

TACTICAL EMPLOYMENT—TANK DESTROYER UNIT



The story of the tank destroyer is one of the neglected threads of ground combat. Since they are believed to have gone out of use in the 1950's, there is the belief that they are no longer worthy of study; and reenactors generally do not have the resources to study anything in depth (which is one of the reasons for this series of publications). But the rise and subsequent obscurity of the TD tells us quite a lot about how wars were fought at its time, and illustrate the impact of technology on war fighting.

As described in our short study "Armor for Reenactors", the tank destroyer came into being to fill a gap in doctrine during the late 1930's. As the US armored force developed, one of the basic rules of employment was that tanks were to be used for maneuver, exploitation, and pursuit, and not in defense. Antitank defense was to be left to dedicated anti-tank guns. In the defense, these could be emplaced with cover and concealment, dug in and camouflaged. As they developed, their caliber tended to be slightly larger than the tank main guns against which they were to operate (though this sometimes turned out to be wishful thinking) for engineering reasons: it's easier to drag a big gun around than figure out how to fit it into an armored turret.

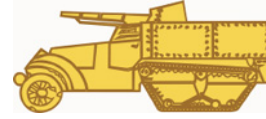
The drawback was mobility. The flow of battle changes, all too often the enemy does not read and conform to your estimate of the situation, and those guns may be pointing the wrong way or unable to bring aimed fire on the advancing tanks. To shift towed guns requires pulling them out of a prepared position (often at the cost of time, grunts, and sweat), hooking them up to their prime movers (often a large truck), dragging them to new positions and emplacing them again. By that time the enemy has probably bypassed you anyway. And the prime mover is generally not as mobile as a tank, making placement of the guns difficult.

The answer was to place the gun on a mobile carrier that was its own firing emplacement. The first such development was simply elongating a jeep and bolting a 37mm on the back. Unfortunately, by the time this Hail Mary play was run, German armor was too thick for a 37 to penetrate.

A better idea was to mount a 75 on a half track. The weapon chosen was the French M1897A5, derivative of a design adopted by the US Army during WWI. There were plenty available, as they were being replaced by a new 105mm howitzer, and with some skull sweat and im-

provisation they could be mounted on a half track. The result was the **M3 Gun Motor Carriage**. (All TDs in WWII were officially GMCs, or gun motor carriages.)

The M1897 could function as a gun (direct-fire) or a howitzer (indirect fire). This combination was enshrined in the first branch insignia of the tank destroyer force. But other, more specialized designs were soon to appear.



A tank destroyer in its final configuration (M10 through M36) was a full-tracked vehicle with an open-topped turret with fairly light armor fitted with a direct-fire main gun of sufficient penetrating power to deal with most targets. These TDs were faster than comparable tanks, which increased mobility (they were lighter and could travel faster on a comparable power pack, and because of their light weight the track ground pressure was also lower than that of a heavily armored tank); by dispensing with enclosed and heavily armored turrets they could accommodate the size, weight, and recoil travel of larger guns like the 90mm carried by the M36. The M18, probably the most advanced design, could travel at 50-60 mph. These speed and trafficability advantages allowed TDs to move quickly and block enemy tank attacks.

TDs went out of fashion before the end of the Korean War' the antitank mission was simply assigned to tanks. They had in fact fulfilled that mission many times throughout the war, and in any case newer, heavier tanks with powerful main guns were taking the place of older models, obviating the gun power advantage. By the 1960's, antitank support of infantry was reinforced by the appearance of powerful and reliable wire-guided missiles with large shaped-charge warheads.

But TDs are now reborn in greater numbers in the living history hobby. It's time to give them credit for their stubborn combat in WWII and learn how to use them to add realism to simulated combat.

WAR DEPARTMENT FIELD MANUAL

FM 18-5

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TACTICAL EMPLOYMENT

TANK DESTROYER UNIT



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BY ORDER OF THE SECRETARY OF WAR

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For explanation of symbols, see FM 21-6.

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CHAPTER I

GENERAL

I. PURPOSE AND SCOPE. This manual is a guide to the tactical employment of tank destroyer units both self-propelled and towed. The methods of employment described herein do not comprise a set of inflexible rules. Commanders must adapt the principles of employment described to the terrain, climate, tactical situation, and equipment available.

2. ORGANIZATION. **a.** Tank destroyer units are organized as battalions, groups, and brigades. The battalion is both a tactical and administrative unit; groups and brigades are organized only as tactical units. There are two types of battalions, classified according to their equipment as self-propelled and towed.

b. The self-propelled battalion consists of a headquarters and headquarters company, a reconnaissance company, three gun companies, and a medical detachment. Each gun company has three platoons of four self-propelled guns each—a total of 36 guns within the battalion.

c. The towed battalion is similar to the self-propelled battalion except that it is equipped with towed guns and has no reconnaissance company. Two reconnaissance platoons are included in the headquarters company.

d. Group. The group consists of a headquarters and headquarters company and two or more battalions.

e. Brigade. The brigade is composed of a headquarters and headquarters company and two or more groups.

3. CHARACTERISTICS. Tank destroyer units are highly mobile, have great fire power, and are provided with radios for rapid communication. Their light armor makes them vulnerable to anti-tank weapons. Towed tank destroyer units have less armor protection and battlefield mobility than self-propelled units, but are more easily concealed.

4. COMMAND. To secure flexibility and speed of employment, it is usually better to group tank destroyers under one commander.

5. STAFF FUNCTIONS OF COMMANDERS. Commanders of tank destroyer units may act also as special staff officers of the unit to which attached. As such, they, advise commanders on coordination, employment, and distribution of tank destroyer and antitank units, direct training of tank destroyer units, assist in establishing antitank warning services, coordinate supply and maintenance of tank destroyer units, and perform such other duties as directed.

d-e. Group and brigade were notional units that could be called into existence as the situation dictated by amalgamating clumps of battalions. The situation never seems to have dictated; I find no tactical employment of anything above battalion.

5. As advisers, the TD commanders had their hands full. They were usually attached to infantry divisions, and to most infantry division commanders a TD was just a tank, to be employed as such.

CHAPTER 2

FUNDAMENTALS OF EMPLOYMENT

6. MISSION. a. Primary mission. The primary mission of tank destroyer units is the destruction of hostile tanks by direct gunfire.

b. Secondary missions. (1) Suitable secondary missions are—

(a) Direct or indirect fire to reinforce or supplement that of artillery units.

(b) Destruction of pill boxes and permanent defensive works.

(c) Support of landing operations.

(d) Defense of beaches against waterborne attack.

(e) Roving gun and roving battery mission (more applicable to self-propelled units).

(2) Employment of tank destroyers on secondary missions is a command decision. When ammunition requirements for reinforcing artillery missions exceed the supply facilities of the unit, higher headquarters assumes the responsibility for supplying the additional ammunition required. Except in an emergency, the organic ammunition loads of tank destroyer units should remain intact for primary missions.

(3) Most secondary missions require the use of high explosive ammunition. Since the trajectory of antitank guns is too flat for the execution of many missions, reduced charges are often preferable.

7. DISTRIBUTION OF TANK DESTROYER UNITS. a. The enemy frequently will mass his tanks for an attack and will endeavor to obtain surprise. The first consideration in distributing tank destroyers is the concentration of a mass superior to that of the hostile tanks. Any remaining tank destroyers may/ be attached to divisions. The smaller the number of tank destroyers available, the greater should be the proportion massed and the smaller the proportion attached.

b. Infantry and other arms are equipped with organic antitank guns for their own protection against small scale armored attacks. These guns, reinforced if necessary by tank destroyers, delay the hostile tank attacks and cover the employment of *massed* tank destroyers. As the armored at-

a. Here is the rationale, simply put: a TD was the same as a towed AT gun except that it was its own prime mover. It was to be employed in the same way, positioned in a covered and concealed position and shooting at tanks as they presented themselves. Because it was lighter than a corresponding tank, it was marginally more mobile (allowing easier and faster concentration of fire); because its turret was not heavily armored it could be more roomy and allow for the servicing and recoil of a larger gun.

Like many such service school theories, this sounded logical. But battle has its own logic, and cares nothing for dry field manuals.

(3) "Secondary mission" generally means "killing something besides a tank." A shot round will kill an infantryman, but it will usually kill only one; that one will be decisively knocked out, but there are always more infantrymen than shot rounds.

So a 3" or 76mm HE round can be employed that might not take out a tank but will be more effective than shot against soft, dispersed targets. However, direct fire requires that the gunner see the target to kill it. Yes, a TD can be used in the indirect fire mode by rolling it up a slope for additional elevation and pulling out the firing tables and the gunner's quadrant, but it still isn't as accurate as a howitzer, and a 76 is a piddling round compared to a 105 or a 155.

tack develops, more and more *massed* destroyers are placed in action progressively.

c. The following principles apply:

(1) Due consideration should be given to terrain which is impassable to tanks. However, impassability should be determined conservatively. In war, troops often pass the "impassable."

(2) If the hostile armored strength is unknown, a maximum possible proportion of massed tank destroyers under central control is required, even though the proportion allotted to subordinated units is reduced undesirably.

(3) If the hostile armored strength is known reasonably well, the proportion of tank destroyers to be massed will be based upon this known strength.

(4) If the general location of the enemy armor is unknown, tank destroyer battalions must be distributed laterally. Terrain and road net will influence this distribution.

(5) When the location of hostile armor is known, tank destroyers may be massed and maneuvered to counter enemy movements.

(6) When the enemy's capabilities are limited to small scale employment of armor in support of attack or counter-attack, tank destroyers should be distributed among forward units.

(7) When ample tank destroyers are available, some may be used for reinforcing organic antitank units.

(8) The distribution of tank destroyers is not constant; changes will be normal as the situation develops.

