to guide platoons into selected delaying positions. In fast-moving situations, it may not be possible for the platoon leader or his representative to participate in the reconnaissance to the rear.

b. In planning and executing withdrawals to successive delaying positions, the following desirable characteristics of routes of withdrawal must be considered:

- (1) Provide cover from enemy fire.
- (2) Provide concealment from enemy observation.
- (3) Lead directly to the next delaying position.
- (4) Have good trafficability.

c. The platoon leader in coordinating the movement of his platoon will select the route each tank will use when moving to each delay position. Each tank commander must know the withdrawal plans of his platoon.

d. In addition to planning the occupation of the next delaying position, it is desirable to have some part of the delaying force occupy it in advance, to prepare positions and to cover the

arrival of the remainder of the force. In many situations, troops cannot be spared for such a purpose. However, it may be possible to accomplish this and not detract from the actual delaying strength of the unit. For example, if during daylight and conditions of good visibility, and if the terrain is relatively open, there may be a lesser requirement for infantry. In such a case, a part of the infantry might well be sent back to start the organization of the next delaying position.

185. Company Team Withdrawal to the Next Delaying Position

a. General. The company team withdraws to the next delaying position normally only on order of the battalion task force commander, as a result of enemy pressure, or to conform to the movement of adjacent units.

b. Technique of Disengagement. Before the

withdrawal of the initial element, company headquarters vehicles and troops are moved to the next delaying position. The decision whether to withdraw the most heavily or least heavily engaged units first is a difficult one. To withdraw the most heavily engaged units first from the area of greatest enemy pressure may subject the entire command to encirclement and destruction. To withdraw the least heavily engaged unit first may result in loss of all or a major part of the most heavily engaged units. The decision must be based on determining which plan best preserves the integrity of the force and best contributes to the overall accomplishment of the mission. The company team commander may request artillery and mortar fires through the accompanying forward observers or nuclear fire through command channels. On occasion, the task force commander may commit his reserve, if the company team is having difficulty disengaging.

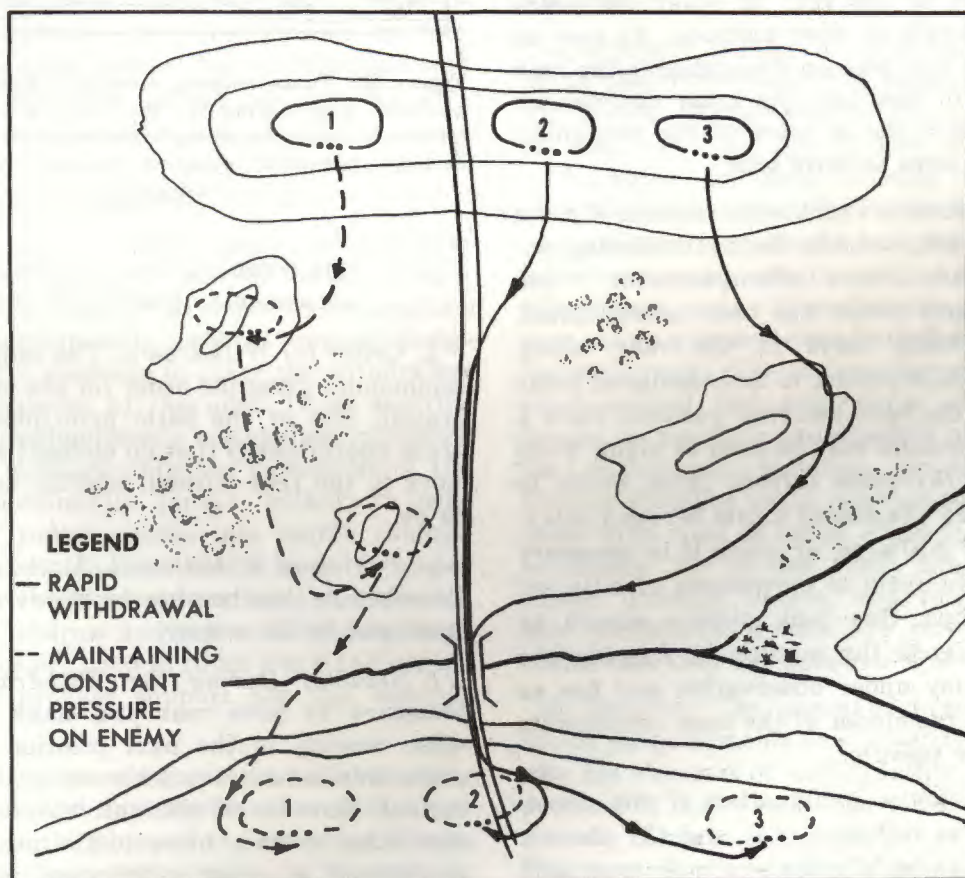


Figure 89. Methods employed in withdrawal to next delaying positions.

When the team commander has disengaged his forces, he should take steps to maintain observation over the advancing enemy. Elements of the battalion reconnaissance platoon, if attached, can be used for this purpose. Otherwise, a tank platoon, or attached infantry, may be assigned the mission.

c. Procedure. The procedure that a tank company team employs in moving back to a successive delaying position will vary, depending on the enemy situation and the terrain and weather (fig. 89). The team may—

- (1) Withdraw to the next delaying position, maintaining a constant pressure against the advancing enemy. In such a withdrawal, the tank platoons are usually directed to withdraw by leapfrogging from one terrain feature to another (fig. 90). The team commander determines which platoon is to move first and instructs the platoon leader to move to a terrain feature to the rear to cover the withdrawals of other platoons. As soon as the first platoon dispatched to the rear is in position, the team commander orders one or more of the remaining platoons to move back.
- (2) Execute a rapid withdrawal and move directly back to the next delaying position. Once disengagement from enemy forces has been accomplished, platoons move to the rear, along parallel routes, to their assigned areas in the next delaying position. Such a procedure may be used at night, when no favorable terrain from which to delay the enemy exists between delaying positions, or when it is necessary to conform to movements of adjacent troops. One tank platoon should be assigned the mission of keeping the enemy under observation and fire as the remainder of the team occupies its new position.
- (3) Employ a combination of the procedures discussed ((1) and (2) above). This combination may be especially appropriate when it is necessary for

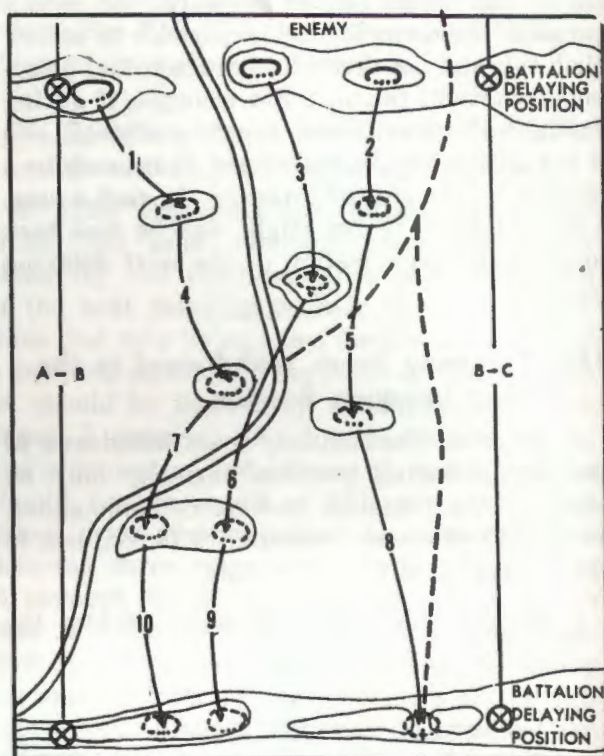


Figure 90. Tank company team in a delaying action; platoons leapfrogging to the rear, where favorable terrain to delay the enemy exists between the battalion delaying positions (numbers indicate order of withdrawal).

the company team to conform to the movements of adjacent forces.

d. Order for Withdrawal. The company team commander gives the order for the actual withdrawal. One of the basic principles of retrograde operations is that no element should ever move to the rear without specific authority to do so.

e. Timing of Withdrawal. Units must withdraw before they become decisively engaged or enveloped by the enemy.

f. Security During the Withdrawal. It is necessary to have rear and flank protection when moving to the next position. In small units, this security is achieved by having the various elements of the unit cover or protect each other as they move to the next delaying position. If a rapid withdrawal is initiated, steps must be taken to keep the advancing

enemy under constant observation. Elements of the battalion scout platoon, which may be attached to the company team, and any supporting Army aircraft or air cavalry elements, may be used for this purpose. In any event, a

rapid and well-executed withdrawal is usually the best counter against enemy interference with the movement. It is extremely important that each soldier understand exactly what he is to do and why.

Section III. WITHDRAWAL

186. General

A tank battalion task force may be required to withdraw to position itself for some other action. A part of the task force is designated to function as a security force to cover the withdrawal. The task force commander may designate one or more company teams as a security force, or he may use elements of each company team for this purpose. This security force is commanded by a single commander designated by the task force commander. The security force commander is responsible for the employment of the security force and its withdrawal to the next position. A withdrawal may be conducted during daylight or at night. Generally, withdrawal is accomplished in two phases—a disengagement from action, followed by the formation of march columns for continued movement to the rear.

187. Night Withdrawal

a. Tank units conduct night withdrawals whenever practicable because of the advantages gained under cover of darkness. In the conduct of night withdrawals, unit in contact designate security elements to cover the withdrawal of the remainder of the unit. These security elements (predominantly mechanized infantry) remain in position while the remainder of the unit (predominantly tanks) withdraws over designated routes, forms into march column, and continues movement to the rear. On order of the next higher headquarters, the security elements withdraw and rejoin their units. Supporting fires are used to cover track and engine noise and provide support for the security forces.

b. Combat service support and all nonessential vehicles and installations are withdrawn during the initial phase of the operation. Necessary combat support remains in position to support the tactical elements.

188. Daylight Withdrawal

Tank units can conduct successful daylight withdrawals because of their armor protection, mobility, and firepower. The procedure used in a daylight withdrawal is similar to that used in a night withdrawal. The security elements are predominantly tanks and maximum use is made of all fires to assist in disengagement. Movement of the main body is expedited by units (predominantly mechanized infantry) moving directly to the rear and then into march columns. Smoke can be used to screen movements. After the main body has withdrawn, security elements withdraw on order of the next higher headquarters.

a. *Sectors or Routes of Withdrawal.* A battalion task force usually is assigned a sector of withdrawal. The boundaries of the sector include the next delay position. If more than one unit of the higher command is using routes in the sector of the task force, the higher headquarters may assign a route to the task force. The task force commander usually assigns routes to his subordinate units. If routes are available, he may assign a separate one to each unit, to speed the withdrawal. The commander must exercise strict control and supervision of the withdrawal, to maintain the schedule prescribed. If the withdrawal includes passage through friendly frontline units, close coordination with these units must be made. Plans should include provisions for guides from the unit being passed through, liaison, and recognition signals. Designated routes are reconnoitered to insure that they are adequate and well marked.

b. *Security.* The commander may designate one or more elements as a security force, or he may use elements of each frontline unit for this purpose. It is desirable that all elements of the security force be controlled by one commander. The strength of the security force depends primarily on—

- (1) The number of troops available.
- (2) The degree of enemy activity.
- (3) The amount of front to be covered.

c. Security Force Actions. The security force normally conducts a delaying action. The length of time that the force remains in contact with the enemy depends upon the unit's mission. If the unit is moving to a defensive position to the rear, the security force remains in contact with the enemy until the new position is occupied. When the withdrawal is part of a retirement, the security force remains in contact with the enemy until the main body has disengaged with the enemy. Mortars and attached or supporting artillery must withdraw by echelon, so that they can provide fire support for the security force.

d. Priority of Withdrawal. As a general rule combat service support and headquarters elements not needed are withdrawn first, followed by the reserve or uncommitted units. Forward units are then withdrawn. The security force is the last element to withdraw.

189. Tank Company Team—Daylight Withdrawal

a. In a daylight withdrawal, the tank platoon or company may act as part of the battalion task force reserve, as the security force, or as one of the elements in contact with the enemy.

b. As a part of the task force reserve, the platoon or company may be—

- (1) Employed as a counterattacking force to permit the withdrawal of a unit that is heavily engaged. Such a counterattack is a limited-objective attack and is conducted by the entire task force reserve.
- (2) Employed as the covering force to occupy a position from which it can cover by fire the withdrawal of units in contact with the enemy.
- (3) The first element to move to the rear when it is not required to assist engaged units in disengaging from the enemy.

c. If the battalion task force commander uses elements of each forward company team as a

battalion security force, the tank company team commander normally employs about one-third of his unit and one-third to one-half of his crew-served weapons as his part of the security force. This security force covers the withdrawal of the company team main body and withdraws on order of the security force commander in accordance with instructions issued by the task force commander. The security force may be formed by—

- (1) Elements of tank and rifle platoons remaining on the platoon position. These elements are placed under a single commander and form a composite security force. By this technique, the security force is quickly formed with a minimum of movement. For example, a tank company team with a mechanized rifle platoon attached might execute its withdrawal as indicated in figures 91 and 92. In figure 91 the team has two tank platoons and one mechanized rifle platoon on line, the third tank platoon having previously been ordered to start its move to the rear. Figure 92 shows the bulk of the team en route; elements of the platoons have been left in position to form a composite security force.
- (2) The designation of a platoon-size combined arms team to act as the security force.

d. A tank company team given a security force mission for the entire battalion task force organizes for combat and conducts its actions in essentially the same manner as does a security force in the mobile defense.

e. For a tank company team in contact with the enemy and not required to use some of its elements as part of the battalion security force, disengagement actions are similar to actions of units conducting a withdrawal from an initial or subsequent delaying position. Units not engaged with the enemy are the first to withdraw. When contact with the enemy is broken, they withdraw rapidly. However, when the enemy strength is not concentrated in any particular platoon area, platoons may be ordered to withdraw simultaneously. The commander assigns platoon routes of with-