8. TANK DESTROYER ACTION. a. General. Action of tank destroyers is characterized by an aggressive spirit. Their mobility permits them to be concentrated rapidly in an advantageous position. They employ stealth and deception in opening fire. They are not capable of independent action, hence they cooperate closely with other troops.

b. Fundamental principles. Tank destroyer action consists of *repeated application* of the following fundamentals:

(1) Seeking information of hostile tanks by vigorous and sustained reconnaissance.

(2) Movement to firing positions so as to intercept hostile tanks by arriving sufficiently in advance of the tanks to permit proper emplacement and concealment of tank destroyers. *Tank destroyers ambush hostile tanks, but do not charge nor chase them.*

We thank the author for this useful bit of wisdom.

(2)-(5). This is why we have an S-2. A good estimate of the situation and a wise interpretation of the terrain can allow us to concentrate fires where needed. No intelligence estimate is ironclad (the enemy always gets a vote), but a TD can be shifted more speedily than a towed gun.

8. Close your eyes really, really tight and say to yourself "there's no place like . . ."; oops. Say "Spirit, be aggressive."

(3) When tanks advance, tank destroyers hold their ground, since destruction can be accomplished best at close range.

(4) When tanks withdraw, tank destroyers occupy forward positions from which to pursue by fire.

c. Selection and occupation of position. (1) The vulnerability of tank destroyers to hostile tank, antitank, and artillery fire requires that every practicable measure be taken to secure concealment. The most advantageous positions are those affording flanking fire. In featureless terrain, tank destroyers must be dug in and camouflaged. *Towed guns are always dug in when time permits.*

(2) Primary positions are selected in advance by adequate ground reconnaissance whenever practicable. Alternate and supplementary positions must be selected and, when practicable, prepared in advance.

(3) When contact is imminent, individual guns and units are covered during movement by the fire of those in rear and to the flank.

(4) Routes to positions must be reconnoitered and prepared beforehand if necessary, in order that occupation, even at night, can be accomplished at maximum speed.

(5) When practicable and appropriate, plans and positions are designated clearly in advance, in order that a mass of tank destroyers can be deployed rapidly in response to simple messages.

d. Close combat. In close terrain, dismounted parties, armed with rocket launchers or other suitable weapons, engage hostile tanks from fox holes or other protected and concealed positions.

9. TACTICAL EMPLOYMENT. **a.** Tank destroyer battalions should be employed as units. Employment by separate company or smaller unit seldom gives good results, and frequently fails.

b. Massed tank destroyer units may be deployed in firing positions, subject to rapid movement to other positions; or they may be held in readiness initially, prepared to move to firing positions as the situation develops.

c. The more advanced are tank destroyer positions, the sooner tank destroyers can begin destruction of hostile tanks which advance against them. However, if positions are too advanced and are exposed, the tank destroyers themselves may be destroyed by fire of hostile infantry and artillery. While much depends on terrain and other local conditions, attached tank destroyers ordinarily are advanced no farther than the reserves of the forward infantry battalions. Massed tank destroyers in general are emplaced

The writers of this manual (by quirks of style, I can identify at least three) are full of good advice. We need to be reminded that the closer a tank gets, the shorter the range. Advice like "come on, you apes—you wanna live forever?" simply reminds us that the longer we live, the older we get.

(2) Though this is explained in other FM's, I'll remind the reader that an alternate position is a preselected place to which you shift when the enemy has identified you and has your range; you move to another firing position. A supplementary position is a preselected location that covers another avenue of approach originally considered less likely to be used by the enemy. Who, I remind us for the *n*th time, gets a vote.

somewhat more to the rear. Towed guns are more suitable for advanced positions than self-propelled guns, since they are smaller and more easily concealed. If tank destroyers are committed to advanced firing positions, it may be impracticable to maneuver them further thereafter.

d. Tank destroyers are capable of high speed on roads. Their effective employment demands high road priority.

e. Hostile armored units have the initiative, at first. Tank destroyers overcome this initial advantage by thorough reconnaissance, by preselection of positions, and by utilizing good routes of approach. These advantages must be exploited by making thorough plans and preparations.

f. Reconnaissance elements of tank destroyer battalions are essential for the successful employment of battalions, and should not be detached for other purposes.

g. An efficient antitank warning service is essential. Information of hostile tanks is obtained also by liaison with higher headquarters and with other ground and air intelligence agencies.

10. PARTICULAR OPERATIONS. a. Marches. (1) In the presence of hostile armored units, it is desirable that security detachments be strong in tank destroyer units.

(2) Based on the enemy's proximity, capabilities, and direction of movement, tank destroyers are distributed along, columns, or held in readiness at successive positions along the route.

b. Bivouacs and assembly areas. When troops are exposed to hostile armored action, outposts should be strong in tank destroyers. Massed tank destroyers are required in case a strong armored attack is an enemy capability.

c. Attack. A counterattack by hostile armor is a serious threat to the success of our attack. Tank destroyers are disposed initially and during the attack, to repel counterattacks by armored units thus leaving our forces free to continue their mission. Observation and reconnaissance are employed intensively at all times.

d. Defense. (1) A defensive situation usually permits thorough preparation and organization of tank destroyer firing positions and routes thereto. The warning system should be perfected. Observation and reconnaissance should be organized well. If the hostile armored force can be located beforehand, tank destroyers should be massed accordingly.

(2) If hostile tanks break through the forward elements of the defensive position, successive echelons of massed tank destroyers are moved to positions ahead of them or on one or both flanks. Thus, if the tank destroyer strength is ade-

e. I cannot overemphasize the need for careful reconnaissance of positions. TDs are a more fragile asset than they appear, and must be positioned with care on ground selected by careful examination. The TD battalions have their own recon assets precisely because the reconnoitering leader must understand how TDs operate and to have a fine *coup d'oeil militaire*—the "military stroke of the eye.

g. That is, get the word to the TD assets as quickly as possible so they will have time to find positions and settle in before the enemy is at hand.

(2) The point of this: be where the enemy is. My experiences with reenactors who have AT guns is that they invariably place them on a road pointing into the woods. This is a waste. Tanks run along the roads, not through the trees, Hide the TD in the woods, and point the gun up the road.

c. For example, TDs may be usefully placed on the "shoulders" of a penetration to halt enemy counterattacks that would isolate armored forces in exploitation.

quate, the hostile attack can be narrowed and weakened until cut off, destroyed, or beaten back.

e. Pursuit. If the enemy has armor the pursuing force should be strong in tank destroyers.

f. Retrograde movement. The enemy may be expected to employ armored units to exploit his success. Reconnaissance must locate and maintain contact with these units. Tank destroyers should be employed at maximum strength to delay, drive off by fire, or destroy the hostile tanks.

f. As always, the "holy trinity" of tactics dominated: cover and concealment, observation and fields of fire, avenues of approach, obstacles, and key terrain.

CHAPTER 3

COMBAT ORDERS

11. GENERAL (FM 101-5). In order to fight efficiently each soldier must know exactly what he is to do. It is imperative that orders be disseminated to all individuals who are to act upon them. Furthermore, the individual must receive the order in time to make his own reconnaissance, estimate the situation, formulate plans, issue his order, and still leave time for his subordinates to act. The time required for preparation of orders can be decreased by careful and continuous preplanning. If an hour is available, thirty or forty minutes should be left for company and platoon commanders to make, plans, issue orders, and insure that all understand them.

12. CHARACTERISTICS. Simplicity, brevity, and clarity are essential characteristics of orders. They should allow for initiative of subordinates, and should prescribe action only for conditions that can be foreseen. Often mission type orders will be necessary.

13. DETAILS CONTAINED IN ORDERS. a. The details contained in order vary according to the—

(1) Instructions necessary to insure coordination between units.

(2) Time available.

(3) Battle experience of the unit.

b. Unusual operations requiring close coordination between units often require orders containing minute details. However, in most operations, lengthy orders can be obviated by—

(1) *Practiced* formations.

(2) *Practiced*, simple, field standing operating procedure.

c. A well-trained leader needs only brief orders to accomplish his mission, while the inexperienced leader often must be given detailed orders.

14. FORM OF ORDERS. Most tank destroyer orders whether oral or written are given in fragmentary form. They may consist of separate instructions to one or more subordinate units. Although the formal written field order is seldom used, the five-paragraph sequence is observed. Overlays, maps, or sketches with instructions thereon should be used when practicable.

The most effective field order in this situation is a map overlay (see **FM 101-5**) with the most abbreviated five-paragraph FO printed to the side of the overlay and adding only special information and requirements or deviations from the field SOP (**b.(2)**).

15. CHECK LISTS. It is desirable for commanders to carry a check list for orders to avoid errors of omission. *The best list is one that the user has prepared for himself.* A check list for company and platoon commanders to use in formulating orders may be based upon the key word IDEALS, as illustrated below:

Par.

- 1 I—Information of enemy and friendly troops.
 - 2 D—Decision, mission, or general plan.
 - 3 E—Employment-specific instructions to units.
 - 4 A—Administrative details.
 - 5 L—Location of CP's and commander.
- S—SOI, including warning signals and instructions relative to radio silence.

CHAPTER 4

COMMUNICATIONS

16. RADIO. a. Radio is the primary means of communication in a tank destroyer battalion. Because of hostile intercept capabilities, extreme care must be exercised to avoid imparting vital information to the enemy.

b. Voice procedure and codes are employed to avoid misunderstandings and loss of time, and to retain secrecy of messages. Alternate and emergency means of communication are employed when conditions demand radio silence, and to avoid excessive radio traffic.

c. Commanding officers prescribe nets in accordance with orders from higher headquarters and according to their own needs.

17. RADIO PROCEDURE. a. Voice. Radio procedure is covered in FM 24-9. This procedure can be perfected by using it on terrain plot problems and during telephone conversations. All but the briefest of radio messages should be written in their entirety or in outline form before sending. This procedure saves time because the channel is not being used while the sender is deciding what to say; aids in preventing careless mistakes such as saying "north" for "south," "right" for "left"; keeps the sender from carelessly transmitting matters in the clear that should be sent in code; and *prevents thinking out loud over the air.*

b. Radiotelegraph procedure. In addition to the short range voice radio sets, tank destroyer units employ radio capable of both voice and radiotelegraph (CW) for long range communication. For processes see FM 24-10.