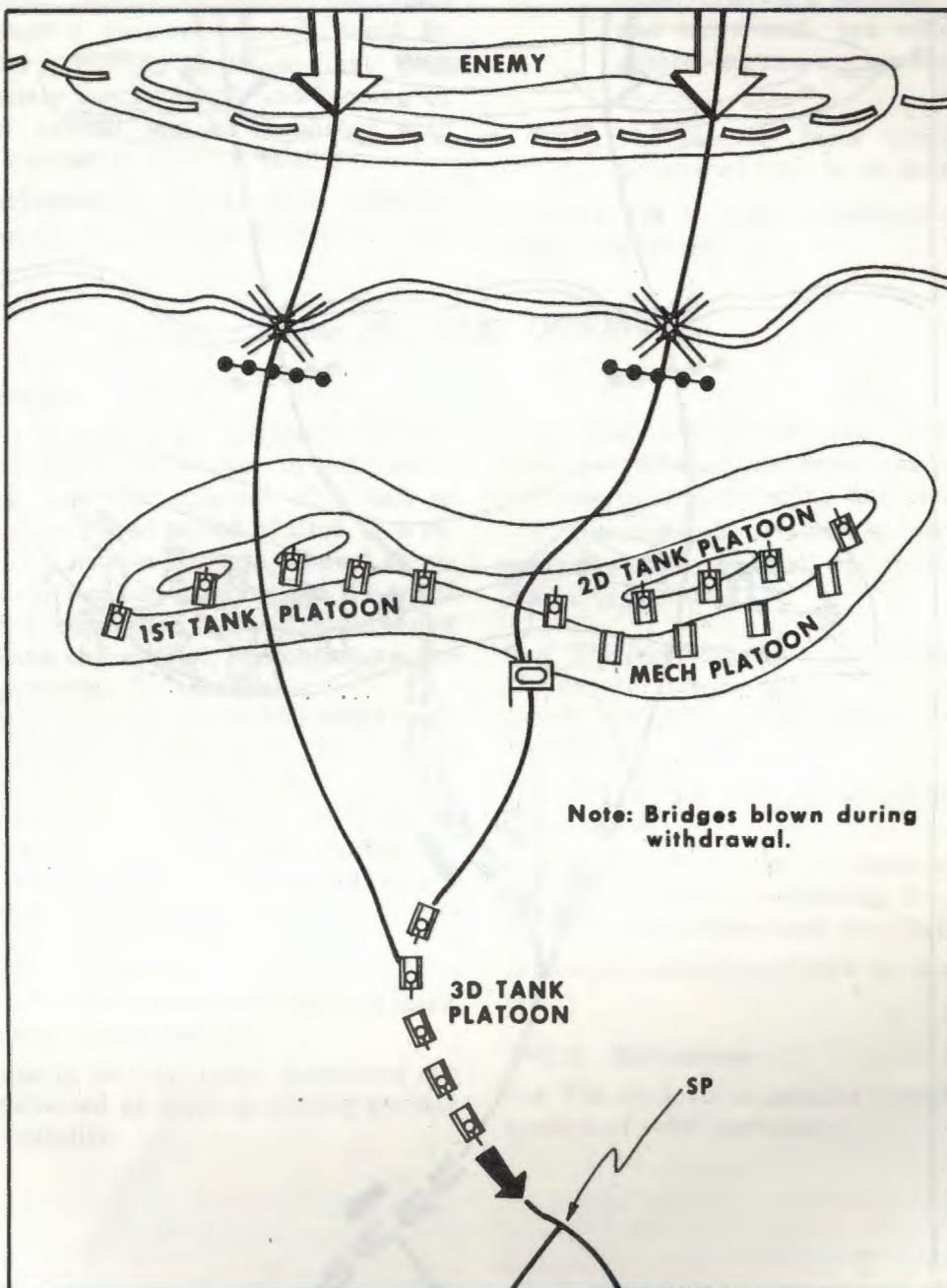


Figure 91. Initiation of withdrawal when a frontline tank company team is forming part of the tank battalion task force security force.

drawal and designates a start point (SP) where the platoons will form into a company team march column (fig. 92).

f. See FM 17-1 for additional details of daylight withdrawal.

190. Tank Company Night Withdrawal

a. Successful night withdrawal depends primarily upon deception, secrecy, and control. Darkness limits hostile air and ground observation and this advantage must be exploited.

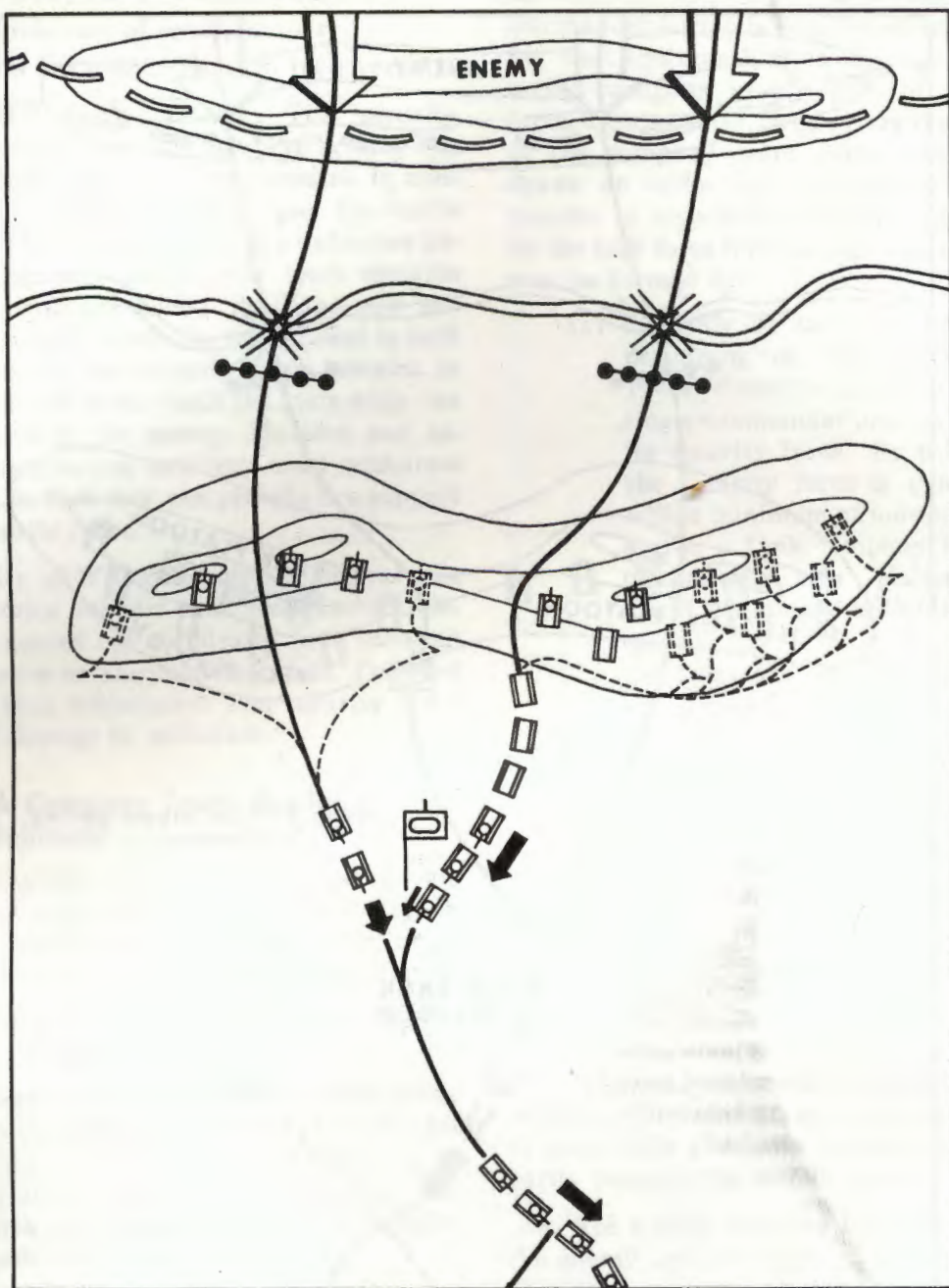


Figure 92. Elements of tank and mechanized rifle platoons as part of the security force in a withdrawal.

b. A night withdrawal is conducted by a company team in essentially the same manner as a daylight withdrawal. The following additional considerations apply—

(1) A night withdrawal normally is slower than a daylight withdrawal.

- (2) Effective movement control measures will offset, to some degree, the difficulty caused by loss of visual contact.
- (3) Troops left in contact use whatever deceptive measures are available to create the impression that a much

larger force is on the position. Such deceptive measures include firing artillery, moving tanks so that their engines can be heard, and keeping up the normal sounds associated with a completely manned position.

- (4) Withdrawing units move simultaneously if possible. Formations are

closer than in a daylight withdrawal, and movements are conducted with greater emphasis on secrecy and security.

- (5) The security force withdraws at a prescribed time or on order.

- c. See FM 17-1 for additional details of a night withdrawal.

Section IV. RELIEF OPERATIONS

190.1. General

- a. A relief in place is an operation in which a unit in the defense is relieved in position by an incoming unit. Commitment of a unit to combat for a prolonged period of time, or a requirement for a heavier force to conduct an attack at another location may require the relief in place of a committed unit. The incoming unit may have the mission of continuing the defense or preparing for an attack.

- b. Armor units prefer to conduct relief operations by a passage of lines (FM 17-1) due to the inherent difficulty of concealing armor vehicle movement. However, armor units may be required to participate in a relief in place as part of a larger force or may direct and control reliefs in place of subordinate units.

190.2 Basic Considerations

- a. Relief operations must be conducted in an expeditious and orderly manner.

- b. To preserve secrecy, relief operations are normally conducted at night or during periods of reduced visibility.

- c. Close cooperation and coordination of plans are necessary between commanders at all echelons of both incoming and outgoing units.

- d. Detailed prior reconnaissance by the incoming unit is essential, and must include selection of positions.

- e. The incoming unit must fit into and accept the general defense plan of the unit being relieved until the passage of command is completed.

- f. Normal patterns of defensive activity are maintained.

- g. Every effort must be made to accomplish the relief without weakening the tactical security of the position and by offering the least profitable target for attack by nuclear weapons.

190.3. References

See FM 17-1 for a detailed discussion of the conduct of relief operations.

CHAPTER 9

CONSIDERATIONS FOR EMPLOYMENT OF TANK BATTALIONS IN OTHER THAN THE ARMORED DIVISION OR SEPARATE ARMORED BRIGADE

Section I. TANK BATTALIONS, MECHANIZED INFANTRY DIVISION AND SEPARATE MECHANIZED INFANTRY BRIGADE

191. General

The tank battalions of the mechanized infantry division and the separate mechanized infantry brigade are employed in roles that take maximum advantage of the battalions' firepower, armor protection, and mobility consistent with the division or separate brigade mission.

a. The method of employment depends upon the division mission, information of the enemy, obstacles, weather, terrain, and the number of tank units available to the division commander. After considering these factors, the division commander determines where and in what force tanks should be employed. The guiding principle is that the battalions should be employed in the method that will most decisively influence the action. Cross attachment between tank and mechanized infantry battalions and companies is most desirable and provides the commander with a combined arms force. Tank units should be employed by concentrating them in mass at the decisive time and place to make a penetration or to envelop an assailable flank, rather than by dissipating them on a broad front. The fewer the number of tanks available to the commander, the greater is the requirement for the concentration of the tanks to obtain concentrated firepower and shock effect.

b. In certain situations a tank company may be attached to the armored cavalry squadron. Such a company is usually employed to lead

an attack and to provide added antitank capabilities.

192. Organization for Combat in Defense

a. General. The mechanized division can conduct a mobile defense or an area defense. In the mobile defense, the bulk of the division's tank strength is normally employed in the division reserve with sufficient tank units attached to the security force and forces in the forward defense area to provide necessary anti-tank defenses for these elements. When conducting an area defense, there normally will be increased tank strength allotted to the forward forces with one or more of the tank battalions retained in reserve.

b. Mobile Defense. When the mechanized infantry division is conducting a mobile defense, the reserve should contain the preponderance of the division's tank strength. The tank battalion is employed most effectively as part of this reserve. A tank battalion, or one or more tank companies, may be employed with the security forces or fixing forces as required.

c. Area Defense. When the mechanized infantry division is conducting an area defense, one or more tank battalions normally are employed with the forces in the forward defense area. One or more tank battalions, with or without attachments, may be employed with the division reserve brigade, or as the division reserve. A reinforced tank battalion may be used to establish the division general outpost.

193. The Tank Company With the Brigade in the Forward Defense Area

The commanders of the mechanized infantry brigades in the forward defense area employ attached tanks to constitute a mobile reserve and to provide antitank protection for their battle areas. Additionally, tanks furnish direct-fire support forward of the battle area, participate in counterattacks, and may reinforce the combat outpost. A part of the tanks may be placed in positions from which they can fire in front of the FEBA; normally these tanks are located within or close to rifle platoon defense areas. The tanks may be positioned in depth or to cover possible enemy tank approaches from the front, flanks, and rear. The tanks in depth are prepared to assist the reserve in the counterattack. They usually are attached to the counterattacking force.

194. Withdrawals

a. The tank battalion, because of its characteristics, can break contact with the enemy more rapidly than can dismounted mechanized infantry units. In some situations, the division

may use a tank battalion, reinforced, as a covering force in a daylight withdrawal. In such cases the tank battalion fights a delaying action after the mechanized infantry have started their rearward movement. At night, tanks normally are withdrawn before mechanized infantry.

b. It may be necessary for the tank elements to counterattack to enable the mechanized infantry to start their withdrawal. Just before the time the withdrawal starts, reinforced tank elements make a coordinated attack in a vital part of the division or brigade zone, supported by all available fires. The extent of the attack may be limited to a demonstration on a broad front with all tanks deployed, but it must be carefully planned and coordinated. If the terrain permits, the tank elements may occupy positions immediately in rear of the mechanized infantry units that will withdraw; these units, under the cover of supporting fires by the tanks and other weapons, withdraw through the positions occupied by the tanks. The tanks then fight a delaying action until the mechanized infantry have withdrawn to their new positions.

Section II. TANK BATTALIONS, INFANTRY DIVISION AND SEPARATE INFANTRY BRIGADE

195. General

a. Ideally the infantry division tank battalions are employed as tank battalion task forces. The tank battalions may be used to reinforce and support infantry brigade and battalion operations.

b. In the infantry division, the tank battalions are the only sizable combat units that have many heavy tracked vehicles. This difference between the tank battalions and other combat units of the division emphasizes certain problems that must be carefully considered by the infantry commander. Among these problems are—

- (1) The necessity for a constant and adequate supply of fuel and lubricants.
- (2) Sensitivity of tanks to terrain, weather conditions, and obstacles.
- (3) The necessity for extensive maintenance.

c. The tank battalion can move simultaneously all organic troops and equipment with organic transportation; however, when the battalion is equipped with the AR/AAV, it can be air-transported as can most of the other units of the infantry division.

196. Operations and Employment

Battalion Commander and Staff. The tank battalion commander in the infantry division has the same responsibilities as other tank battalion commanders. In addition, he should act as armor advisor, including antitank warfare, for the appropriate commander. Additional problems in operations and combat service support confront the battalion commander and his staff when the companies of the battalion are attached to infantry brigades, in that the infantry battalions do not possess sufficient organic combat service support to support tank

companies when attached to battalions. To provide maximum assistance to detached companies, the tank battalion must maintain coordination and liaison with the division staff, the brigade staff, and the tank company commanders. Staff visits to each company should be made frequently.

197. Preparation for the Attack

a. General. In the preparation for the attack, the steps taken by an infantry division tank battalion commander closely parallel those discussed in chapter 6. However, the infantry division tank battalion commander usually makes a recommendation to the appropriate commander as to the best method of employing his battalion.

b. Organization for Combat. While the distribution of tank strength throughout the infantry division will vary with the specific situation, a tank battalion or one or more tank companies can be attached to assaulting brigades. The battalion may be employed under division control when required.

198. Conduct of the Attack

Although it is not desirable for the pace of the tank attack to be slowed to the pace of dismounted attacking units, it is sometimes necessary to delay the tank unit's arrival on the objective by making greater use of movement by bounds or a delayed time of departure. Obstacles covered by antitank fire, or terrain that prevents a continuous and coordinated movement by tanks and infantry, may make it desirable for the tanks to move by bounds or to cross the line of departure after the dismounted element. Before the attack, plans must be made to coordinate the rate of movement of tanks and dismounted units. Every effort should be made to allow the tanks to advance rapidly.

199. Defensive Combat by the Infantry Division

The infantry division is capable of conducting numerous variations of the area defense. Because of the lack of organic mobility in the infantry battalions, the division does not nor-

mally conduct a mobile defense without considerable reinforcement with varying combinations of armored personnel carriers and trucks for transport of infantry elements.

200. Missions Assigned the Tank Battalions During Defensive Combat

a. The infantry division tank battalions must be assigned defensive missions in which they can use their mobility and shock effect to the greatest possible extent under the existing conditions. These missions include—

- (1) Adding strength to the division reserve.
- (2) Adding depth to antitank protection in the forward defense area.
- (3) Acting as a general outpost for the division.

b. In most cases, units of the battalions can best assist in the defense by employing offensive tactics. Every effort must be made to avoid static positions or the emplacement of tanks. All tanks, regardless of their mission or location, should be so placed that they have clear fields of fire and can be readily maneuvered.

201. Methods of Employing the Tank Battalions in Defense

a. There are several possibilities for the employment of the infantry division tank battalion, and elements thereof, in the defense. Among these are—

- (1) Attached to the division reserve brigade.
- (2) Attached to the brigade having the most likely enemy armor approach.
- (3) Elements attached to each brigade.

b. The ability of a tank battalion to operate as an element of the reserve to destroy any enemy that may penetrate the battle area decreases as the number of companies detached from the battalion increases. When employed as part of the reserve, a battalion should be retained as a unit whenever possible.

c. The terrain to be defended, and the composition of the enemy forces facing the position, usually have a decisive influence on the decision as to how the battalion is employed. The battal-

ion should be used to increase the counterattack strength of the division and to insure adequate defense against tank attacks. Terrain that affords good fields of fire and long range observation may permit the concentration of the tank elements in a rearward position. In the disposition of the tank elements, care must be taken to insure that good avenues of approach for enemy tanks are covered.

202. The Tank Company With Forward Brigades

The commander of the infantry brigades in the forward defense area employs attached tanks to provide a mobile reserve and to provide antitank protection for his area. Tank companies may be retained under brigade control or attached to infantry battalions to form battalion task forces. Tanks may furnish direct-fire support, participate in counterattacks, and participate as part of the brigade security force. He may place a part of his tanks in positions from which they can fire in front of the FEBA; normally these tanks are located within or close to the rifle platoon defense areas. The remainder of his tanks may be placed in depth, covering possible enemy tank approaches from the front, flanks, and rear. The tanks in depth are prepared to assist the infantry battalion reserve in the counterattack; the other tanks may be attached to the reserve upon its commitment.

203. Tank Battalions Attached to the Division Reserve

a. The counterattack capabilities of the division reserve are greatly increased by the attachment of all or the greater part of the tank strength. The division reserve in defense may often have two missions to perform—it may initially be employed as part of the general outpost, and after reverting to reserve, may be given a blocking or a counterattack mission. Any enemy penetrations must be contained or partly contained before a counterattack can be advantageously launched. The infantry elements of the reserve, reinforced by part of the tanks, may be used to block and contain a penetration, if other troops or nuclear fires have not accomplished this mission, and the major

part of the tank battalions is used as a reserve to destroy the enemy penetrations. This is a combined and coordinated effort; the tank elements, properly reinforced, should be the maneuvering force.

b. Although the tanks attached to the reserve may be occupying firing positions, they must be prepared to move immediately to any part of the division front to block or counter any enemy penetrations.

c. When the reserve performs the mission of general outpost for the infantry division, it may include part or all of a division tank battalion. The tanks engage enemy armor and mechanized elements at maximum range. They facilitate rapid withdrawal of infantry elements. They withdraw over previously selected routes to their designated reserve area.

204. The Tank Battalions, Reinforced, as the Division Reserve

The infantry division tank battalion may be used as the division reserve. This may occur when all brigades are employed in the forward defense area or when the brigade, designated as the division reserve, is committed and the division must quickly reconstitute a mobile reserve.

205. Retrograde Operations

When participating in a withdrawal or delaying action, the tank battalion should be reinforced with motorized or mechanized infantry. As an alternative, infantry may be transported on the tanks after disengagement.

206. Infantry Riding Tanks

When tanks and infantry are moving and are not in contact with the enemy, infantrymen may ride on the tank decks. This technique of movement permits a more rapid shifting of forces and enables the infantrymen to conserve their strength. Tank hatches are kept open while infantry are being carried on their decks. When contact becomes imminent, the infantrymen should be dismounted.

CHAPTER 10

LIGHT ARMOR BATTALION

Section I. GENERAL

214. Purpose and Scope

This chapter provides doctrine for the tactical employment of light armor platoons, light armor companies, and light armor battalions where it differs from that previously discussed for the tank unit. Information on the organization, capabilities, limitations, tactics, techniques of employment, combat operations, combat support, and combat service support of units equipped with the ARAAV is included.

215. ARAAV Characteristics and Capabilities.

a. Characteristics. The ARAAV is a highly mobile, lightweight, amphibious, air transportable, air droppable, lightly armored vehicle mounting as its main armament a gun/launcher capable of firing conventional ammunition and launching a guided missile. For additional details, see TM 9-2350-230-12 and TC 17-16. These favorable characteristics make ARAAV-equipped units well suited for employment in limited and cold war situations.

b. Capabilities. The ARAAV, with its armor-protected firepower, amphibious capability, and excellent cross-country mobility, is ideally suited to execute mounted operations in the offense, defense, and retrograde. The weight of the vehicle is such that it is air transportable and air droppable, giving it the capability of strategic deployment as well as

participation in Phase I airborne operations. With the ARAAV, the commander possesses, for the first time in modern warfare, the capability of strategic deployment of armor forces by air. The inherent amphibious capability of the ARAAV makes it ideal to participate in hasty crossings of inland waterways to secure and expand bridgeheads while other units are preparing crossing sites.

216. The Light Armor Battalion Mission and Capabilities

a. Mission. The mission of the battalion is to close with and destroy enemy forces using fire, maneuver, and shock effect in coordination with other arms.

b. Capabilities. The battalion is organized to conduct all types of combat operations and forms of maneuver. The battalion is capable of independent operations for limited periods of time when augmented with additional combat, combat support, and combat service support elements. With or without augmentation, the battalion can accomplish the following:

- (1) Conduct operations requiring tactical and strategic mobility.
- (2) Attack or counterattack under hostile fires.
- (3) Destroy enemy forces, to include enemy armor and mechanized forces.

(4) Support infantry by fire, maneuver, and shock effect.

(5) Move rapidly cross-country or swim inland waterways to exploit the effects of mass destruction weapons.

(6) Conduct combat operations under limited visibility conditions, employing night vision devices and ground surveillance equipment.

(7) Participate in strategic air-transported operations.

(8) Participate in Phase I airborne operations.

(9) Participate in riverine operations.

(10) Provide company and battalion-level organizational maintenance for organic and attached units.

217. Organization

a. General.

(1) The light armor battalion is organized similarly to the tank battalion (para 8). It has a headquarters and headquarters company, a combat support company, and three light armor companies.

(2) In the light armor battalion, the main fighting vehicle is the ARAAV. High mobility vehicles have been substituted for a majority of the limited mobility wheeled vehicles of the tank battalion. Within the battalion transportation section, full-tracked armored cargo carriers have been substituted for a portion of the wheeled cargo vehicles.

b. Headquarters and Headquarters Company. The headquarters and headquarters company of the light armor battalion is organized identically to that of the tank battalion. Missions and functions are the same as discussed in this change, paragraphs 9 through 20.

c. Combat Support Company. The organization of the combat support company of the light armor battalion is similar to that of the tank battalion. The notable difference is the lack of the armored vehicle launched bridge section. Other elements are the same and have similar missions and functions.

d. Light Armor Company. The light armor

company is organized identically to the tank company. The duties and responsibilities of its elements are the same as those of the tank company (para 22 and 23).

218. Combat Support

For a detailed discussion of the combat support provided the light armor battalion, see paragraphs 48 through 58 and FM 17-1.

219. Combat Service Support

a. For a discussion of the combat service support elements of the light armor battalion, see paragraphs 18.2 through 21 and FM 17-1.

b. Resupply within the battalion is enhanced by two vehicles: The high mobility 5-ton cargo truck, and the 6-ton armored full tracked cargo vehicle. These vehicles are capable of swimming with full combat loads. This capability complements that of the ARAAV and permits all classes of supplies to cross inland waterways without waiting for emplacement of bridging or establishment of ferries. The greater cruising range of the ARAAV lessens the critical need of POL resupply. However, the limited main gun ammunition basic load of the ARAAV increases the requirement for class V resupply.

c. During exploitation and pursuit operations, consideration should be given to aerial resupply. Aerial resupply assists in maintaining the momentum of the attack and does not require lengthy halts for the supply trains to close. Supply bases from which aerial resupply is initiated are established and moved forward as required.

220. Land Combat Support System (LCSS)

a. General. The land combat support system provides direct or general support maintenance for all nonexplosive components of Shillelagh, Redeye, and Lance (when fielded) missile systems, including missile system-peculiar electronic, ground guidance, launching, handling, and test equipment. The system consists generally of an automatic test set, repair and storage facilities, forward area contact support test sets, transport vehicles, and the missile re-

pair personnel required to operate the support system and provide contact teams.

b. Concept of Employment. The land combat support system is employed to provide direct and general support maintenance for the end items, components, assemblies, and subassemblies of supported missile systems. The system is employed by a missile support ordnance detachment which is organic to the divisional maintenance battalion. Forward area contact

support teams (FACST) from this detachment are available to assist and support light armor (and other missile equipped) units through the forward support maintenance company which supports the maneuver brigade. A FACST is equipped with appropriate test equipment and direct exchange components and is mounted in its assigned vehicle. The light armor battalion will require support from Redeye FACST's as well as Shillelagh FACST's.

Section II. COMBAT OPERATIONS—GENERAL

221. Considerations of Employment

In addition to the employment considerations discussed previously for tank units, the light armor commander must also consider:

a. Fire and maneuver combined are the means by which armor units fight. The commander uses this tactic by establishing a base of fire and a maneuvering force.

b. Because combat power is relative, armor commanders actively seek to take advantage of any enemy weakness in order to enhance success. Armor commanders also seek to use every advantage offered by the terrain, airspace, weather, and time. The relatively thin armor protection of the ARAAV requires commanders at all levels to plan for the maximum use of terrain for cover and concealment.

c. The mobility of armor units is always exploited to maneuver firepower into position to destroy the enemy. Commanders at all levels anticipate and plan to overcome or avoid the conditions that inhibit mobility. Light armor unit mobility is increased by the higher maximum speed and greater operating range of the ARAAV. The amphibious capability in light armor units lessens the value of inland waterways as obstacles to armor mobility. The air transportability and airdrop capability of the ARAAV add a new dimension to armor unit mobility.

222. Combat Operations

The battalion is capable of conducting reconnaissance and security, offensive, defensive, and retrograde operations. A discussion of

these combat operations, as they apply to the company and battalion, is contained in sections III through VI. Although some of the combat operations discussed in these sections are normally conducted by armored cavalry units, the excellent mobility and firepower of the battalion permit its successful employment in these operations. The employment of light armor units in stability and airborne operations, movement by air, and crossing of inland waterways are discussed in paragraphs 234 through 237.

223. Fire and Movement

Light armor elements employ fire and movement as infrequently as possible, as this technique does not take advantage of their favorable characteristics. Fire and movement are employed only when the terrain or tactical situation demands. However, as the vehicle must be halted to fire the missile and conventional ammunition accurately, fire and movement remains applicable. Advancing, without halting to fire, must be resumed as early as practicable.

224. Use of the ARAAV's Firepower

a. Armament.

(1) Each ARAAV has a main gun/launcher system, a machinegun mounted coaxially with the gun/launcher, a cupola mounted caliber .50 machinegun, and a grenade launcher system.

(2) The missile is employed as the ARAAV's primary antitank weapon at extended ranges and can also be used against other hard targets as required.

(3) Conventional 152mm ammunition is employed against soft targets and can be used for close-in antitank engagements.

(4) The machineguns are employed against targets such as troops, unarmored and lightly armored vehicles, and low-performance aircraft. They are also used for reconnaissance by fire.

(5) The grenade launcher system attached to the turret exterior is employed primarily as a means of providing a protective close-in smokescreen for concealing tactical maneuvers or evacuating crewmen from disabled vehicles. The launcher system's white

phosphorus (WP) grenades also may be used against a close-in dismounted infantry threat.

(6) The decision as to the optimum weapon or combination of weapons for target engagement is based upon the considerations of target vulnerability and range.

b. Selection of Firing Positions. Hull defilade (fig. 35 and 36) firing positions are the most desirable. When selecting firing positions, missile drop at time of launch must be taken into consideration and sufficient gun/launcher muzzle clearance provided.

Note. See chapter 4 for a detailed discussion of tank unit employment techniques which are equally applicable to light armor units.

Section III. RECONNAISSANCE AND SECURITY

225. Reconnaissance

The ARAAV can traverse any terrain obstacle that the present standard reconnaissance vehicle can. In addition, it is equipped with a main gun capable of neutralizing any known armor threat. Light armor elements can be readily attached to the battalion scout platoon to assist it in accomplishing assigned missions. For a detailed discussion of reconnaissance classifications, agencies, fundamentals, type missions,

control, and coordination, refer to chapter 5, FM 17-1 and FM 17-36.

226. Security

Light armor units are well suited to provide the security forces for larger units. The high mobility, longer operational range, and excellent firepower of the units can be used to provide increased protection for the force being secured. The fundamentals discussed for tank unit employment in security operations are equally valid for light armor units.

Section IV. OFFENSIVE OPERATIONS

227. General

a. See chapter 6 and FM 17-1 for a detailed discussion of employment of armor units in offensive operations.

b. In conducting offensive operations, the mobility, agility, and cruising range of the ARAAV must be maximized.

c. As moving targets are harder for the enemy to destroy than stationary ones, firing from a moving vehicle minimizes the ARAAV's disadvantage of relatively light armor. It should be remembered, however, that the main gun gives only limited area coverage when moving. Commanders of light armor units must visualize the destruction of enemy

forces by their moving formations and translate this visualization into the execution of offensive operations.

228. Use of Forms of Maneuver

a. The light armor battalion and the light armor company may use any of the three basic forms of maneuver (para 107). Normally, the battalion and company will not intentionally conduct a frontal attack. In the initial phase of a penetration, the battalion or company lead elements may employ a frontal attack; however, locally within the zone of the attacking force they will maneuver to cause the enemy to fight from other than his primary position or orientation. When enemy action such as a

counterattack changes the battalion's form of maneuver to a frontal attack, commanders will first employ maneuver to retain the momentum of their attack and cause the enemy to fight from other than his primary orientation or position. Such action capitalizes fully on the speed, agility, and mobility of the ARAAV.

b. The light armor platoon, as the principal maneuver element of the light armor company, participates in the forms of maneuver adopted by the company. The platoon is given a specific mission prescribing its role in the company's scheme of maneuver, and executes frontal or flanking movements employing the techniques of fire and movement as discussed in paragraphs 59, 60, and 223.

229. Conduct of the Attack

a. The commander, in planning for an attack, must take into consideration that the

ARAAV does not have the armor protection of the main battle tanks. In attacks of enemy elements which contain strong antitank defense and/or heavy automatic weapons, the commander must neutralize, by artillery, mortar, or tactical aviation, the fire of these enemy weapons prior to closing within range of them. Therefore, rapidity of closing with the enemy may be sacrificed if the light armor unit can acquire, engage, and destroy enemy antitank and heavy automatic weapons from defilade positions at long range. Due to the ARAAV's light armor, the light armor unit leader must insure that heavy automatic weapons and high density light antitank weapons are cleared from the objective area or are continually suppressed by appropriate means.

b. The attack as discussed for tank units is valid for light armor units when the factors in a above are taken into consideration.