18. PREARRANGED MESSAGE CODE (FM 24-5). This code is often referred to as the brevity code. Frequently used phrases are represented by two letters. The code should be kept to the minimum number of groups. Where expression must go beyond these phrases, clear text can be inserted. *Never mix coded and clear text when using codes other than the prearranged message code.* Since two letter groups are used, transmission can consist almost entirely of the phonetic alphabet, thus reducing the chance of misunderstanding. However, the code can be broken down easily and therefore must be changed frequently.

19. GEOGRAPHIC CODES. a. There are many types of geographic codes for indicating map locations. The different headquarters under which tank destroyer units operate

17b. "CW" stands for "continuous wave." Voice radio signals are modulated in amplitude or frequency (AM or FM); CW is two stated: on and off. The information is carried by Morse code.

Being able to understand a radio message is subject to strength of signal (carrying information) and noise (energy that is essentially random interference) Voice (VOX) comms is understandable when the ratio of signal to noise ("static") is high. This is called "signal to noise ratio." I'd explain it, but there's a lot of math.

During the Viet Nam war, special forces units far out in the mountains often used CW transmissions because signal was weak and uncertain at great distances.

When I was a teenager I had a novice Ham license, and learned to key. Actually, I *overlearned*. I can still key code without thinking.

18. My brigade in Viet Nam ca. 1970 had an unofficial numerical brevity code. It was very useful, providing 114 to say "beautiful. just fucking beautiful" and 119 to assure the sender "obviously you have me confused with somebody who gives a shit."

22. ALTERNATE AND EMERGENCY MEANS. a. Although radio is the primary means of communication for tank destroyer units, other methods are necessary. Counterintelligence requirements may outweigh the advantages of radio communication. In this event, all transmitters are silenced except for the warning system. Alternate and emergency means of communication are foot and motor messengers, panel, signal flags, hand lamps, hand and ground signal projectors, telephones, smoke pots and grenades, and airplane drop and pickup messages.

b. It is essential that provisions for the use of alternate and emergency means of communication be fully planned, and that personnel be adequately trained for their employment in any situation.

23. WIRE COMMUNICATION. a. In situations of temporary stabilization normally higher headquarters will install wire telephone communication to the command post of the tank destroyer unit commander.

b. When tank destroyer units are employed as reinforcing artillery, wire communication is used normally. The reinforced field artillery battalion establishes communication to the reinforcing tank destroyer unit. Reinforcing tank destroyer companies establish wire communication to their platoons.

c. For training, installation, maintenance and operation of wire communication, see FM 24-5.

CHAPTER 5

MOVEMENTS

24. GENERAL. The effective use of tank destroyer mobility requires careful planning and execution of marches. Each vehicle and its driver are basic elements of good marching. Maintenance of vehicles is discussed in chapter 12. The selection and training of drivers is covered in TM 21-300, 21-301 (when published), and in the appropriate Technical Manual for each vehicle. Poor judgment or careless, inefficient operation by drivers can ruin a march and lose a battle. All tank destroyer personnel must be able to drive, and must know the fundamentals of good marching.

25. TECHNIQUE OF ROAD MARCHES. The technique of road marches is covered in FM 25-10. All tank destroyer unit commanders and staff must be familiar with this technique, especially—

March planning.

Route reconnaissance, pioneer work, and marking.

Preparation of march tables.

Time lengths and road spaces of their units in various standard formations.

26. MARCH RATES. **a.** When marching alone the tank destroyer unit sets its own rate of march subject to the local military and civilian traffic regulations. When part of a larger unit, tank destroyers are governed by the rate of march prescribed for that unit. The rate of march will depend upon the mission, the type and condition of vehicles, and the condition of the route. For long marches the daylight rate for the M10 type destroyer is approximately 15 miles per hour, and for night marches without lights, 5-8 miles per hour. High rates of march may be made for short distances in an emergency. However, such rates of march for full-track vehicles will result in excessive maintenance.

b. The tactical situation usually requires the grouping of vehicles of different march characteristics. When the situation permits, vehicles of approximately the same characteristics are grouped and sent by different routes.

27. MARCH SOP. Since similar conditions constantly recur on marches, standing operating procedures are helpful for march formations, security, route reconnaissance, route marking, and quartering parties. Maximum use should be made of standing operating procedures, both to establish

good marching habits and to make march orders simple and brief.

28. DISTINCTIVE SYMBOLS. Each battalion should devise a simple, readily recognized distinctive symbol or mark with suitable variations for each company. These can be used on vehicles, at entrances to installations, and at critical points on march and supply routes. CP's of units should be clearly marked. (See FM 24-5 and AR 850-5.)

29. MARCH ORDERS. FM 101-5 gives forms and check lists for march orders. These are intended only as guides and as aids in training. Tank destroyer units should not issue elaborate march orders. The maximum number of items should be SOP. The march order itself may often consist simply of an overlay showing the route and critical points thereon, the IP and time to clear, SOP items and any variation there from, and an abbreviated march table. A *warning order* should be issued prior to all march orders in order to enable subordinate units to make adequate preparations.

30. CROSS-COUNTRY MOVEMENTS. a. Cross-country movements, whether in column or in open formation, require special measures for control, especially at night. Phase lines, maintenance of visual contact, periodic reports and checks (and pyrotechnics and radio if conditions permit), assist in control. Constant supervision by all commanders is essential.

b. In open country having few landmarks or trails, maintenance of direction is especially difficult. All officers should be adequately trained in cross-country navigation. The use of a map, a compass bearing, and an odometer distance for maintaining direction and location should be practiced. All officers and key noncommissioned officers should be familiar with map reading methods such as resection and intersection for establishing locations.

c. All commanders constantly check to insure that they are on the proper route and know their location. If at any time the commander is not sure that he is on the proper route, the column should be halted and immediate reconnaissance instituted to locate the correct route.

31. MOVEMENTS IN BLACKOUT. Blackout movements are habitual in the combat zone. Units must be able to march efficiently in complete blackout, as well as with the aid of vehicular blackout lights.

32. DISABLED VEHICLES. a. On a road march, disabled vehicles are moved off the road promptly. Clearing the road and signaling following vehicles to proceed are especially important at night. Returning the vehicle to operating condition follows the normal chain-driver; company maintenance section, battalion maintenance platoon. When the

28. This is a seductive topic for reenactors. The Army Regulation specified standard markings (vehicle number ("USA number")), unit markings on bumpers, and the evolving star national insignia. The key here is "Each battalion should devise." The exact method to identify company and vehicle was left to the battalion commander's discretion.

I don't see many consistent examples. The inclination in combat is far likelier to be removing or covering markings rather than adding them. This was still the case 20 years later; my tank battalion in Viet Nam used shapes (circle, triangle, square) to identify company and a number inside for the tank number (1-5) in the platoon; platoon was identified by the color of the marking. This was sometimes used in WWII by the British, but I see few examples.

b. Again, as I note in nearly every edited FM, reenactor leaders should know how to read a map. It's a basic soldier skill. An actor delivering a commercial might say "I'm not a doctor, but I play one on TV!" Fine, thanks for the tip; no, you can't remove my appendix. If you're going to play a soldier for the public, at least take a stab at the basic knowledge and skills.

31. Blackout lights are small, low-intensity markers shaded on the top that can be seen from front and rear but not from the air. We called them "cat eyes." They usually have two adjacent elements to allow a driver to judge the distance to the vehicle in front of him (a helpful thing).

tactical situation permits, and particularly in retrograde movements, platoons and companies should tow their own disabled vehicles to the next march objective.

b. Vehicles that cannot be repaired or towed are tagged by the trail officer, left in place off the road, and their location reported to the third-echelon maintenance organization servicing that unit. At least one man remains with such a vehicle, preferably the driver.

c. A disabled vehicle which is repaired during a road march rejoins the nearest element of the column and doubles the column only at halts to regain its original position. Columns are not doubled during blackout. Vehicles rejoin units at the march objective.

d. In retrograde movements, vehicles that can be neither repaired nor towed may be stripped and destroyed as ordered by division or higher commanders. Destruction is instituted only as a last resort to prevent capture and use of the vehicle by the enemy. It is supervised by a commissioned officer whenever possible. For details of the destruction of vehicles, see FM 18-15 and the Technical Manual for the vehicle.

33. GENERAL SECURITY MEASURES. Security against both ground and air attack on the march is obtained by—

Advance, flank, and rear guards.

Dispersion of vehicles.

Selection of routes offering greatest cover and concealment.

Movement in blackout during darkness.

Movement by bounds and irregular formations.

Reduction of noise and dust when possible.

34. SECURITY AGAINST AIR ATTACK. **a.** Tank destroyer units protect themselves against air attack by a warning system, dispersion, concealment, and night and cross-country marches. They take measures for immediate protection against low-flying aircraft by using their own weapons which are suitable for *fire against aircraft*. All troops charged with this duty are prepared constantly for immediate action, but will fire only upon order of an officer or responsible noncommissioned officer. No aircraft will be fired upon unless it has been clearly recognized as hostile, or is positively identified as hostile, or attacks with bombs or gun fire.

b. Whether marching troops halt or continue the march during an air attack is a command decision depending upon the urgency of the movement; instructions as to what action will be taken in event of an air attack are issued prior to the start of the march. Usually the column halts during an attack; however, it does not halt when delay would

d. It is surprisingly difficult to destroy a broken down tank. They are hard to destroy by design. At a minimum the main gun should be spiked using TNT. Do NOT just set the thing on fire; steel doesn't burn readily, and if you set off the ammo racks you and everything in a wide radius is at risk.