Section V. DEFENSIVE OPERATIONS

230. Light Armor Employment Considerations

Commanders employing light armor units in defensive action must seek to capitalize on the long-range accuracy of the missile for destruction of enemy forces. Positions with limited ranges should be avoided. Due to the limited armor protection of the ARAAV, every effort must be made to prevent the enemy from clos-

ing within effective range of his antitank weapons systems. This same characteristic dictates that more frequent movement be made between primary and alternate firing positions (para 150).

231. Defensive Operation

See chapter 7 and FM 17-1 for a detailed discussion of armor unit employment in defensive operations.

Section VI. RETROGRADE OPERATIONS

232. Light Armor Employment

The long range missile, increased mobility, swim capability, and small silhouette of the ARAAV in defilade make light armor units ideal for retrograde operations. As in the defense, positions must facilitate long-range engagement and provide greater passive protection. Due to the ARAAV's light armor, light armor units may have to be withdrawn earlier than units equipped with tanks. During retrograde operations, light armor commanders should seek to turn water obstacles in the rear of their position to favorable advantage.

Bridges are prepared for destruction and may be destroyed after all units have withdrawn across the water obstacles. This leaves the enemy with the undesirable task of crossing under fire if he is to continue his advance.

233. Retrograde Operations

See chapter 8 and FM 17-1 for a discussion of tank unit employment in retrograde operations. The planning, considerations, preparation, and conduct of retrograde operations as applied to tank units are equally applicable to light armor units when modified by the factors discussed in paragraph 232.

Section VII. SPECIAL OPERATIONS

234. General

The following paragraphs discuss light armor employment for inland water crossings, airborne operations, movement by air and stability operations. For a discussion of other special combat operations, see FM 17-1.

235. Inland Water Crossings

a. General. The actual crossing of water obstacles is only a small part of operations at inland waterways. The approach to a water obstacle is made rapidly on a broad front whenever possible. The light armor battalion is capable of crossing water obstacles without losing its offensive momentum. Armor units move forward quickly to catch the enemy astride obstacles and seize crossing sites where the opposition appears weakest. If a crossing site is captured, it is checked for the presence of demolitions. The organic air defense section immediately deploys to protect the crossing site from enemy air attack. The ability to conduct water crossings with great speed and surprise, thereby lessening vulnerability to nuclear attack and sustaining the momentum of combat operations, is an inherent characteristic of the battalion engaged in water crossing operations. The material contained in this paragraph is applicable to operations across canals, lakes, and rivers bridgeable by tactical bridging or passable with swimming or fording vehicles. For the negotiation of inland water obstacles unbridgeable by tactical bridging or impassable by swimming or fording vehicles, see FM 31-12.

b. Considerations. Consideration must be given to the ARAAV's light armor protection, barrier vulnerability to fire, and inability to return fire while swimming when the unit is conducting a crossing operation. Light armor units should not make a deliberate crossing against a defended shoreline. During the conduct of deliberate crossings, as soon as the far shore is secured by infantry or airmobile assault elements, the battalion scout platoon can reconnoiter routes from the crossing site for light armor elements. Crossing units may stow

barriers or drop the surfboard and continue movement, depending on the situation, upon exiting from the water.

(1) *Considerations during offensive operations.* Considerations affecting offensive operations with the ARAAV are:

(a) Its light armor protection.

(b) Its swimming capability.

(c) Its ability to rapidly prepare for swimming.

(d) Its ability to continue movement immediately upon exiting from the water.

(2) *Considerations during defensive and retrograde operations.* The following are in addition to the considerations in (1) above:

(a) The ability of the unit to destroy bridges to impede an enemy advance.

(b) The ARAAV's ability to engage at long ranges, and thus delay.

(c) The unit's ability to conduct retrograde operations with an inland water obstacle to its rear.

(3) *Considerations during night operations.* These include:

(a) All offensive and defensive considerations in (1) and (2) above.

(b) A system for control of the formation during night operations at waterways is required.

(4) *Post-crossing considerations.* Complete barrier stowage requires approximately 10 minutes and exposes the entire crew. Upon exiting from the water, the vehicle driver unlocks and drops the quick-release surfboard. This exposes no one to hostile fire and allows the main armament to be used in a 180 degree arc forward of the vehicle. Thus, the momentum of the operation is continued until the barrier can be safely stowed at preselected areas.

c. Underwater Reconnaissance.

(1) *General.* When underwater obstacles are encountered which affect the commander's scheme of maneuver, underwater reconnaissance teams (URT) are requested through command or supporting engineer channels for spot or area underwater reconnaissance missions. Spot missions are used when tentative swim-

ming sites already have been determined. Area missions entail a reconnaissance of a portion of the water obstacle to determine usable sites within the assigned area. Spot missions are the most desirable, since the time required to find and develop usable swimming sites is shorter than in the area-type mission. When the combat situation does not permit use of URT's, or URT's are not available, lead crews make a hasty reconnaissance to determine appropriate sites for their use.

(2) *Site selection and underwater reconnaissance.*

(a) Analysis of existing waterway data by the unit staff can reduce the number of swimming sites to be reconnoitered by the URT and save time in conducting the reconnaissance by eliminating obviously inadequate sites. Examination of topographic maps, aerial photos, terrain studies, information from prisoners and local civilians, and other available data may produce valuable information pertaining to the waterway to be forded.

(b) Upon arrival at the crossing site and prior to entering the water, the URT determines the near bank soil trafficability and slope and the stream width and velocity. Methods for determining these factors are discussed in FM 5-36. The team checks to see that the banks are cleared of mines and obstacles. The team leader establishes communications with his unit headquarters and the supported unit.

(c) During the underwater portion of the reconnaissance, the URT determines soil trafficability of the submerged bank slopes. Presence or absence of natural and manmade obstacles is determined by direct observations made in the water.

(d) After crossing the water obstacle, the far bank slope and trafficability are determined.

(3) *Navigation.* The primary navigational concern of the URT is to provide a course which is as straight as possible across the waterway.

(4) *Obstacle location and reduction.*

(a) The combat engineer vehicle (CEV) or engineer dozier, if available, is used to remove minor obstacles and improve bank slopes to facilitate entrance and exit of vehi-

cles. The main gun/launcher can also be used against the far shore banks to lessen the egress angle.

(b) Those obstacles within the capability of the team are removed or destroyed.

(c) Those obstacles requiring additional equipment or personnel are prepared for removal by the team within its capability.

(d) If a major obstacle or mined area cannot be readily removed or bypassed, the team leader directs another reconnaissance for a suitable swimming site in the same crossing area.

(5) *Reporting.* The team leader reports the exact location of the site and its suitability. If the site is not suitable, the team proceeds to a new area. If the site is suitable, a detailed report is made.

(6) *Site marking.*

(a) To assist the ARAAV commander in keeping his vehicle on course, the URT will mark the near and far banks. Those bank markers now used in amphibious operations are found in FM 55-15.

(b) If mines or obstacles exist in a waterway, the extremities of the crossing lane must be marked. Lanes are at least six meters wide. However, during daylight crossings of waterways where underwater reconnaissance has disclosed no mines or obstacles, marking of entrances and exits only is sufficient. Since platoon-level crossing lanes normally are reconnoitered, so that the battalion can cross on the widest possible frontage, color coding of bank markers (or marker buoys if used) should be accomplished in accordance with unit SOP.

(c) During periods of reduced visibility, the crossing site should be marked with floating markers made of wood or plastic. If a plastic marker is used, it should be inflatable to reduce handling problems. Lighted or luminescent floating markers must be used at night. To prevent anchors and lines from fouling in vehicle tracks, markers should be anchored on the upstream side of the lane to delineate the routes.

d. *Training Considerations.* Specialized training prior to the conduct of inland waterway operations is a requirement. All personnel

of the battalion should be able to swim. This minimizes the chances of personnel losses during waterborne operations.

e. After-Operation Maintenance. When conducting amphibious operations, after-operations maintenance becomes a factor in the light armor unit's ability to conduct sustained operations. After a water crossing, maintenance checks are performed as soon as the tactical situation will permit. These checks are made in accordance with the appropriate technical manual and unit SOP.

f. Recovery. During water-crossing operations that involve swimming of vehicles, all maintenance personnel are prepared to recover stalled or sunken vehicles. Amphibious vehicles or helicopters are used to extract the crews who have abandoned sinking vehicles. Recovery operations begin as soon as the tactical situation permits.

236. Airborne and Air Movement Operations

a. General. The light armor battalion's tactical vehicles are air transportable. The battalion can be either airlanded or airdropped by U.S. Air Force cargo aircraft. Ideally, if they are to be used in an airborne operation, only advance elements should be airdropped and the rest of the unit will follow as soon as an assault airstrip has been made or secured.

b. Employment Considerations. When employed in operations requiring airlanding or airdropping, the following requirements must be taken into consideration:

(1) Availability of landing zones and drop zones.

(2) Rigging for airdrop requires extensive prior coordination to insure availability of qualified rigger personnel, required equipment, and the necessary airlift capability.

(3) Rigging for airdrop requires considerable time and is directly related to availability of personnel and equipment. Consideration must be given to the relative location of unit equipment to be rigged in relation to the supporting airlift facility.

(4) Requirements for supply support,

particularly Class III and Class V, must be considered.

(5) Airlanding operations are limited by facilities within the airhead, to include runway facilities capable of accepting transport aircraft.

c. Employment.

(1) In Phase I airborne operations, light armor units may be airdropped. If the tactical situation and terrain permit, it is desirable to airland rather than airdrop light armor units due to the lengthy preparation time and chance of damage in airdrop. Light armor units are assigned to cover likely armor avenues of approach into the airhead. Only light armor companies and a command element are required initially. Logistical support elements remain collocated with the airborne unit's logistical elements to insure that the battalion receives resupply as required.

(2) In strategic airlift operations, the battalion normally is cross-reinforced upon arrival at a staging area; however, the battalion may be in a task force configuration prior to departure. This places it in the best fighting posture upon arrival at its destination.

d. Planning.

(1) See FM 57-1 and FM 100-27 for planning factors in the movement of the light armor battalion by air.

(2) See TM 9-2350-230-12 for preparation of the ARAAV for air movement.

237. Stability Operations

a. The battalion is well suited to conduct tactical operations in support of stability operations because of its mobility, firepower, amphibious capability, air transportability, and communications.

b. Detailed information on stability operations as well as civil affairs and psychological operations is contained in FM 17-1, FM 31-16, FM 31-23, FM 33-1, FM 33-5, FM 4-5, FM 41-10, and FM 100-20.

c. The organization of the battalion for stability operations remains unchanged from its conventional warfare configuration due to its

ability to be rapidly deployed. To perform specialized missions, augmentations to tables of organization and equipment or modified tables of organization and equipment can be implemented to tailor the unit.

d. The doctrine for employment of tank units discussed in previous chapters remains

valid for light armor units employed in stability operations. The tactics and techniques of employment must be modified to capitalize on the capabilities of the ARAAV and minimize its limitations.

APPENDIX I

REFERENCES

1. Field Manuals

FM 1-100	Army Aviation Utilization.
FM 1-110	Armed Helicopter Employment.
FM 3-10	Employment of Chemical and Biological Agents.
FM 3-12	Operational Aspects of Radiological Defense.
FM 3-50	Chemical Smoke Generator Units and Smoke Operations.
FM 5-15	Field Fortifications.
FM 5-26	Employment of Atomic Demolition Munitions (ADM).
FM 5-34	Engineer Field Data.
FM 5-36	Route Reconnaissance and Classification.
FM 5-135	Engineer Battalion, Armored, Infantry, and Infantry (Mechanized) Divisions.
FM 6-10	Field Artillery Communications.
FM 6-20-1	Field Artillery Tactics.
FM 6-20-2	Field Artillery Techniques.
FM 6-40	Field Artillery Cannon Gunnery.
FM 6-102	Field Artillery Battalion, Aerial Field Artillery.
FM 6-135	Adjustment of Artillery Fire by the Combat Soldier.
FM 6-140	Field Artillery Cannon Battalions and Batteries.
FM 7-11	Rifle Company, Infantry, Airborne, and Mechanized.
FM 7-15	Rifle Platoon and Squads, Infantry, Airborne, and Mechanized.
FM 7-20	The Infantry Battalions.
FM 7-30	The Infantry Brigades.
FM 8-15	Medical Service in Divisions, Separate Brigades, and the Armored Cavalry Regiment.
FM 17-1	Armor Operations.
FM 17-12	Tank Gunnery.
FM 17-30	The Armored Brigade.
FM 17-36	Divisional Armored and Air Cavalry Units.
FM 20-32	Landmine Warfare.
FM 21-40	Chemical, Biological, Radiological, and Nuclear Defense.
FM 21-75	Combat Training of the Individual Soldier and Patrolling.
FM 23-17	REDEYE Guided Missile System.
FM 23-92	4.2-inch Mortar, M30.
FM 31-12	Army Forces in Amphibious Operations.

FM 31-16	Counter guerrilla Operations.
FM 31-23	Stability Operations, U.S. Army Doctrine.
FM 31-73	Advisor Handbook for Stability Operations.
FM 33-1	Psychological Operations—U.S. Army Doctrine.
FM 33-5	Psychological Operations—Techniques and Procedures.
FM 38-5	Logistics Maintenance Management.
FM 41-5	Joint Manual for Civil Affairs.
FM 41-10	Civil Affairs Operation.
FM 44-1	U.S. Army Air Defense Artillery Employment.
FM 44-2	Air Defense Artillery Employment (Automatic Weapons) M42/M55.
FM 44-3	Air Defense Artillery Employment CHAPARRAL/VULCAN.
FM 44-30	Visual Aircraft Recognition.
FM 55-15	Transportation Reference Data.
FM 57-1	U.S. Army U.S. Air Force Doctrine for Airborne Operations.
FM 61-100	The Division.
(C) FM 100-20	Field Service Regulations—Internal Defense and Development (IDAD) (U).
FM 100-27	U.S. Army/U.S. Air Force Doctrine for Tactical Airlift Operations.
FM 101-5	Staff Officers' Field Manual: Staff Organization and Procedure.
FM 101-31-1	Staff Officers' Field Manual: Nuclear Weapons Employment Doctrine and Procedures.
FM 101-31-3	Staff Officers' Field Manual: Nuclear Weapons Employment Effects Data.

2. Technical Manuals

TM 3-220	Chemical, Biological and Radiological (CBR) Decontamination.
TM 5-216	Armored Vehicle Launched Bridge.
TM 9-2350-230-12	Operator and Organizational Maintenance Manual: Armored Reconnaissance/Airborne Assault Vehicle, Full-Track, 152mm, M551.

3. DA Pamphlets

DA Pam 310-Series	Military Publications Indexes (as applicable).
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4. Training Circular

(C) TC 17-16	Armor Reconnaissance/Airborne Assault Vehicle M551 (General Sheridan) (U).
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5. Army Regulations

AR 310-25	Dictionary of U.S. Army Terms.
AR 310-50	Authorized Abbreviations and Brevity Codes.

APPENDIX II

THE TANK BATTALION HEAVY MORTAR PLATOON

Section I. GENERAL

1. General

This appendix presents the organization, mission, capabilities, and doctrine for the tactical employment of the tank battalion heavy mortar platoon.

2. Mission

The heavy mortar platoon provides close and continuous mortar fire support to its parent battalion.

3. Capabilities

The platoon has the following capabilities:

- a. Delivery of a heavy volume of high explosive fire onto area or point targets.
- b. Screening large areas with smoke.
- c. Battlefield illumination.
- d. Delivery of toxic chemical munitions onto area targets.
- e. Marking targets for other weapons.

4. Organization

The battalion heavy mortar platoon is organized as described in chapter 1, paragraph 15, and as shown in figure 3.

5. Duties

a. Platoon Headquarters.

- (1) 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—

- (a) Makes recommendations for the employment of his platoon.

- (b) Is responsible for the employment of the platoon in accordance with orders received from the battalion commander or the unit to which attached.
- (c) Issues orders to his subordinate elements.
- (d) Supervises execution of orders.
- (e) Within guidance provided, selects position areas and controls the movement of all elements of the platoon not attached to other units.
- (f) Keeps himself informed of the enemy and friendly situation.
- (g) Establishes and maintains liaison with the supported units through the forward observer teams.
- (h) Establishes a fire control system within the platoon.
- (i) Prepares a plan for heavy mortar fire support.
- (j) Within guidance provided plans, initiates, and supervises the timely displacement of all elements of the platoon not attached to other units.
- (k) Maintains adequate security.
- (l) Supervises the supply of ammunition to each of the firing squads not attached to other units.
- (m) Supervises the platoon communication system.
- (n) Insures that liaison is established and maintained with the fire support coordinator (FSCOORD).
- (o) Performs other duties as a battalion special staff officer.

- (2) The platoon sergeant is the second in command and principal enlisted assist-

ant to the platoon leader and assists him in matters pertaining to discipline, training, and efficiency of enlisted men. He—

- (a) Is in charge of ammunition supply for the platoon.
- (b) Performs reconnaissance as directed by the platoon leader.

b. Fire Direction Center.

(1) The chief FDC computer—

- (a) Takes charge of the fire direction center (FDC) and plans, coordinates, and supervises its activities and training under the direction of the platoon leader. He keeps himself informed of the tactical situation and the schemes of maneuver of the supported units. He is responsible for the preparation of firing data for all fires.
- (b) Makes the decision to fire mortars. When a target is reported, he examines its location relative to the frontline, mortar position, and reference points. Then, based upon the nature of the target, the ammunition available, and the announced policy of the battalion commander, he decides whether to fire the mission, as well as the number of mortars to be fired and the amount of ammunition to be used in engaging the target.
- (c) Is responsible for maintaining ammunition records and initiating ammunition supply action.
- (d) Is responsible for informing the battalion headquarters of all intelligence information received in the FDC.
- (e) Checks the accuracy of the chart operators, and records and posts intelligence and tactical information.

- (2) The computers and instrument operator, under the supervision of the chief computer, operate and maintain firing charts for the platoon. They formulate and issue fire commands to the squads and maintain a firing record of each mission fired. They

operate platoon fire control instruments. They also maintain ammunition records and advise the chief computer of ammunition status.

c. Forward Observer (FO) Teams. These teams accompany the forward units and advise the commander of the supported units of the capabilities of the mortar. They request fires for supported units, observe and adjust fire for the platoon, and may request and adjust artillery fires through the battalion mortar platoon FDC. (For a detailed discussion of the duties of the forward observers, see FM 23-92.)

d. The Heavy Mortar Squad. 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. Communications

The platoon employs a flexible communications system using FM radios as the principal means. The platoon leader operates in the platoon command net FM. The platoon fire direction center (FDC), operating in the battalion command net FM and the platoon command net FM, also maintains communications with the direct support artillery battalion which is in support of the brigade. Platoon forward observers must enter their supported unit net FM and maintain communications with the mortar platoon FDC. Mortar squads have the capability to operate in the platoon net FM, but will normally install wire for communications with their FDC when employed under centralized control. See figure 6 for type radio diagram and figure 7 for type wire net diagram.

7. Fundamentals of Employment

a. General. The employment of the platoon is based upon its speed of operation and movement, maximum and minimum range, and its constant readiness to provide fire support. The platoon leader places himself where he can best control the employment of his platoon. He is often with the battalion commander or com-

mand group. He may control leading elements of the platoon during displacement, conduct reconnaissance, or visit the supported company teams for coordination.

b. Control. The platoon normally operates under battalion control and furnishes support to the line companies or company teams. The platoon is usually employed in general support under the control of the platoon leader; however, a priority of fires may be assigned to a specific unit.

c. Concentration of Effort. This is achieved through centralized control. The platoon normally masses its fires for one mission at a time; however, it can fire two missions concurrently.

d. Displacement. The platoon is 100 percent mobile. This mobility permits rapid maneuver of platoon fires throughout the battalion area of operations. The mortar platoon may displace as a unit or by sections. One squad at a time may be displaced if required. Normally the platoon will displace by section (two squads).

e. Security. The platoon is normally located within, or adjacent to, other friendly combat or combat support elements to obtain maximum security from the friendly elements. The platoon has a limited capability to provide its own security by using platoon members as sentinels.

8. Conduct of Fire

See FM 23-92 for conduct of fire details.

9. Observation

a. General.

- (1) Continuous observation affords flexibility of fires and serves as a principal means of gaining information about the enemy and its own units.
- (2) The forward observer's area of responsibility for observation is the zone or sector of the supported unit. He observes the most critical areas within the battalion's area of operations. He must maintain a close working relation with artillery and company forward observers. 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.)

b. Observation Posts.

- (1) Observation posts, including alternates, 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 use when hostile fires force him to move or when the primary post is blinded by smoke or haze. When practical, the alternate posts should have a covered route of approach from the primary post.
- (4) The location of the observation posts must be coordinated with those of artillery, and when available, 81-mm mortar forward observers of attached mechanized infantry unit 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 fire. This insures support by the weapon that will best accomplish the mission.

d. Reports. The forward observer teams re-

port significant enemy and friendly activities directly to the FDC of the battalion heavy mortar platoon.

e. Aerial Observation. Army aircraft may observe and adjust fires. Direct radio communication is established between the FDC and the observing Army aircraft (FM 1-100 and FM 23-92).

10. Liaison

The platoon establishes and maintains continuous liaison with the artillery liaison officer. Communication is maintained with the battalion headquarters and the supporting artillery FDC. During the planning phase and during critical phases of operations, the platoon commander remains with or near the battalion commander. The forward observer teams coordinate with artillery forward observers and the company team commanders in whose area they are working. The platoon commander coordinates with supporting artillery through the artillery liaison officer.

11. Fire Direction

a. The definitions, objectives, techniques, and doctrine of fire direction for indirect firing and mortar gunnery are prescribed 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 fire direction specialists and equipment that the commander uses for fire direction and fire control. The FDC is located where the fires of the platoon can best be controlled. The FDC helps the commander control the fire missions, translate target intelligence, and convert observers' requests for fire into commands to the firing squads. The efficiency and speed of execution of fire missions depend upon the skill of the men in the use of fire direction techniques and equipment. The chief fire direction computer supervises the activity of the FDC.

c. Mortar fire direction procedures are explained in detail in FM 23-92.

d. The platoon FDC monitors the supporting artillery fire direction net. To insure adequate coverage of targets and to avoid duplication of effort, the battalion FSCORD integrates the fires of the platoon and the supporting artillery.

12. 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 platoon leader is responsible for planning, coordinating, preparing, and delivering all fires by his platoon. 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. These are—
 - (a) High rate of fire for short periods.
 - (b) Ability to fire from 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) Limited maximum and minimum range capability.
 - (g) Displacement capability and limitations.

c. Mortar 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 prepared depends upon 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's announcing his concept of fire support. At battalion level, the fire plan is based primarily upon requests from company teams, battalion headquarters, and those generated from acquired targets. Coordination of heavy mortar and artillery fires is accomplished simultaneously at the battalion CP and at the supporting artillery FDC. The result is one fire plan containing all required information such as graphic layout, target lists, and schedule of fire.
- (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 number and letter prefixes should be used.
- (4) The fire capabilities of the platoon is the aggregate of the fire capabilities of its squads. The fire capabilities chart should show the area that can be covered by each squad.

d. Company Team Fire Planning. The company team commanders, through the mortar and artillery forward observers, request the organic and nonorganic fire support desired. Prior to formulating this request, the forward observer informs the supported 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.

e. Processing Fire Plans.

- (1) Both the mortar and artillery forward observers send the company commander's fire requests to their respective FDC for consolidation and coordination. Mortar fires are integrated into the artillery fire plan by the fire support coordinator.
- (2) Company plans for fire support and the requirements from the battalion commander are integrated into the battalion fire support plan. This plan is prepared under the supervision of the FSCORD or his designated representative (normally the liaison officer from the artillery battalion in direct support of the brigade) and submitted to the battalion commander for approval.

13. Classification of Fires

a. General. Mortar fires are classified according to type (effects desired), prearranged fires, fires not prearranged (fires on targets of opportunity), and observed and unobserved fires.

b. Types of Fires.

- (1) Destruction fires are delivered for the purpose of destroying material objects. Destruction fires may be accomplished by penetration, blast effect, incendiary action, or by a combination of these actions.
- (2) Neutralization fires are delivered to screen; cause casualties; hamper and interrupt the firing of weapons, movement, or action; and to reduce the combat efficiency of enemy troops.
- (3) Harassing fires are of less intensity than neutralization fires and are designed to inflict losses, or, by the threat of losses, to disturb the rest of enemy troops, curtail movement and, in general, lower morale.
- (4) Interdiction fires are placed on an area or point to prevent or hinder its use. Interdiction fire is usually of less intensity than neutralization fire.

c. Prearranged Fires. These are fires for which data has been prepared in advance. They may be prearranged as to both time and place (scheduled fires) or they may be prearranged as to location only and fired on request (on-call fires).

- (1) Scheduled fires are prearranged fires 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 are prearranged fires fired as requested. These fires may have fire data prepared or may be planned as to location only.
- (3) Preparation fire is intense fire delivered in support of an attack. It is designed to disrupt the enemy's communications, disorganize his defenses, and neutralize his fire support means. Preparations begin before, at, or after H-hour and continue until lifted. They may be lifted at a prearranged time or on request.
- (4) Counterpreparation fire is 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 the enemy's offensive spirit.
- (5) A concentration is a volume of fire placed on an area within a limited time, or on an area designated and numbered for future reference as a possible target. All fires except registration fire and barrages are termed concentrations and may be prearranged fires on targets of opportunity. The actual area covered by any concentration depends upon the nature of target to be engaged.
- (6) A barrage is a planned barrier of fire to protect troops and installations by

impeding enemy movement across defensive lines or areas. The four mortar squads normally fire one joint barrage approximately 200 meters wide and 50 meters deep. 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 close-in to friendly positions to cover dangerous avenues of approach. 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 whenever possible. Unobserved fires may be delivered on accurately located targets. The effectiveness of unobserved fire depends upon accurate survey data.

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 into position, insure close and continuous indirect-fire support, and provide flexibility of movement. The platoon leader must keep himself informed of the situation and anticipated future operations to accomplish timely RSOP. Selected position areas or routes are reported to the battalion S3 and FSCoord. The battalion mortar platoon leader coordinates the firing positions with the artillery liaison officer. 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, including firing positions, command posts, and observation posts. Mortar range limitations make it imperative that reconnaissance for new firing positions be continuous. 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 those men and vehicles actually required.
- (2) Based upon their knowledge of the weapon, 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.

c. Selection. The primary requirement of a position area is that it permit accomplishment of the mission. It is desirable to select position areas that provide concealment and defilade, sufficient space for dispersion, and terrain adaptable for defense of the unit. 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 used. These ground formations offer some protection from enemy observation or detection and from weapons other than high angle types. Desirable characteristics of mortar positions include—

- (1) Dry, well-drained ground, free from large stones and other obstructions.
- (2) Availability of alternate positions.
- (3) Location within or near reserve units when such location would not interfere with the mission of either unit.

d. Occupation. When selecting a position, the platoon leader must plan for occupying the area selected, including location of the weapons, vehicle park, wire routes, and routes into the position. Once he forms his plan, he must issue orders for implementation to include communication and security.

15. 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 mortar elements 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. Elements normally displace in their organic vehicle. At times they may be displaced by Army transport aircraft—such as during support of an airborne operation.

16. Class V Supplies

a. General. Class V supplies as related to the battalion mortar platoon include nonnuclear ammunition, pyrotechnics, antitank mines, and chemical ammunition. The commander 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.

b. Ammunition Loads. The basic load is that quantity of ammunition authorized to be carried on individuals and vehicles of a unit. replenishment of basic loads to keep pace with

expenditure of ammunition is a command responsibility. Only that ammunition necessary to meet anticipated needs is offloaded at positions.

c. Ammunition Replenishment. Ammunition is replenished from the battalion trains as

stocks are depleted. Unit distribution is used to deliver ammunition to firing positions when the platoon is employed under battalion control. When mortar squads are attached to company teams, the company team commander will supply ammunition direct to the firing positions.

Section II. TACTICAL EMPLOYMENT

17. General

Regardless of the type operation being conducted, the mortar platoon provides close and continuous fire support to its parent battalion. This section sets forth doctrine for the employment of the platoon in tactical operations.

18. Tactical Missions

a. Tactical missions must be assigned to the battalion mortar platoon in the same manner as tactical missions are assigned to artillery units. Tactical missions for the mortar platoon are general support and direct support.

- (1) *General Support.* General support is the mission of supporting the majority of the parent battalion. The battalion commander retains control of the fire and movement of the platoon. The mortar squads are best employed in mass under the platoon leader with the mission of general support. This method affords maximum flexibility in that massed fires can be placed on targets throughout the battalion area of operations. When the platoon is employed in the general support mission FO are normally sent to each team within the battalion (task force). If there are more teams than there are forward observers, priority will be given to sending forward observers to those teams which will be initially committed. A priority of fire may be assigned to a team as required.

- (2) *Direct Support.* Direct support entails establishment of communication with the supported unit; dispatch of forward observers when applicable; advising supported unit on employment, fire planning, and displacement, to

conform to the plans of the supported commander. The entire platoon or one or more of its squads may be given the mission of direct support when the platoon cannot be effectively employed in general support. The platoon or its squad are positioned by the platoon leader to fire for the supported unit.

b. One or more of the mortar squads may be attached to a company team. At this time, the team commander assumes complete control of, and responsibility for, the mortar squad(s). Attachment is a status, not a mission. The team commander may assign the mission of general support or direct support.

19. Marches

a. The position of the mortar platoon in a march column is prescribed in the battalion march order. The position of the mortar platoon is based on its mission. When the march is toward the enemy and contact is probable, the mortars are normally assigned to a position immediately to the rear of the leading company team. When the battalion is marching in a direction other than toward the enemy, the platoon is assigned locations from which they can best furnish supporting fires to the bulk of the battalion. When a requirement for supporting fire arises, the mortars move to these locations to reach a position from which the desired fires can be delivered.

b. The mortar platoon must be prepared to receive fire missions during movement, deploy from march column, lay, register, and fire the mission with speed and accuracy.

20. Assembly Areas

a. The battalion mortar platoon occupies an assembly area employing the same principles

and techniques applicable to other armor units. See FM 17-1 for the general considerations applicable to occupation of assembly areas.

b. Mortars are positioned to cover likely enemy avenues of approach into the parent organization or supported unit position. Fires are planned to the extent that time and the situation permit.