War story: In 1970 my tank battalion (1-77 Armor) occupies a fire base once manned by the Marines. One of their tanks had been heavily damaged by a mine a few hundred meters outside the wire and was left to rust. The engineers were ordered to blow it up because somebody was worried the enemy would sneak into it and fire the main gun at us. *Right*. Anyway, the engineers packed the turret ring with lots of C4 explosive, placed a cap and a timer, and drew well back. We all watched from a distance.

Sure enough, there was a tremendous explosion with cubic yards of whatever flung into the air. The turret emerged momentarily out of the cloud, then disappeared. When the smoke cleared, there was no apparent change. The turret had fallen back on its ring. Tanks are stubborn things.

interfere with the units mission. A column should not halt upon the appearance of a few enemy airplanes.

(1) *Actions when column halts.* Vehicles move laterally off the road when terrain and time permit. Personnel riding in unarmored vehicles dismount and disperse, making maximum use of available cover. The fire of all effective weapons is brought against the enemy airplanes. Pistols, carbines, and submachine guns are not considered effective weapons against aircraft.

(1) This would later be called a "herringbone."

(2) *Action when movement is continued.* Vehicles disperse laterally, if terrain permits, while continuing movement. The enemy airplanes are attacked with the fires of all effective weapons that can be manned from within vehicles.

c. At least one air sentinel observes continually from each vehicle. Advance, flank, and rear guards give warning of the approach of hostile aircraft. When the situation does not call for advance, flank, or rear guards, air sentinels may march ahead of and behind the column, and in open country, to its flanks..

35. SECURITY AGAINST GROUND ATTACK. a. When moving as part of a larger force, tank destroyer units take security measures as directed by higher headquarters. When moving independently in the presence of the enemy, tank destroyer units provide for their own security against hostile ground troops. For details of employment of tank destroyer units as security elements, see FM 18-20, 18-21, 18-22, and 18-24.

35. Reenactors seem to embrace the idea that security is for sissies. Wise up, lads.

b. Size of advance, flank, and rear guards. The size of advance, flank, and rear guards varies according to the situation.

(1) *Advance guards.* When friendly troops do not protect the battalion, the *minimum* advance guard during a road movement is one gun platoon reinforced by a reconnaissance platoon and, in self-propelled units, by the pioneer platoon. Self-propelled units habitually include the pioneer platoon as part of the advance guard. When the advance guard is deployed laterally as well as in depth, it should consist of a reinforced gun company.

(2) *Flank guards.* A flank guard varies in size from a gun or reconnaissance section to a gun company reinforced by reconnaissance elements. The use of a large flank guard is exceptional.

(3) *Rear guards.* When the enemy is capable of attacking the tail of a column, the rear guard should be large. In this case, it will consist usually of a gun company reinforced by the reconnaissance company in self-propelled units, and by the two reconnaissance platoons in towed units. When the

enemy is capable only of harassing the tail of a column, the rear guard can be appreciably smaller.

CHAPTER 6

BIVOUACS

36. SELECTION. Higher headquarters assigns bivouac areas to the battalion. When the assignment is to a general area, the battalion commander should consider the following factors in the selection of a specific area:

- Capabilities of the enemy for attacking the bivouac area.
- Good standing for all vehicles.
- Concealment from ground and air observation.
- Space to permit sufficient dispersion of vehicles and activities (at least 50 yards between vehicles).
- Accessibility of roads to front and rear.
- Multiple routes of ingress and egress.
- Routes to probable combat areas.
- Availability of water supply.
- Freedom from sources of disease.
- Avoidance of interference with, or by, friendly troops.
- Location away from areas or installations likely to attract enemy artillery fire or bombing. (This will include the avoidance of areas previously occupied by friendly troops.)
- Location beyond range of hostile medium artillery.
- Fields of fire extending from area perimeter.
- Suitability for local defense against air and ground attack.

See Figure 1 for typical bivouac areas.

37. OCCUPATION. To provide for a smooth, quick movement into bivouac, multiple routes of ingress should be selected and guides posted to show each unit, its area. Usually a unit as large as a battalion cannot enter a bivouac by a single route without causing some vehicles to halt.

38. STANDING OPERATING PROCEDURE (see **FM 101- 5**). **a.** Each battalion should prepare and practice standing operating procedure for entering and occupying bivouac. This practice should first be conducted on open terrain, because of the difficulties presented by terrain which affords concealment.

37. One approach is to enter in column having specified occupation of a perimeter by the "clock system" (when you enter you're pointed at 12 o'clock)

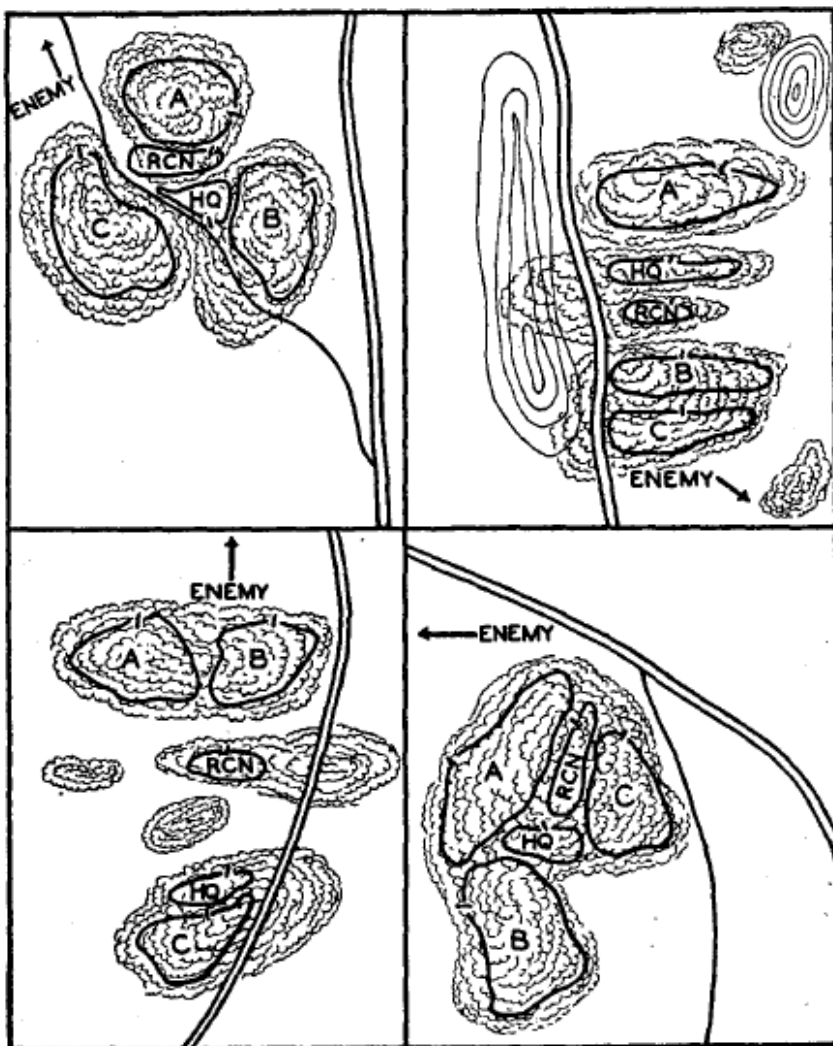


Figure 1. Bivouacs are arranged according to the tactical situation and the dictates of the ground. A battalion requires an area 1,000 to 3,000 yards in diameter

b. The battalion standing operating procedure should include—

- Party to select and subdivide bivouac.
- Guides.
- Relative locations of each company.
- Standard location and disposition of battalion command post.
- Standard location of aid station.
- Standard location of company and platoon commanders.
- Security measures. (Specific instructions to fit security measures to the ground and situation must be is-

sued for each bivouac. For further details see paragraphs 39 and 40, and FM 18-20, 18-21, and 18-22.)

Administrative functions--such as distribution of fuel, water, and rations.

Marking of routes in and out (tape or wire may be used).

Interior guard.

Interior messenger service.

c. Companies should develop standing operating procedure to cover all of the many details of occupation of bivouac, such as—

Subdivision into platoon areas.

Entry into bivouac. (For platoon entry and dispositions, see FM 18-20, 18-21, 18-22, and 18-24.)

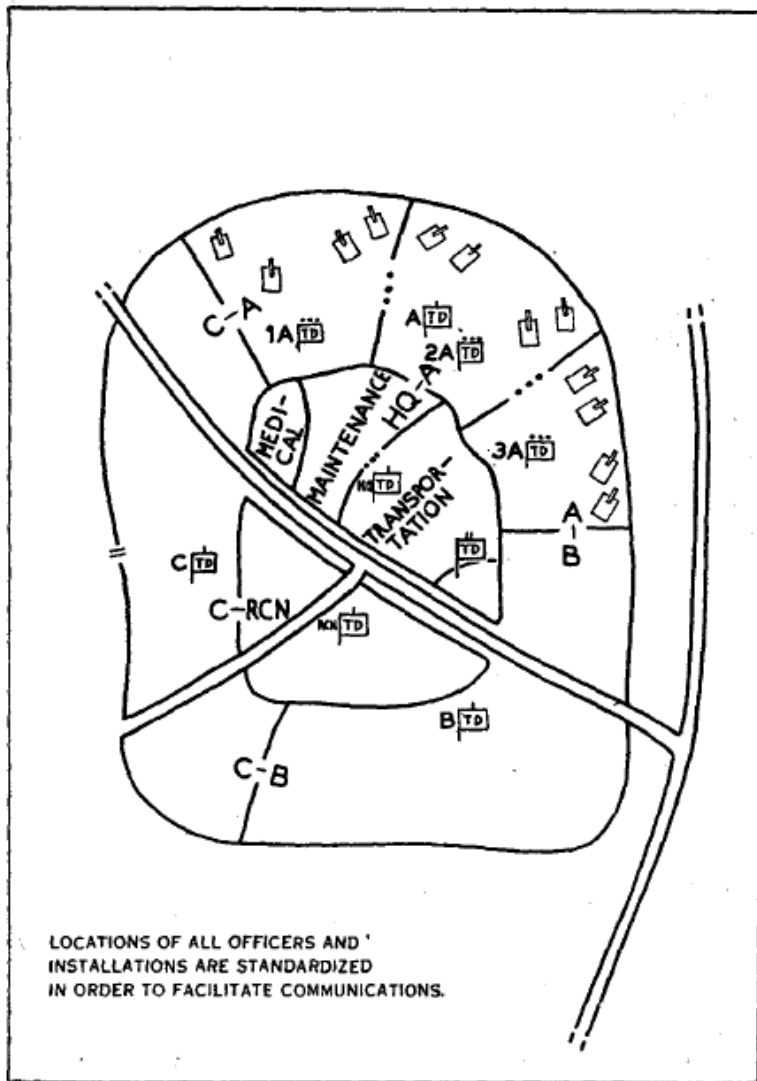


Figure 2. In this case, the SOP could state "A (or lead) company positioned 10 o'clock to 3 o'clock; B company 3 to 7; C 7 to ten; other elements per SOP."