21. Preparation for Attack

a. The battalion mortar platoon prepares for the offense by accomplishing the basic tasks incident to preparation for combat by any armor unit. The platoon usually accomplishes all combat preparations before moving from the assembly area. Weapons, vehicles, radios, and other equipment are checked; ammunition is stowed, troops are briefed on the situation and future operations.

b. Initial firing positions are selected and plans are completed for their occupation and for registration of weapons to support the attack. Positions are occupied at the latest practicable time before the attack to minimize detection by the enemy.

c. Fires are planned to support all phases of the attack. These fires are planned in as much detail as possible. When lack of information precludes detailed planning, leaders prepare general plans for providing fires to supported units, including selection of firing positions or the position within the attack formation if contact is not imminent.

22. Conduct of the Attack

a. Fires are delivered in accordance with platoon and squad fire plans. Scheduled fires are delivered at the time and on targets prescribed. Upon completion of scheduled concentrations, the platoon prepares to engage targets of opportunity and deliver on-call fires as requested by supported elements.

b. The platoon leader keeps himself informed of the situation and continues his estimate. Alternate firing positions are occupied when hostile fire makes the primary positions untenable. Supplementary positions are occupied should it become necessary to deliver fires in an area which cannot be covered from the primary or alternate firing positions.

c. Mortars displace before supported elements move beyond effective range of the weapon. As a general rule, the platoon or its squads should begin displacement when supported units reach distances equivalent to one-half the range of the primary weapons. When required to insure continuous fire, the platoon displaces by sections or by squads as the requirement for fire support and the tempo of the operation dictate. When mortar squads are attached to companies, the commander of the company to which attached will direct the squad leaders to displace. In fast-moving attacks and in movement to contact, the heavy mortar platoon, or one or more squads, must deploy from march column and fire missions as requests are received.

23. Exploitation and Pursuit

The heavy mortar platoon fires are effective in exploitation and pursuit operations as they can be employed against enemy targets with minimum delay and coordination.

24. Night Attacks

The heavy mortar platoon is employed at night to provide fire support, including illumination.

25. Defense

a. Regardless of whether the parent organization is conducting an area defense or is participating as part of a larger force in a mobile defense, the battalion heavy mortar platoon applies the same general principles in providing fire support.

b. The platoon is employed using the method that best provides the fire support needed by battalion elements. Where possible, the platoon is employed in general support to provide for maximum flexibility; however, squads may be placed in direct support of companies as required.

c. Fire planning in the defense is similar to that described for offensive situations. Fires are planned as—

- (1) *Long range fires (concentrations)* to bring the enemy under fire, deceive him as to location of the battle position, and inflict casualties.

- (2) *Close defensive fires (concentrations)* to prevent the enemy from reaching a position from which he can launch his assault.
- (3) *Final protective fires.* The heavy mortar platoon participates in the final protective fires of the battalion. These fires are assigned to the heavy mortar platoon as one barrage on which all four squads fire jointly.
- (4) *Fires (concentrations) within the battle position* that can limit enemy penetration and support counterattacking elements.

d. When the parent organization is all or part of the reserve, fires are planned as described for offensive operations. Fire plans are prepared that support the counterattack plans.

e. During conduct of the defense, fires are delivered on prearranged concentrations and targets of opportunity as requested by supported commanders.

f. Alternate and supplementary positions are designated by the platoon leader or commander of the unit to which heavy mortar squads are attached. Squads move to alternate positions when hostile fire threatens primary positions; supplementary positions are occupied as necessary.

26. Retrograde

a. *General.* The battalion heavy mortar platoon

is employed in retrograde operations applying techniques similar to those used in the defense.

b. *Retirement.* The platoon moves as part of its parent organization when participating in a retirement. The heavy mortar squads are interspersed within the column to facilitate rapid deployment into firing positions and to provide fire support to all elements of the battalion,

c. *Withdrawal.* The platoon provides fire support for its parent battalion throughout all phases of the withdrawal. As the main body withdraws, one or more mortar squads are attached to the security force. The remainder of the platoon withdraws under control of the platoon leader or commander of the unit to which attached. Additional security measures must be taken to prevent weapons left with the security force from falling into enemy hands.

d. *Delaying Action.* The platoon fires are planned in support of delaying actions. Squads may be placed in direct support of companies because of the relatively wide frontages incident to delaying actions. Positions are occupied and fires are planned to subject the enemy to attack at maximum effective ranges. Targets of opportunity are engaged as they are detected. Use of aerial observers permits full use of the range characteristics of the mortars.

APPENDIX III

THE SCOUT PLATOON

Section I. GENERAL

1. Organization

The scout platoon is organized and equipped the same in the mechanized infantry and tank battalions. It is organized as described in chapter 1, paragraph 14, and as shown in figure 3.

2. Mission and Capabilities

a. Mission. The mission of the scout platoon is to perform reconnaissance and security missions for its parent battalion and to assist in the control of the movement of the battalion or elements thereof.

b. Capabilities. The scout platoon can—

- (1) Conduct route reconnaissance.
- (2) Conduct area reconnaissance.
- (3) Conduct zone reconnaissance.
- (4) Screen one flank, or the front, or rear of the parent battalion.
- (5) Conduct liaison.
- (6) Provide contact parties.
- (7) Act as a quartermaster party.
- (8) Provide traffic control and road guides.
- (9) Conduct limited pioneer and demolition work.
- (10) Conduct chemical detection, and radiological monitoring and survey operations.
- (11) Participate in area damage control operations.
- (12) Establish a roadblock.
- (13) Act as part of the advance, flank or rear guard.
- (14) Establish observation posts and listening posts.

3. Firepower

a. General. The platoon has rifles, machineguns, light antitank weapons (LAW), pistols, and grenade launchers. Frequently, scouts must request and adjust artillery or mortar fire; therefore, all scouts should be thoroughly trained in observed-fire procedure (FM 6-135). All scouts should be proficient in the use of all weapons organic to the platoon.

b. Rifle Fire. When required to operate dismounted, each scout squad, within its capability, functions essentially the same as a rifle squad and each vehicle crew as a fire team (FM 7-11).

c. Machinegun Fire. Each vehicle has a .50 caliber machinegun and a 7.62-mm machinegun. The .50 caliber machinegun is employed from the vehicle, and the 7.62-mm machinegun is employed either from the vehicle or is dismounted and carried by the scout observer.

- (1) The .50 caliber machinegun is employed from the vehicle to—
 - (a) Conduct reconnaissance by fire.
 - (b) Return enemy fire.

- (c) Cover moving elements.
- (d) Engage and defeat targets within its capability as required by the mission and situation.
- (2) The 7.62-mm machinegun is employed from the vehicle to accomplish the same results within its capabilities as the .50 caliber machinegun and is frequently used for dismounted action.

d. Light Antitank Weapon (LAW). Each scout squad carries several LAW's for close-in antitank protection or to destroy point targets as necessary to accomplish its mission. The exact number carried will depend on the mission and enemy situation. Specific individuals should be assigned responsibility for carrying the LAW's when the squad is dismounted.

e. Grenade Launcher M-79. Each scout driver is armed with a M-79 grenade launcher. The M-79 can be effectively employed against enemy personnel, automatic weapons, emplacements, bunkers and lightly armored vehicles.

4. Communications

a. The communication means available to the scout platoon permit the rapid transmission of information (fig. 6). Information and orders are transmitted without delay. Communication is maintained throughout the period of operations. When radio contact cannot be maintained, messengers or relay stations (air or ground) are used to reestablish communication. When communication with the next echelon of command is disrupted, scout elements bypass this echelon and send information directly to the higher headquarters.

b. The following are of importance to scout units in maintaining contact:

- (1) All scouts must be thoroughly trained in the operation of FM radios, radio procedure, and communication security. Personnel should be trained to perform authorized maintenance and to make proper use of communication expedients.
- (2) Vehicular-mounted and portable radios are used in the combination dictated by the existing situation. Remote control units are used during opera-

tions that preclude the use of vehicles at a key point such as an OP or LP.

- (3) All scouts are trained as messengers and to prepare clear and concise oral and written messages. When communicating by messenger, the importance of the message must be considered before dispatching a vehicle with its crew. When a vehicle is diverted to messenger service, the scout squad loses a vehicle, thereby reducing its capabilities.
- (4) Wire communication is used as required.
- (5) Plans are made for visual and audible means of communication before an operation starts. These means are especially useful for transmitting short, prearranged messages.

5. Duties of Key Personnel

a. General. The platoon leader and noncommissioned officers must be expert in the use of organic weapons, maps, supporting fires, demolitions, and field expedients. They must be familiar with armor and infantry tactics and be able to react swiftly to changing situations. Each must be able to employ his element alone or as part of a combined arms team.

b. Duties of Platoon Leader. The platoon leader is responsible to the headquarters and headquarters company commander of the parent battalion for the discipline, combat readiness, and training of his platoon, and for its maintenance and equipment; however, the platoon is normally employed tactically under control of the battalion S3. The platoon leader must have a thorough knowledge of combined arms tactics and be proficient in the tactical employment of the platoon. He must know the capabilities and limitations of the personnel and equipment in the platoon and must be thoroughly familiar with all aspects of command and leadership as discussed in FM 17-1.

c. Duties of Platoon Sergeant. The platoon sergeant commands elements of the platoon as directed by the platoon leader and assumes command of the platoon in the absence of the platoon leader. During tactical operations, he may assist in control of the platoon. The pla-

toon sergeant assists the platoon leader in maintaining discipline, in training, and in maintaining control of the platoon. He assists also in matters pertaining to maintenance of equipment, supply, and other combat service support matters of the platoon.

d. Duties of Section and Squad Leaders. Sec-

Section II. COMBAT OPERATIONS—GENERAL

6. Offense, Defense, and Delay

The scout platoon is not organized or equipped to conduct independent offensive, defensive or retrograde operations. It operates as part of the battalion and should be assigned missions that capitalize on its reconnaissance and security capabilities.

a. Offense. Prior to the battalion crossing the line of departure, the scout platoon is normally employed to reconnoiter and outpost assembly areas, attack positions, reconnoiter routes, and assist in the movement of the battalion. After the battalion has crossed the line of departure, the scout platoon may be employed to screen one flank or screen the battalion's advance to contact. Once the battalion has made contact with the enemy, the scout platoon will normally move to and screen one flank, or provide rear area security, or be employed to assist in the evacuation of prisoners from the company teams, or to provide security for the command group.

b. Defense. During defensive operations, the scout platoon may be employed as part of the combat outpost; to provide patrols between elements of the battalion task force; to screen a flank; or to assist in providing rear area security. It is frequently employed to reconnoiter counterattack routes for the reserve.

c. Delay. When the parent battalion is in the delay, the scout platoon is normally employed initially as a security force forward of the initial delay position (IDP). Once an enemy force is detected, the platoon maintains contact with it and attempts to deceive it as to the true location of the IDP. The platoon delays, disorganizes and destroys the enemy within its capability. When the enemy can be engaged by the forces positioned on the IDP, the scout

tion leaders are responsible to the platoon leader for the training, discipline, tactical employment, and control of their sections. They closely supervise the maintenance and operation of all vehicles and equipment organic to their sections. Squad leaders have the same responsibilities with respect to their squads as section leaders have to their sections.

platoon withdraws through the IDP and may be assigned a reconnaissance or security mission such as reconnoitering and patrolling routes of withdrawal and delay positions for the delaying forces or screening a flank.

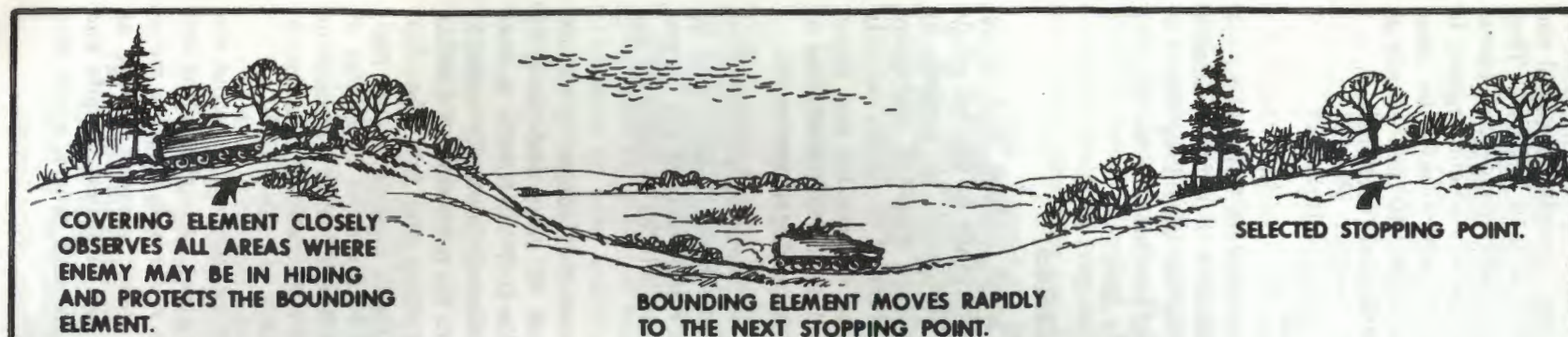
7. Movement to Contact

a. General. The scout platoon may be required to screen an advance to contact of its parent battalion. Movement to contact by scout elements combines mounted movement with dismounted movement to insure security against enemy ground observation and direct fire. All scouts should master the techniques of mounted and dismounted ground movement.

b. Formations. The formation adopted must be flexible so that each new situation may be met effectively. The relationship of the formation to the parent unit will be dictated by the mission.

c. Mounted Movement. Mounted scout elements normally work in pairs and move by bounds (para 9 below). When enemy contact is imminent, one element normally remains stationary and covers the movement of another element with observation and fire (fig. 98). This procedure assists in locating enemy positions, furnishes fire to cover the movement of leading vehicles, and insures rapid transmission of information. The basic techniques of movement used by the scout platoon are—

- (1) Before moving, the leading scout element determines its next position and a favorable route to it. During movement, the scout element moves as rapidly as the situation permits and watches for enemy troops, cover, and concealment.



The lead vehicle moves forward to the selected stopping point covered by the rear vehicle.



When the lead vehicle arrives at the selected stopping point, the car commander dismounts and reconnoiters the area to the front, keeping his vehicle concealed until he has signaled the rear vehicle forward and the next bound has been determined. If the rear vehicle now leads the next bound, the squad will be employing alternate bounds. If the rear vehicle again covers the movement of the same lead vehicle, the squad will be employing successive bounds.

Figure 98. Scout squads moving by bounds.

- (2) When approaching a position affording new areas of observation, the commander of the leading vehicle halts his vehicle and dismounts preferably in a covered and concealed position to prevent enemy elements beyond the position from detecting his presence. The fundamentals of individual movement discussed in FM 21-75 are applicable. When the position has been checked, the overwatching scout element moves forward.
- (3) Scouts must not become vehicle-bound. They should dismount in order to improve observation, to prevent enemy detection, and to provide security.
- (4) The distance of each bound is determined by the nature of the terrain and the range at which the covering element can effectively support the moving element. Normally, this distance should not exceed the effective range of organic weapons.
- (5) Movement in each bound is completed rapidly; however, it should not be done so rapidly that efficiency of operation and coordination between elements are lost.
- (6) When covering elements are moved forward, they move as rapidly as possible to avoid delaying completion of the mission.
- (7) Movement is oriented on the enemy, the main body, or terrain features as dictated by the mission. See FM 17-1 and FM 17-36.
- (8) When the movement of advancing vehicles is being covered, observation is directed at terrain from which fire is expected and not on the moving vehicles (para 10f below).

d. Dismounted Action. Dismounted scouts apply the principles described in FM 21-75. All scout personnel must be skilled in map reading and able to maintain direction of movement.