Figure 2. Schematic bivouac, self-propelled battalion.

Sectors of responsibility for security.

Marking of routes in and out.

Interior guard.

Administrative functions--such as fueling vehicles, digging latrines, resupply of ammunition and other supplies.

Each individual knowing the whereabouts of others whom he may have to contact.

39. BIVOUAC SECURITY. Security of the bivouac area is the responsibility of the commander. Each element is responsible for its own local security. The strength, composition, disposition, and employment of security elements are dependent upon the proximity of the enemy, terrain, and dispositions of friendly troops. When a battalion is part of a larger force the security measures usually are less extensive than when it is alone or on an exposed flank. Although the commander will rely on other troops for security, he will not place sole dependence in them and will always assure himself that proper and adequate security measures are in force. The bivouac area will be prepared for all-around defense, and the command will be ready at all times to engage the enemy. Guns are placed tactically, range cards prepared, supplementary and alternate positions selected. Means are established to alert the battalion without delay. Liaison is established with adjacent and forward friendly units to coordinate the defense and provide for mutual warning in case of attack.

40. SECURITY ELEMENTS. Tank destroyer units employ security elements in bivouac as follows:

a. March outposts. The advance, flank, and rear guards on the march become outposts while the battalion moves into the bivouac area. They occupy positions which control roads and critical areas, and which afford observation of all possible hostile approaches. Positions selected must afford good fields of fire. Maintenance of communication between the main body and the outpost is essential. March outposts are withdrawn upon establishment of the regular outpost system.

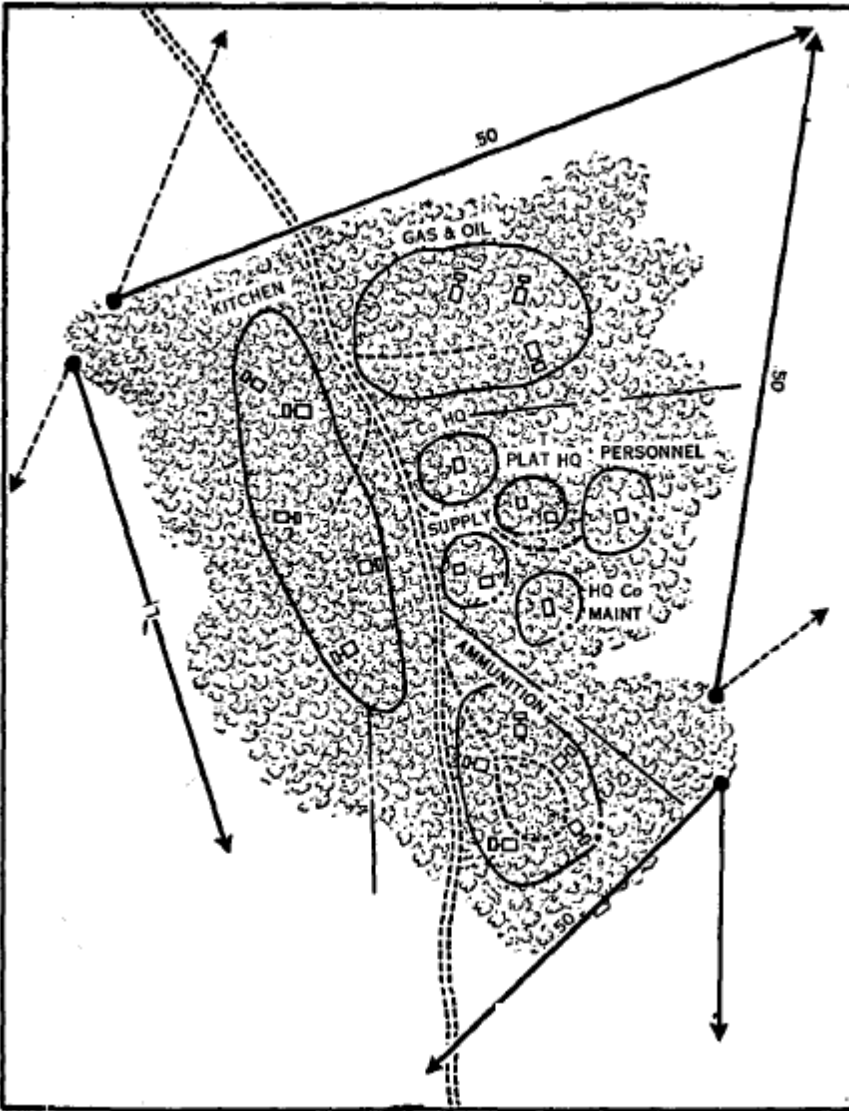


Figure 3. Rear echelon bivouac. It requires an area 500 to 1,200 yards in diameter. The number of weapons available for security will vary. Caliber .50 machine guns are mounted on ground mounts when attack from ground forces is imminent; otherwise they are left on the trucks. Each section area is organized for all-around defense.

b. Outposts. Immediately upon occupation of the bivouac area gun companies are given the responsibility of relieving march outposts in designated sectors of the perimeter of the area. Patrols from each company periodically visit all elements of the outpost system which are manned by the company. The outpost will be so organized that it can repel

an enemy raid and delay an attack in force long enough to allow the battalion to be alerted. For further discussion, see FM 18-20, 18-21, 18-22, and 18-24.

c. Observation posts. When the battalion is on a flank or is otherwise exposed, additional security is obtained by distant observation posts in addition to those near the perimeter of the bivouac. These posts can be from 2 to 5 miles away from the bivouac. At night they are, shifted from high ground to possible avenues of approach, and become *listening posts*. Personnel from the reconnaissance company often man these more distant posts.

d. Interior guard. (1) Sentinels are placed near all bivouac entrances to—

Aid messengers and visiting officers to locate the bivouac.

Guide visitors to the proper agency.

Provide additional security.

(2) The main interior guard usually is best performed by two-man patrols. Their duties are to—

Enforce orders relative to lights, noise, and traffic.

Sound air and gas alarms.

Prevent enemy infiltration of the bivouac.

(3) An additional interior guard, usually one man per platoon, should be posted. This sentry will have the same duties as the patrols, and in addition will be charged with awakening the platoon commander and other members of the platoon in the event of an alarm.

e. Rear echelon security. Personnel in rear echelon bivouacs provide their own security when detached from the rest of the battalion. The rear echelon commander, usually the headquarters company commander, is responsible for local security. Because the number of vehicles present within a rear echelon bivouac varies considerably, plans for defense against raids must be elastic. Groups composed of vehicle crews should be dispersed so as to be mutually supporting (fig. 3).

f. Command posts. Personnel of the command post must be able to protect themselves against raids (fig. 4).

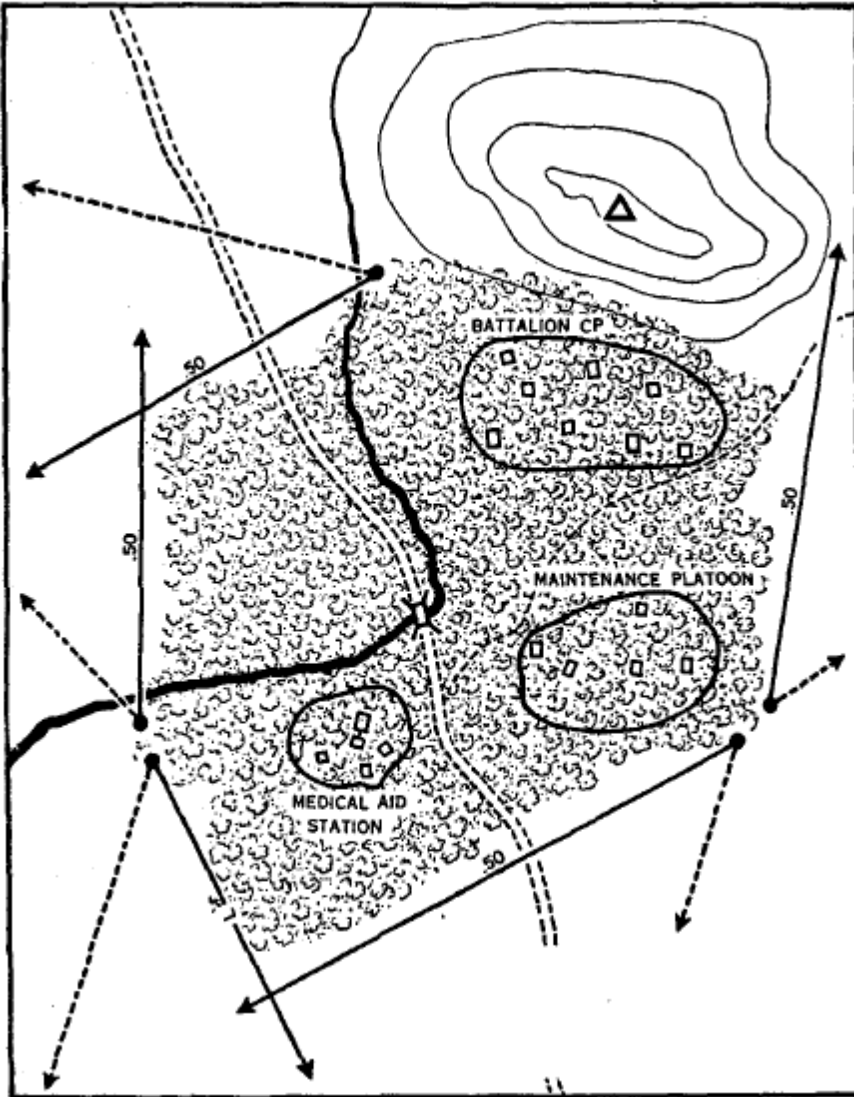


Figure 4. Most reenactors would prefer to fire the cal. .50 from the top of the vehicle. It's placed there for air defense, however. In a ground attack the gunner is very exposed and is too elevated to provide grazing fire (sweeping the ground with automatic fire that "grazes" the high points).

Figure 4. Battalion command post area. It requires space 400 to 800 yards in diameter. Caliber .50 machine guns remain on vehicular antiaircraft mounts except when ground attack is an enemy capability. When the battalion commander's party leaves the command post, automatic weapons assigned to the party go with the party. If the pioneer platoon is in the area, it may be assigned to the defense of the command post against ground attack.

CHAPTER 7

RECONNAISSANCE

41. GENERAL. a. Reconnaissance is the operation of obtaining information of the enemy and the terrain. It is the major source of information upon which a tank destroyer commander can prepare an estimate of the situation, make a decision, and conduct an operation.

b. Reconnaissance must be continuous in order to be reliable and to prevent surprise.

c. Responsibility for the prompt initiation and execution of reconnaissance rests with the unit commander of each echelon. In tank destroyer battalions this responsibility is not limited to commanders of reconnaissance companies and platoons. All commanders are charged with initiating and conducting such reconnaissance as is necessary for the accomplishment of the assigned mission.

42. MEANS AND AGENCIES. a. Means and agencies for collecting information include—

Study of maps and air photographs.

Personal reconnaissance.

Reconnaissance units and other patrols.

Officer reconnaissance parties.

Observation posts.

Liaison officers.

Higher headquarters.

Other troops.

b. Map and air photograph reconnaissance. Detailed study of available maps and vertical or oblique photographs normally will provide the first information of terrain. Map study should precede reconnaissance on the ground. By map reconnaissance the commander or patrol leader determines important terrain features, areas to be reconnoitered, and plans a reconnaissance procedure.

c. Personal reconnaissance. All commanders, from the gun commander and section leader up, *must* take advantage of every opportunity for personal reconnaissance. Battalion and higher commanders make maximum use of staff officers to supplement personal reconnaissance. Before starting reconnaissance, commanders determine the area or areas to be reconnoitered, the route., and what is to be learned.

d. Patrols. Most tank destroyer patrols consist of a reconnaissance section or platoon; occasionally the patrol may consist of two or three reconnaissance platoons. Gun com-

Choice of a firing position that has adequate observation, fields of fire, cover and concealment is often based on small details—slight contours that may mask observation, distribution of foliage, and other characteristics of the ground that cannot be judged from a map or an aerial.

panies also send out patrols; these patrols usually are limited in size to a security section. Since all personnel of the battalion are available for patrol duty, each individual should be trained in the fundamentals of scouting and patrolling, observing, and reporting. (See **FM 21-75** and 18-22.)

e. Officer reconnaissance parties. A small reconnaissance party can obtain information with the minimum of interference. The party may consist of only an officer and a driver, preferably riding in a 54-ton truck. When vehicles cannot be used, an officer accompanied by one or more enlisted men may operate on foot.

f. Observation posts. Observation posts provide one of the most effective means of obtaining information. (See **FM 21-75**, 30-10 and 18-22.) They frequently provide accurate information of both friendly and enemy troops and materially strengthen the unit's security measures. All commanders *must* establish observation posts wherever and whenever possible.

f. Reenactors almost never take the trouble to establish any kind of security at all, much less formal LP/OP's. It's a good habit to acquire.

g. Liaison officers. Tank destroyer units maintain contact with higher, forward, and adjacent headquarters by means of liaison officers. Liaison officers are the EYES and EARS of their commanders at the units to which sent. They should inform their commanders promptly of any pertinent information obtained. This information supplements that obtained from other sources, and may reduce the number of patrols required. Liaison officers should be fully cognizant of the information desired, and are tactfully aggressive in their efforts to obtain it. For duties of liaison officers, see **FM 101-5**.

h. Higher headquarters. (1) In addition to information received through the liaison officers, commanders obtain information by personal visits and by requests for information obtainable only by the agencies of higher headquarters.

(2) Opportunities for the commander to visit higher headquarters vary with the situation. For example, the commander of a reserve unit may be able to spend a large amount of time at the higher headquarters, while the commander of an engaged unit generally must be with his command.

(3) Requests for information to be obtained by observation aviation must be specific. (See **FM 31-35**.)

i. Liaison airplanes. When liaison airplanes are available, they may be used for—

- Route reconnaissance.
- March control, including guidance.
- Reconnaissance of close-in terrain.

- Directing actions of reconnaissance patrols.
- Personal reconnaissance.
- Air observation posts.
- Command and lateral liaison.
- Augmenting tank warning service.

j. Other troops. Important information often is obtained from friendly troops. This source includes—

- Artillery and infantry observation posts.
- Artillery air observers.
- Reconnaissance elements of division and higher units.
- Returning patrols of all types.
- Engineer reconnaissance parties.
- Infantry, armored units and tank destroyers to the front and flanks.

Information obtained from friendly troops who are not familiar with tank destroyer characteristics and limitations should be investigated further by tank destroyer personnel as such information often will not be sufficiently detailed.

43. ZONE AND AREA RECONNAISSANCE. A zone is a strip of ground limited on each flank by prescribed boundaries. An area is a zone having forward and rear boundaries in addition to flank boundaries. Zones and areas are reconnoitered to obtain information of the terrain, enemy and friendly troops, and materiel.

a. Terrain. Desired information of the terrain may include—

- Avenues of approach available to enemy armor.
- General areas suitable for tank destroyer employment.
- Specific areas for assignment to units.
- Obstacles that affect enemy and friendly movements.
- Bivouac areas and positions in readiness.
- Cross-country routes.

b. Enemy. Desired information of the enemy includes WHAT, WHERE, and WHEN. (The enemy's composition and size, actions, and time of actions.)

c. Friendly troops. General information of friendly troops usually is obtained from higher headquarters. Often reconnaissance is necessary to learn exact locations and dispositions of friendly troops.

44. ROUTE RECONNAISSANCE. a. By route reconnaissance information necessary for conduct of a march is obtained. *Whenever possible, commanders reconnoiter the route to be used prior to movement.* Time and conditions permitting, the gun commander selects and reconnoiters a route to a new position before he moves his gun from the old position; the platoon commander or a noncommissioned officer selects the route to be used during platoon movements; the com-

pany commander takes the same action prior to company movements; battalion and higher commanders employ reconnaissance elements to reconnoiter routes.

b. Commanders should take maximum advantage of available time for reconnoitering in advance all routes that may be used.

c. The final route reconnaissance prior to a movement should be made a short time before the movement. Weather, enemy action, traffic conditions and wear and tear on roads and bridges can cause a passable route to become impassable.

45. BATTLE RECONNAISSANCE. The reconnaissance company or platoon executes battle reconnaissance prior to, during, and after the fire fight. (See pars. 59 to 61 and FM 18-22.) At the same time security sections also execute battle reconnaissance.

46. ORGANIZATION OF RECONNAISSANCE. a. Commanders plan and execute reconnaissance in order to avoid gaps between reconnoitered areas, prevent duplication of effort, and obtain economy of force.

b. Plans for reconnaissance are closely coordinated with the intelligence plan (FM 30-5). Reconnaissance plans include—

Areas, zones, and routes to be reconnoitered.

Information needed, including time it is required.

Assignments of missions and tasks to reconnaissance patrols and other agencies.

c. The battalion commander, through the S-2 and the reconnaissance company commander or reconnaissance officer, prepares the battalion reconnaissance plan. Most of the reconnaissance is executed by patrols from the reconnaissance company or, in towed battalions, by reconnaissance platoons. However, other agencies (staff officer reconnaissance parties, observation posts, patrols from security sections, etc.) should be used to the maximum for close-in reconnaissance. In situations where a large amount of reconnaissance is necessary, reconnaissance platoons usually should not be assigned missions or tasks that can be executed by other agencies.

d. The chain of command is followed when allocating missions. The group commander assigns reconnaissance missions to battalion commanders and to group staff officers. The battalion commander in turn assigns missions to the reconnaissance company commander or reconnaissance officer, gun company commanders, and battalion staff officers.

44. Though not stated explicitly, route reconnaissance is generally conducted short of enemy positions. A route march is conducted outside enemy threat (though in fluid situations that judgment is subject to nasty surprises!). If you are on the offense, your advance is its own route reconnaissance.

45. The term "battle reconnaissance" is tossed in here without definition. This is reconnaissance incident to combat, which for TDs is usually a fire fight. Its purpose is to gain information about the strength, dispositions (that is, how they are deployed, not their emotional state), and intentions. After the fire fight, battle recon may investigate whether the enemy is damaged, redeployed, or no longer there.

46. Repeating a point added to several other FMs: when reenactors order a reconnaissance (a rare treat!), the reconnoitering officer is generally admonished to "see what's out there." A better mission is one defined by the commanders EEI (essential elements of information, indicated here by "information needed"). Don't waste soldiers on sightseeing drives and hikes. If you're going to put them at risk, do it for something worthwhile.

e. Reconnaissance missions must be specific. Multiple missions are undesirable and should be resorted to only from necessity, and then priorities must be prescribed definitely.