8. Action on Contact

When an enemy force is encountered, the platoon leader immediately deploys the platoon,

reports the enemy contact to his higher headquarters, develops the situation, and chooses a course of action. Then he reports the situation that has been developed and his course of action. An effort is made to determine the flanks of the enemy position. When terrain permits, the enemy position is reconnoitered by mounted reconnaissance. If the terrain restricts vehicular movement, the situation is developed with dismounted patrols while other elements support their movement. Reconnaissance by fire is used extensively when time is critical.

9. Successive and Alternate Bounds

Vehicles within the scout squad, scout squads within the section, or sections within the platoon may advance employing either successive or alternate bounds.

a. Successive Bounds (fig. 99). In this method, the leading element, covered by the rear

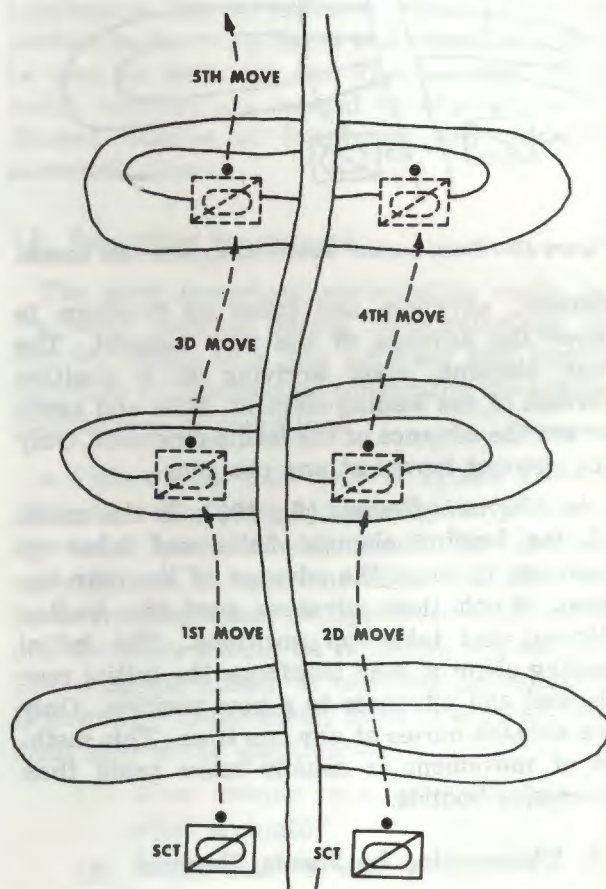


Figure 99. Scout section movement by successive bounds.

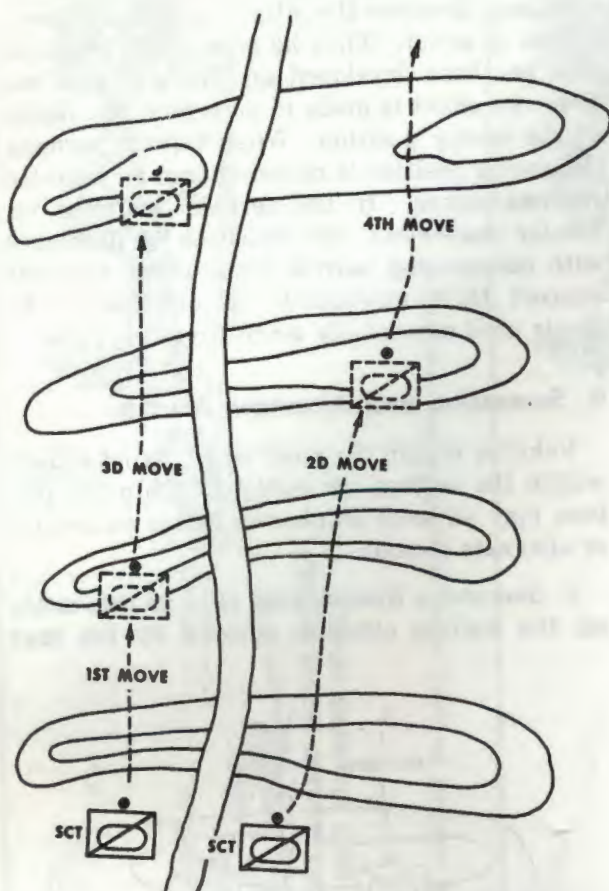


Figure 100. Scout section movement by alternate bounds.

element, advances and takes up positions to cover the advance of the rear element. The rear element, upon arriving at a position abreast of the leading element, halts and again covers the advance of the leading element. Only one element moves at any one time.

b. Alternate Bounds (fig. 100). In this method, the leading element halts and takes up positions to cover the advance of the rear element, which then advances past the leading element and takes up positions. The initial leading element then leapfrogs the initial rear element and advances to a new position. Only one element moves at any one time. This method of movement is usually more rapid than successive bounds.

10. Observation by Scouts, General

As enemy contact becomes imminent, movement is undertaken only after thorough obser-

vation has been accomplished. Observation by all scouts must be continuous and systematic. To insure the best results from observation, scout leaders should see that—

a. Personnel make maximum use of binoculars and observation telescopes.

b. Concealed positions are selected that offer good observation of the area to be covered. Observers should be dismounted from their vehicles.

c. Terrain is visually searched in strips as explained in FM 21-75.

d. Observation is accomplished by teamwork. One scout watches the area to detect movement, while another conducts a systematic search with binoculars or an observation telescope.

e. All-round observation is maintained by assigning a sector to each individual in the vehicle crew. When working by squad or section, each vehicle crew is assigned responsibility for a specific sector of observation.

f. When the movement of other vehicles is being covered, observation is on the terrain from which fire is expected and not on the moving vehicles. Stationary personnel can usually detect hostile fire or movement more easily than those in moving vehicles.

g. Personnel are trained to identify targets or possible target areas quickly.

h. When a scout squad is observing from a stationary position, the squad leader organizes his personnel so that they can obtain adequate rest, yet make maximum use of the observation equipment available.

i. Constant liaison and communication with adjacent units are maintained. This aids in keeping an enemy force under continuous observation.

11. Establishing Observation Posts

a. The purpose of an observation post (OP) is to provide early warning of enemy approach; report the location, strength, disposition, and movement of the enemy; and adjust long range fires to cause early deployment of the enemy, and to inflict casualties (FM 21-75). Observation of the enemy is maintained as long as

possible; therefore, OP personnel must be prepared to remain in a position until it becomes untenable and then to move quickly.

b. The scout platoon normally establishes four OP's (one per scout squad); however, it may establish up to eight OP's (two per scout squad) for a limited time. In determining the number of OP's to be established, the platoon leader must consider that his ability to conduct patrolling between OP's diminishes as he increases the number of OP's.

c. Normally, the scout platoon leader selects the general position for each OP. The specific location is then selected by the scout squad leader. Each OP must have communication and the necessary personnel to observe and provide security for its operation. Areas that cannot be observed from established OP's are covered by ground or aerial patrols.

d. In the selection of an OP position, consideration should be given to overlapping fields of observation with other OP's, concealment of the OP and routes thereto, ease of installation and maintenance of communication, and avoidance of landmarks. The position should be located on ground high enough to provide as wide and deep a field of view as possible and good observation of likely enemy avenues of approach. The choice of a position on the forward slope or on the topographic crest of a hill depends on the terrain and mission. A forward slope position affords a better view of the immediate foreground and a good background for concealment. A crest position allows initial occupation during daylight, allows greater freedom of action, and facilitates installation, maintenance and concealment of communication equipment. Normally, scouts will occupy a crest position (fig. 101).

e. Scouts manning observation posts do not fire their weapons except to defend themselves or cover their withdrawal. The noncommissioned officer in charge of the OP is responsible for keeping the area of responsibility under constant observation. Generally, two men observe, one man operates the radio or telephone, and the remainder provide security. When an observation post is occupied, its position and other prominent terrain features should be

accurately located by map to assist in reporting information and adjusting fires. Vehicles are placed under cover and concealment. Remote control equipment may be used by the observers to send information to the vehicular-mounted radio, which relays it to higher headquarters.

f. Scouts manning observation posts often work in conjunction with Army aircraft and air cavalry, and with elements of the battalion ground surveillance section.

12. Establishing Listening Posts

During hours of darkness, listening posts may be established near the main body or in the vicinity of the daylight OP's. Listening posts are positioned to cover likely enemy avenues of approach. Observers use both their sight and hearing. Observation telescopes and binoculars are as important at night as during daylight. The medium range radars organic to the battalion may be employed to supplement the surveillance effort. Warning devices, such as trip flares and mines, may also be used for detection and local security. Normally, vehicles are located to expedite withdrawal. Radios or telephones are used for communication.

13. Reporting Procedures

The most important contribution made by the scout platoon during reconnaissance or security missions is the accurate and timely reporting of information concerning the enemy and the area of operations.

a. Information and Reports of the Enemy. All information obtained during the performance of a given mission should be reported, regardless of its apparent value. Negative reports are sometimes of significant importance and therefore should be rendered. Initial contact with the enemy is reported immediately. Information of the enemy must be accurate and must answer the questions—

- (1) What enemy was observed and in what strength?
- (2) Where was the enemy observed?
- (3) When was the enemy observed?
- (4) What was the enemy doing?



Figure 101. Observation post established by a scout section.

b. Information and Reports of the Area of Operations. When information of a particular route or area is desired, personnel are thoroughly briefed on what information is desired and where it is to be sought. They must be familiar with the requirements for assembly areas and attack positions, the techniques and procedures of route reconnaissance as discussed in FM 5-36, and the effects of weather and terrain on various types of operations. The battalion SOP should prescribe a format for reporting this information so that reports are

concise, complete, and timely. Time permitting, an overlay or sketch of an area, delivered by messenger, is an effective means of reporting.

c. Information and Reports of Own Unit. Scout elements must keep their higher headquarters continually informed as to their own location. This information may be reported according to a time schedule or as predetermined positions are reached. Check points, phase lines, and coded coordinates can be used effectively in reporting these locations.

Section III. RECONNAISSANCE MISSIONS

14. General

a. For a detailed discussion of reconnaissance missions, see FM 17-1 and FM 17-36.

b. In executing reconnaissance missions, the scout platoon obtains information by infiltration, observation, and, when dismounted, by stealth. When employed on a reconnaissance mission as part of a larger force, the scout platoon often executes its assigned mission while being overwatched and supported by other elements of the force.

c. The method by which the platoon performs its mission is determined by the mission, enemy situation, terrain and weather, and specific instructions received.

15. Route Reconnaissance

a. General. The scout platoon is particularly well-suited to perform route reconnaissance for its parent battalion. It may perform reconnaissance on one or more routes simultaneously.

b. Type of Information. All information obtained during the conduct of a route reconnaissance is reported regardless of its apparent value.

- (1) The specific information of a given route or series of routes should include minimum width of roads, types of roads (all-weather, limited all-weather, and fair weather), load-carrying capacity of roads and bridges on the route, and a description of obstructions or other limiting factors.

- (2) Reconnaissance of a bridge includes checking both underneath and on top for mines, boobytraps, demolition charges, and purposely weakened construction.

- (3) Information of the enemy and area of operations should be reported in conformance with paragraph 13.

c. Conduct.

- (1) *One route.* When the platoon is reconnoitering one route, the leading section normally moves by bounds, covering the main route, while the other section covers lateral routes and critical terrain features.
- (2) *Multiple routes.* When a scout platoon is required to reconnoiter more than one route, each scout section may be assigned the mission of reconnoitering a route. The section reconnoiters its assigned route by employing the scout squads in closely coordinated moves (fig. 102). While one squad moves by bounds to reconnoiter the main route, the other squad is used to reconnoiter lateral routes and key terrain features along the main route. The squad reconnoitering the main route must regulate its movement so that the other squad reconnoitering to the flanks can keep up. To keep the two squads moving together, the squad operating on the main route may check some portion of the lateral routes or terrain

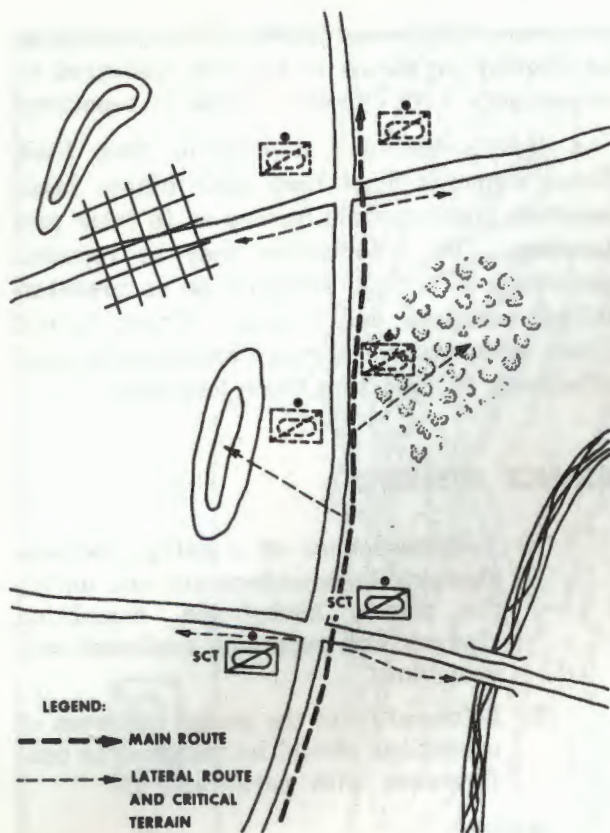


Figure 102. Scout section performing route reconnaissance.

features, or the squads may be alternated along the main route and lateral routes or terrain features. When the squads alternate, the leading squad moves along the main route until it comes to a lateral route or a terrain feature which must be reconnoitered. While this is being done, the rear squad moves up and continues along the main route until it reaches other lateral routes or terrain features which must be investigated.

d. Action at an Obstacle.

- (1) When an obstacle is encountered during the route reconnaissance, its location and description are reported. The platoon takes the necessary action to reduce the obstacle if such action is within its capabilities and does not interfere with the accomplishment of the mission.

- (2) When the obstacle cannot be readily reduced, the platoon bypasses the obstacle, reports the bypass, and, if appropriate, recommends to higher headquarters the action necessary to eliminate the obstacle.
- (3) When the resistance encountered will interfere with the assigned mission, the platoon leader reports and seeks a bypass. When a bypass is found, it is reported to the higher unit commander and the platoon continues on its original mission unless otherwise directed.

16. Zone Reconnaissance

a. General. In a zone reconnaissance, the scout platoon operates generally in the same manner as in a route reconnaissance. The formation adopted depends on the width of zone, terrain, vegetation, enemy situation, time allocated to complete the mission, and thoroughness of effort desired. In a zone reconnaissance, elements of the platoon move over routes that permit the quickest and most complete coverage of the zone.

b. Conduct. In conducting a zone reconnaissance, the scout platoon normally uses a line formation. Elements not required abreast may be employed to protect an exposed flank, to be a reserve, or to reconnoiter terrain features to expedite the zone reconnaissance. Each squad makes maximum use of observation points along its route to rapidly cover the entire zone.

c. Action on Contact. See paragraph 8 above.