47. ORDERS FOR RECONNAISSANCE. a. Each unit should develop and practice procedure for executing usual types of reconnaissance. For example, a patrol leader, upon receiving an order to execute a reconnaissance of a specified route, should know that he will observe and report the factors contained in the check list on route reconnaissance (par. 50).

b. Orders for reconnaissance not covered by standing operating procedure must be specific. Like other orders, they must include WHAT, WHERE, WHEN and, if necessary for coordination, HOW. At times, WHY is indicated. For example, the following order given by a battalion commander to the reconnaissance company commander includes WHAT, WHERE and WHEN:

"Reconnoiter from here to FOUR CORNERS, using not more than one platoon. Secure information in the following priority:

Route.

Battalion bivouac area within one mile south of FOUR CORNERS.

Location and designations of friendly units within one mile south of FOUR CORNERS.

Send patrol out at..... Report information here by 1700 today."

48. CONDUCT OF RECONNAISSANCE. Conduct of reconnaissance is covered in FM 18-22 and **21-75**. *All tank destroyer officers and security section personnel*, in addition to members of reconnaissance units, should be trained to employ the methods described therein.

49. COUNTERRECONNAISSANCE. Counterreconnaissance measures are described and discussed in the tank destroyer platoon manuals, and in FM 30-25 and **100-5**.

50. CHECK LISTS. Commanders and patrol leaders should use a check list when preparing for and executing reconnaissance. The lists below are furnished as a guide and should be amplified or modified as required.

a. Route reconnaissance.

Type and condition of roads and cross-country routes, including effects of inclement weather.

Locations, types, and conditions of bridges, culverts, and bypasses.

Locations and conditions of fords.
Critical points--obstacles, defiles, and bypasses.
Road blocks, mines, and contaminated areas.
Areas under enemy observation.
Alternate routes.
Points where guides are required to prevent loss of direction, day or night.
Points of probable traffic danger or interference.
Locations of halt sites.

b. Bivouac area, position in readiness, rallying position or area.

Freedom from enemy troops.
Routes thereto and to possible areas of employment.
Vehicular standing, including effects of inclement weather.
Concealment from air and ground observation. Size of area.
Route of ingress and egress.
Avoidance of interference with, or by, other troops.
Location away from areas or installations likely to attract enemy artillery fire or bombing.
Suitability for local defense.
Additional factors if area is to be occupied for an appreciable length of time--
Water supply.
Freedom from sources of disease.
Location beyond range of enemy medium artillery.

c. Combat area, outpost, delaying action position.

Routes thereto, and to areas of possible subsequent employment.
Locations of hostile troops and installations.
Avenues of approach for hostile foot and armored troops.
Locations, dispositions and plans of friendly troops.
Security.
Areas and positions from which mission can be accomplished, considering--
Fields of fire.
Obstacles, both natural and artificial, including contaminated areas.
Cover and concealment.
Observation, own and enemy's.
Lines of communication.

d. River crossing.

Routes to river.
Locations and plans for movements of other troops.
Bridges or fords, including approaches.

Map and air photograph study of terrain at and beyond far bank with special reference to obstacles, enemy weapon emplacements, possible combat areas and routes thereto.

e. Landing on hostile shore (FM 31-5). Map and air photograph study of beach and terrain beyond with special reference to landmarks, obstacles, enemy weapon emplacements, possible combat areas and routes thereto, The study should include the coast line gradient and terrain extending several miles on each side of the scheduled landing point.

f. Beach defense.

Natural and artificial obstacles obstructing enemy landing such as reefs, sand bars, mines, underwater and beach man-made obstacles, and areas to be contaminated.

Areas and positions from which mission can be accomplished.

Observation posts.

Routes from position in readiness to beaches.

Routes to supplementary beach positions.

g. Indirect fire position (FM 18-20, 18-21, and 18-30).

Routes thereto.

Range to assigned and probable targets.

Mask clearance.

Cover and concealment, including avoidance of landmarks.

Soil.

Space for dispersion.

Supply routes.

Defiladed or concealed area for parking of vehicles out of danger area of counterbattery fire directed at the position.

Avoidance of interference with other troops.

h. Attack of fortified locality (FM 31-50).

Map and air photograph study of assigned target and position area.

Visual study of target.

Gun positions.

Partial defilade and other cover and concealment.

Soil. (How much time is required for digging in?)

Route to position.

Location, disposition, and plans of friendly troops.

Routes for forward displacement.

Observation.

CHAPTER 8

RECONNAISSANCE COMPANY

Section I. GENERAL

51. SCOPE. This chapter describes the employment of the reconnaissance company of the self-propelled battalion. Methods of employment of the reconnaissance company, less references to the pioneer platoon, apply to the employment of the two reconnaissance platoons of the towed battalion. The reconnaissance officer of a towed battalion and the company commander of a reconnaissance company execute the same tactical duties.

52. REFERENCES. Tank destroyer reconnaissance is cov

ered generally in chapter 7. Details of the employment of the reconnaissance platoon are contained in FM 18-22. Employment of the pioneer platoon is described in FM 18-24.

The reconnaissance company's organization and equipment are described in another 18-series FM, but here is a brief description:

A reconnaissance company for a self-propelled TD company includes HQ section and three reconnaissance platoons plus a pioneer platoon.

A reconnaissance platoon has a HQ section with a platoon leader and key NCOs carried in 2 M8 armored cars plus a reconnaissance section carried on 5 jeeps, with 4 MGs and 4 antitank rocket launchers (bazookas).

The pioneer platoon is an engineer unit used primarily to clear obstacles on routes. It includes a HQ section with a platoon leader, platoon sergeant, and others carried by a jeep and an M20 armored car with a cal. .50. There are two pioneer sections of ten soldiers carried on two 1½-ton trucks, including 2 MGs and 2 bazookas; each carries an engineer demolition kit and pioneer tools. (A 1½-ton truck is a smaller, 4x4 version of the CCKW.)

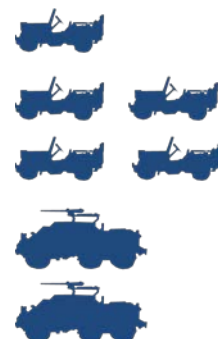
COMPANY HEADQUARTERS



PIONEER PLATOON



RECONNAISSANCE PLATOON X3



53. MISSIONS. a. As described in paragraph 9, hostile armor usually holds the initiative; tank destroyers gain the advantage through *thorough reconnaissance*, and by *preselection* and *preparation* of positions and routes thereto. The primary mission of the reconnaissance company is the execution of this reconnaissance. Specifically, the reconnaissance company executes reconnaissance to—

Select routes over which the battalion will move. Select bivouac areas and positions in readiness. Determine the exact dispositions of friendly troops.

Select areas suitable for the employment of tank destroyers on their primary mission.

Gain and maintain contact with enemy armor prior to, during, and after the fire fight.

Determine location of friendly and enemy minefields.

Locate areas and observation posts for the execution of secondary tank destroyer missions.

b. At times the reconnaissance company may be charged with security missions, that is, reinforcing advance, flank, or rear guards, and establishing and manning outposts. However, the assignment of security missions must not interfere with the proper execution of reconnaissance.

c. When the battalion is executing indirect fire missions, the reconnaissance company continues reconnaissance for primary mission positions and routes thereto. While such reconnaissance is being completed, selected reconnaissance company personnel may act as forward observers.

54. GENERAL. The following considerations govern the employment of the reconnaissance company:

a. Assignment of missions. The battalion commander assigns reconnaissance missions to the reconnaissance company commander or reconnaissance officer who, in turn, assigns missions to platoons, sections, or smaller patrols or parties. The company commander gives necessary orders for execution of the mission, including instructions for control and coordination between patrols.

b. Control and coordination. (1) Specific orders as to WHAT, WHERE, WHEN, and sometimes HOW and WHY are essential for control and coordination between platoons (par. 48). The HOW element contained in an order should be limited to that necessary for providing coordination; this element should not be described in such detail as to stifle the platoon commander's initiative.

(2) When two or more platoons reconnoiter a zone or area, each platoon is assigned its own zone or area. Wherever possible, boundaries between platoon zones or areas should follow easily recognized terrain features. Adjacent platoons conducting zone reconnaissance are controlled further, and

b. Note that the recon company is a very light organization of jeeps and peashooters, so its ability to "reinforce" is usually limited to providing warning.

c. To execute an "indirect fire" mission (discussed earlier), the TDs roll up a reverse slope to increase gun elevation, pull out the gunners' quadrants and firing tables, and pretend they're howitzers. Indirect fire requires a forward observer (FO) because the targets are generally out of sight of the firing units, so they can ride along with the recon sections.

coordinated by means of previously designated, successive phase lines. A phase line is a line (road, railroad, stream, canal, ridgeline, or some other recognizable terrain feature) at approximately right angles to the route of advance.

c. Reports. Except when executing detached missions, reports from reconnaissance patrols are sent to the reconnaissance company commander. He forwards these reports, consolidated when practicable, to the battalion commander or S-2.

d. Attachments. At times a reconnaissance platoon may be attached to a gun company. Such attachment is indicated when a gun company is to operate more or less independently. It should be standing operating procedure for each platoon to be prepared for attachment to a specific company. However, all platoons should practice operating with each of the three gun companies. A platoon attached for more than brief periods is supplied by the gun company. The reconnaissance company commander should coordinate with S-4 and the gun company commander to insure this supply.

e. Reserve reconnaissance elements. Economy should be exercised to maintain a reconnaissance reserve. The minimum initially in reserve should be one platoon in self-propelled battalions and a section in towed battalions. When the reserve is assigned a mission, a new reserve should be formed as quickly as possible. Units in reserve devote their time to maintenance and rest in order to be prepared for immediate employment.

f. Location of company commander. (1) The company commander operates where he can best perform his duties. Usually he is well forward to supervise and coordinate actions of patrols having the most important missions. The following examples are guides:

During an advance when two platoons are preceding the advance guard, he usually moves initially immediately in rear of the center of the two platoons.