17. Area Reconnaissance

a. General. In an area reconnaissance, the scout platoon moves directly to the area to be reconnoitered. Any enemy opposition encountered en route to the area is reported and bypassed. When the platoon arrives at the designated area, it may perform reconnaissance in the same manner as in a zone reconnaissance or move directly to preselected points of observation from which the area can be observed. The area may be divided into sectors, so that each scout section reconnoiters a portion of the area,

or the scout platoon may reconnoiter the area as a whole, with scout sections operating under control of the platoon leader and canvassing the area in a systematic manner. Upon completion

of an area reconnaissance, the platoon may be required to secure the area until other friendly troops arrive.

b. Action on Contact. See paragraph 8 above.

Section IV. SECURITY MISSIONS

18. General

a. The scout platoon may be employed on a security mission during offensive, defensive, or retrograde operations as a screening force or as a part of a larger security force conducting advance guard, flank guard, rear guard, and rear area security or covering force operations. For a detailed discussion of security missions, see FM 17-1 and FM 17-36.

b. Communication should be established between scout elements, and aircraft and other tactical units operating in the area to insure a constant exchange of information.

19. Scout Platoon as a Part of an Advance Guard

a. General. Normally the battalion task force employs a company-size unit as the advance guard; however, all or part of the scout platoon may be attached to the advance guard or work in close coordination with it.

b. Conduct. The scout platoon may provide flank security for the advance guard or be the leading element of the advance guard, particularly when contact with the enemy is not imminent. It will normally be directed to maintain a prescribed rate of advance. It is the responsibility of the scout platoon leader to maintain this rate of advance unless the platoon is stopped by enemy action or an obstacle. When enemy resistance is encountered, the platoon should immediately deploy, report contact, and attempt to determine the size and extent of the enemy force. Tanks and infantry elements from the advance guard should be committed promptly to destroy or disperse the enemy. If an obstacle is encountered, the scout platoon leader immediately reports the situation to the advance guard commander and reconnoiters for a suitable bypass.

20. Scout Platoon as a Part of a Flank Guard

a. General. The scout platoon performs a flank guard mission as part of a larger force.

b. Conduct. In the accomplishment of a flank guard mission, as part of a larger force, the scout platoon is frequently employed to establish observation posts, conduct patrols, and maintain contact with the main body, which may be stationary or moving. The scout platoon leader determines the specific friendly element with which contact should be maintained and assigns this mission to a specific scout element. When the main body is moving, the remainder of the flank guard moves on a route parallel to the main body and performs flank security (fig. 103).

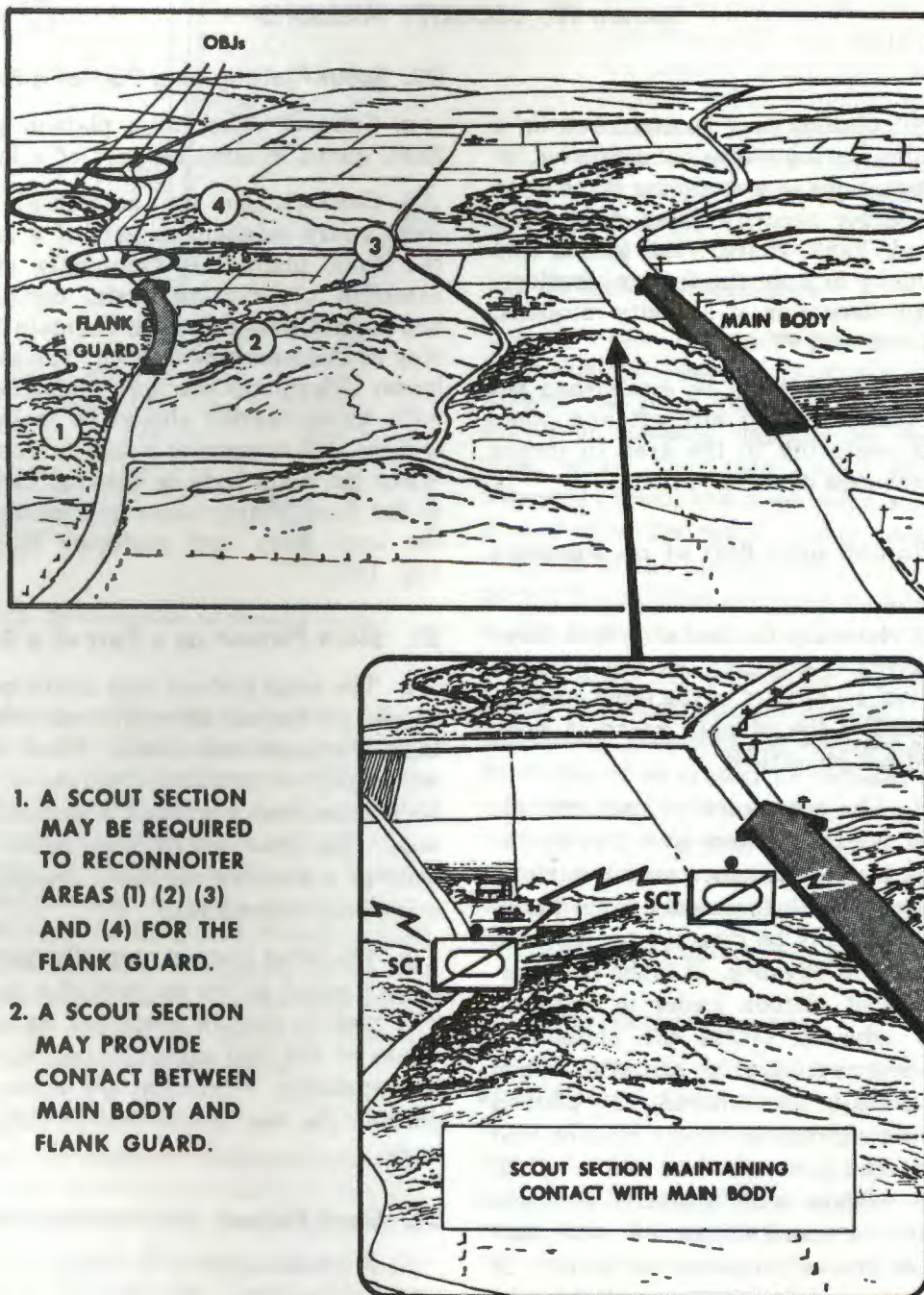
21. Scout Platoon as a Part of a Rear Guard

a. The scout platoon may participate as part of a larger force or be reinforced when required to perform as a rear guard. When so used, the scout platoon protects the rear of the main body from enemy ground observation and attack. The rear guard will follow the main body at a distance normally prescribed by the main body commander.

b. The scout platoon normally participates in a rear guard action as part of a larger force. The platoon may be employed on one or both flanks of the rear guard to detect, and within its capability, to prevent the enemy from bypassing the rear guard and striking the main body.

22. Scout Platoon as Screening Force

a. A screening force is a security detachment which protects an area or body of troops from surprise by observing and reporting enemy activity. It normally operates over an extended area.



1. A SCOUT SECTION MAY BE REQUIRED TO RECONNOITER AREAS (1) (2) (3) AND (4) FOR THE FLANK GUARD.
2. A SCOUT SECTION MAY PROVIDE CONTACT BETWEEN MAIN BODY AND FLANK GUARD.

Figure 103. Scout section performing as part of a flank guard.

b. The scout platoon may be assigned a screening mission. The frontage which a platoon can screen is determined by the limit of observation afforded by terrain and visibility, the number of patrols required, and communication facilities. Due to extended frontages, maximum use is made of the platoon sergeant and his vehicle and radio to assist in controlling and coordinating the action of the platoon. Once contact is made with an advancing enemy force, it should be maintained.

c. When acting as a screening force, the scout platoon secures its assigned area by establishing observation posts and conducting patrols. At night, listening posts replace the observation posts. Since a screen normally covers an extended area, the scout section selects observation posts that give the widest field of vision. Dead space between observation posts should be covered by mounted patrols. If the screen is required to remain mobile and move with the main body, elements of the screen must move by bounds in order to keep abreast of the main body. When the enemy is observed, the observation post notifies the platoon leader, who in turn notifies the main body commander. The scout squad occupying the observation post remains in visual contact with the enemy and withdraws by bounds.

d. In a screening mission the battalion ground surveillance section is normally attached to the scout platoon.

e. The techniques of establishing observation

posts and listening posts are discussed in paragraphs 11 and 12 above.

23. Roadblocks

When the movement of vehicles is largely restricted to roads, a roadblock may materially assist the scout platoon in accomplishing an assigned mission. Before establishing a roadblock, the platoon leader should consider all means to obstruct, delay, and canalize enemy movement. Natural obstacles, mines, booby-traps, wire, demolitions, and logs are the normal means used. In addition, the element of surprise and the platoon's ability to cover an obstacle by fire must be considered. The roadblock should incorporate obstacles covered by fire; however, if time or the lack of obstacle material prevents the platoon from physically placing an obstacle on the road, it establishes the roadblock by fire alone. Having selected the point or area along a road where the roadblock will be established, the platoon leader must select positions for each element of the platoon and allot tasks for preparing the position and developing the obstacle.

a. One scout section is normally employed to secure the flanks and to assist in covering possible bypasses which the enemy may use to avoid the obstacle.

b. The remaining scout section is normally employed to cover the roadblock by fire. Machineguns are positioned to obtain the best fields of fire available. Scouts with rifles cover areas not covered by machinegun fire.

Section V. OTHER MISSIONS

24. General

The scout platoon is frequently employed in performing liaison, participating in the quartermaster party, providing contact parties, and acting as guides.

25. Liaison

Liaison is maintained with units on the left and right so that their location and activities are known. All personnel must be trained to perform liaison because a section or squad is often required to perform an independent liaison mission. Information that the scout platoon may be required to deliver or receive includes—

son mission. Information that the scout platoon may be required to deliver or receive includes—

a. Location and identification of friendly units.

b. Location and time of enemy contact.

c. Trace of frontline units.

d. Operation plans.

e. Chemical detection and radiological monitoring and survey data.

f. Report of enemy nuclear attacks.

26. Scout Platoon in Quarters Party

The scout platoon or its elements may be used in the battalion quarters party. The duties of the quarters party are discussed in FM 17-1.

27. Scout Platoon Providing Contact Parties

Elements of the scout platoon are often used as contact parties. Before attempting to make contact with another unit, the scout section or squad leader determines the location of the contact point or alternate contact point, when the contact is to be made, and what is to be accomplished on contact. He also determines the radio frequency of the unit to be contacted, action desired if contact is not made, and method of reporting contact or information received at the contact. If contact is to be made at a specific point by a scout section, one squad moves directly to the designated point while the other squad overwatches and provides security.

28. Scout Platoon Providing Guides During Movement

a. The scout platoon is often used to provide guides during a march. The platoon leader supervises the placing of direction or route markers, insures the accomplishment of liaison with the unit to be guided, ascertains the rate of march, and identifies the beginning and end of the route of march.

b. When time permits, the scout platoon leader should reconnoiter the route. If a passage of lines is to be accomplished, scouts may assist the battalion by providing guides. The platoon leader should coordinate with the unit through which the passage will take place, become familiar with the tactical situation, location of friendly troops, obstacles in the area, and with the terrain in general.

c. Scouts performing as road guides are often required to control or assist the military police in controlling traffic.

d. Scouts should be employed in pairs when used for road guides in guerrilla infested territory. They should remain hidden until elements of the battalion approach, then while one scout provides the necessary guidance the other covers him.

29. Damage Control Operations

The scout platoon or portions thereof may be required to assist in damage control operations in the battalion area. During damage control operations, the scout platoon may be required to detect and identify chemical agents and perform radiological monitoring conduct radiological survey, assist in restoring communication, control traffic, and assist as directed by the control and assessment team (CAT).

30. Chemical Agent Detection and Identification and Radiological Monitoring and Survey

a. *Chemical Agent Detection and Identification.* The scout platoon may be required to perform chemical agent detection and identification to include warning of contaminated areas.

b. *Radiological Monitoring and Survey.* Radiological monitoring is a function frequently performed by the scout platoon in addition to the primary mission of the platoon. Monitoring is conducted either on a periodic or a continuing basis. When the scout platoon is assigned a survey mission, the size and composition of the survey team is based on a consideration of the number of personnel in the platoon that can be diverted from the primary mission; the area to be surveyed; equipment available; the road net in the area; and the specific information desired. An operation exposure guide (OEG) for radiation is specified by the commander who ordered the survey and the survey team is notified of the operation exposure guide for the survey. The platoon headquarters normally acts as the control party for survey parties organized within the platoon.

c. Chemical agent detection and identification and radiological monitoring and survey are discussed in greater detail in FM 17-1. For further details, see FM 3-12 for radiological monitoring and survey, and FM 21-40 for chemical agent detection and identification.

31. Pioneer Work by Scout Platoon

a. *General.* The scout platoon may be ordered to perform limited pioneer and demolition work. This type of mission may include the

installation or clearance of minefields and other obstacles; destruction of bridges, buildings, supplies, and equipment; and the preparation of fording sites.

b. Equipment. The axes and shovels carried on all vehicles and the demolition set in the platoon headquarters are used for pioneer and demolition work.

c. Pioneer and Demolition Work. Pioneer and demolition work must be coordinated with the unit for which it is being performed. Priority of demolition work, based on the mission, enemy, and terrain should be established. When the platoon is required to install minefields, records and reports are made in accordance with guidance in FM 20-32. FM 5-34 contains engineer field data for pioneer and demolition work.

32. Scout Platoon in Stability Operations

a. General. The scout platoon can effectively assist the battalion in stability operations. Such assistance will generally take advantage of the mobility and firepower provided by the vehicles of the scout platoon. See FM 17-1 for discussion of Armor in stability operations.

b. Capabilities. The various limitations affecting the use of tanks in stability operations are largely overcome by the scout platoon; and the reconnaissance and security capabilities of the scout platoon are especially valuable when supporting a tank battalion's stability operations. The scout platoon is particularly able to—

- (1) Provide escort for convoys.
- (2) Provide a reserve force capable of quickly reaching the scene of an insurgent attack.
- (3) Assist in populace and resources control operations by establishing mobile checkpoints.
- (4) Contribute important information concerning guerrilla forces and the area of operations.
- (5) Contribute to military civic action by using its organic communications to request medical or other emergency assistance, and by providing emergency transportation of sick and wounded personnel or critical medical or other supplies to outlying areas.

APPENDIX IV

TANK PLATOON HOT LOOP

COMMUNICATIONS

1. General

Platoon tanks may be interconnected by wire to facilitate local communications in static situations or during periods of radio listening silence.

2. Installation and Operation

a. Connections may be made using telephone wire WD-1/TT to interconnect the tanks through the terminals on the external control box (control, intercommunication set C-2296/VRC). With the switch on the driver's control box (control, intercommunication set C-2297/VRC) in the EXT (external) position and the switch on the other control boxes (control, intercommunication set C-2298/VRC) in the

ALL position, the tank crews can communicate with one another through the intercommunication systems.

b. If the tank(s) are not equipped with an external control box, the wire lines may be connected to the LINE binding posts on the audio amplifier (amplifier, audio frequency AM-1780/VRC).

c. Additional telephones and/or the radio set control group GRA-39 components may be used to include outposts or listening posts in the system.

d. The advantage of making the wire connection in a complete loop is that it will provide complete communication between all elements even when there is one break in the line.

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By Order of the Secretary of the Army:

HAROLD K. JOHNSON,
General, United States Army,
Chief of Staff.

Official:

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Major General, United States Army,
The Adjutant General.

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NG: State AG (3); Units—Same as Active Army except allowance is one copy to each unit.

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For explanation of abbreviations used, see AR 320-50.