When elements of his company form part or all of the advance guard, he usually is with the support.

During a zone reconnaissance requiring the use of two or more platoons, he commands the combined patrols.

When the platoons are held in readiness he remains at or near the battalion command post.

(2) The company executive officer remains at the company or battalion command post to act for the company commander.

c. Reenactors generally don't know about reporting requirements. Reports are generally of the following types:

—Situation reports: where I am and what I'm doing. These are usually prescheduled (e.g., every 30 minutes) or to report some specified event (e.g., crossed phase line ELMER)

—Spot reports: Unscheduled transmission of critical information.

—Position reports: your location (encoded).

f. When the recon company is moving down a single road, the HQ location is usually just specified in the order of march. When moving down parallel roads, there may not be a road in the middle, so the HQ section will be on one side or the other. Moving cross-country, just follow the instructions as written.

55. MOVEMENTS. a. For movements in general, see chapter 5. Formations are illustrated in FM 18-15. Company commanders should design additional formations when needed.

b. An element of the reconnaissance company executes a route reconnaissance prior to all battalion movements. For reconnaissance of roads, a reconnaissance section or platoon, reinforced by part or all of the pioneer platoon, usually is sufficient. The reconnaissance personnel learn and report the conditions of the route, while the pioneer personnel determine the amount of work and materials necessary for overcoming or bypassing obstacles. When the tactical situation permits, the pioneer platoon starts work on necessary tasks as soon as they are determined. Reconnaissance platoons of towed battalions should be trained to inspect and report the amount of work and materials required for strengthening bridges and improving fords (FM 18-24).

c. For reconnaissance of cross-country routes, two reconnaissance platoons may be required. If the zone or area contains obstacles such as streams, ditches, or steep slopes, pioneer elements should accompany each patrol when the tactical situation permits.

d. Reconnaissance and pioneer platoons frequently reinforce the advance guard of the battalion (par. 90). Occasionally they may be used to furnish flank protection; the reconnaissance platoon acts as or augments a flank guard, while the pioneer platoon lays mines covering approaches from a flank (FM 18-22 and 18-24).

e. During vague situations, one or more reconnaissance platoons will precede the battalion advance guard by as much as 5 miles. These platoons execute a zone reconnaissance to—

Locate suitable combat areas for employment of the battalion.

Contact the enemy and to observe and report his composition, strength, locations, and actions.

56. SELECTION OF BIVOUAC AREAS AND POSITIONS IN READINESS. Reconnaissance company patrols frequently are charged with selecting bivouac areas and positions in readiness. Personnel are trained to recognize characteristics of a good bivouac area and the minimum size areas required (par. 36 and figs. 1, 3, and 4).

c. The pioneers not only clear obstacles, but also conduct routine engineer reconnaissance functions, which include estimating the weight tolerances of bridges and culvers (good to know!) and the bottoms of streams and other water drainage to determine the vehicle weight they can carry.

Section II. OFFENSIVE OPERATIONS

57. CONTROL AND ATTACHMENTS. When the battalion operates as a unit during offensive situations, the reconnaissance company usually remains under battalion control. When gun companies of the battalion are detached or when elements of the battalion operate in different zones (par. 108), reconnaissance platoons frequently are attached to gun companies. The employment of the reconnaissance company described in subsequent paragraphs of this section also applies generally to platoons attached to companies.

58. INITIAL MOVEMENTS DURING AN ATTACK. a. Initial movements of the battalion during an attack usually are between successive positions in readiness (par. 106 and fig. 9). Elements of the reconnaissance company precede the battalion to each position in readiness and are charged with reconnaissance for—

Selecting the new position in readiness and route thereto. (The general location and route are prescribed by the battalion commander.)

Locating approaches available to hostile armor.

Selecting suitable areas *for* the employment of each gun company.

Determining locations, dispositions, and actions of friendly troops within a prescribed zone.

Contacting the enemy to determine his location, composition, size, and actions within a prescribed zone or area.

Maintaining contact.

b. When operating over favorable terrain, one patrol may be able to execute all of the above reconnaissance missions concurrently, while at other times the detail of two or more patrols will be indicated.

c. The distances reconnaissance elements operate ahead, or to a flank, of the battalion vary considerably with the situation. For example, reconnaissance platoons of a tank destroyer battalion supporting an interior division during an attack probably could not precede the battalion by more than 2 miles; on the other hand, reconnaissance elements of a self-propelled battalion covering a division flank may cover a distance of 10 miles beyond the battalion's flank. In determining how far away reconnaissance patrols are to be sent, a balance must be made between the need of obtaining early information and the necessity of maintaining communication with and control of reconnaissance elements.

58. That is, what they normally do, only faster and with more urgency, often while being shot at.

b. In this sense, a "patrol" is some specific force, from a full platoon down to a single jeep, directed to perform a specified recon function. The function and battle situation determine the strength and composition of the patrol.

59. ACTIONS PRIOR TO FIRE FIGHT. During the time each position in readiness is occupied, the reconnaissance company continues reconnaissance described in the preceding paragraph. As the attack progresses, emphasis is placed on locating enemy armor, approaches it can use, and suitable combat areas, choice of the latter being based upon terrain and the dispositions of supported troops. When hostile armor is located, strong patrols maintain contact with the front and each flank of the enemy in order to determine his strength, composition, and actions. Every effort is made to determine his main effort (fig. 10).

60. ACTIONS DURING FIRE FIGHT. a. During the fire fight reconnaissance patrols continue battle reconnaissance to—

Obtain additional information of the enemy's strength, composition, and location of his main effort.

Warn the gun companies of the direction of movement of the hostile armored element.

b. Patrols operating initially on the enemy's flanks remain on these flanks until ordered elsewhere. Patrols in contact with the enemy's front continue to operate between the tank destroyer gun companies and the enemy. These patrols cover gaps between the gun companies when hostile action forces them back to position areas. Small dismounted observation parties, equipped with an SCR-610 or similar radio, may remain concealed between the gun companies and the enemy.

c. If subsequent movement of the battalion is contemplated, part of the reserve platoon (if any) may execute reconnaissance for position areas and routes thereto. However, the battalion commander should be prepared to have staff officers execute this reconnaissance since all reconnaissance elements are likely to be otherwise engaged during the fire fight.

d. Prior to and during the fire fight in offensive situations, the company commander must be especially careful to assign reconnaissance missions according to a definite plan in order to avoid dissipating personnel. Possible initial dispositions are—

(1) *Self-propelled battalion.* One platoon covering the enemy's right front and flank, one platoon covering the left front and flank, and one platoon in reserve; or one platoon covering the enemy's front and one flank, a section covering the other flank, and a platoon and section in reserve.

(2) *Towed battalion.* One section covering the enemy's right front and flank, one section covering the left front and flank, and one platoon in reserve; or one platoon covering the enemy's front and one flank, a section covering the other flank, and a section in reserve.

59. This ("maintain contact") may resemble a blinding flash of the obvious, but it has a vital meaning when we're a TD battalion. Our job in the defense is to block the enemy's main effort (*Schwehrpunkt*) where his attack will be weighted. The TD's should be massed as needed in exactly the right place to deal with the enemy's armored effort. To do this, we have to know where the armored effort will be, and the enemy usually tries to keep that a secret until the attack is launched.

I think it was Wayne Gretzky who attributed his success on the ice as "skating to where the puck is going to be, not where it is."

61. ACTIONS AFTER THE FIRE FIGHT. Following the fire fight, reconnaissance elements—

Maintain observation to give warning in event of an attack during reorganization of the battalion.

Relocate the enemy in event contact has been lost.

Maintain contact with the enemy. (Contact is maintained with enemy armor until other enemy troops prevent such contact. Then contact is maintained with these other enemy troops.)

Locate new combat areas.

Continue reconnaissance in the direction of possible movements.

62. PURSUIT. See paragraph 89 and FM 18-22.

Section III. DEFENSIVE OPERATIONS

63. GENERAL. a. A defensive situation usually permits very thorough and complete reconnaissance to locate avenues of approach available to the enemy, and combat areas and routes thereto. Although much of this reconnaissance is executed by officers, reconnaissance elements supplement officer parties in order to expedite obtaining complete data as to conditions throughout the entire area occupied by the supported troops.

b. When the battalion operates as a unit, reconnaissance elements usually remain under battalion control. Frequently a reconnaissance platoon is attached to a detached gun company. Methods of employment described for the reconnaissance company will apply generally to platoons attached to gun companies.

64. ACTIONS PRIOR TO FIRE FIGHT. a. Regardless of whether the battalion occupies a position in readiness or firing positions, the bulk of the reconnaissance elements are held in readiness prior to the enemy's attack. First information of the approach of enemy armor usually is obtained from observation posts or friendly troops. When the supported unit occupies a flank, tank destroyer reconnaissance elements may operate on the exposed flank.

b. As soon as the general location of enemy armor is learned, reconnaissance patrols are sent out to determine the enemy's location, strength, composition, and actions as quickly and accurately as possible.

b. This is the only example I have seen in 17- and 18- series FMs or anywhere else in the literature that advises splitting a recon company into platoons in this way. It reflects the criticality of reconnaissance in the use of tank destroyer assets, as well as the expectation that TD battalions will be split into gun companies to meet tactical requirements.

c. All movements of the battalion, from a position in readiness to a combat area, should be preceded by one or more reconnaissance platoons. Although the route will have been reconnoitered and selected previously, enemy action may necessitate a change of route.

d. Reconnaissance elements cover the battalion's occupation and organization of the combat area. When occupation is completed, covering reconnaissance elements continue with battle reconnaissance.

65. ACTIONS DURING AND AFTER FIRE FIGHT. Actions during and after the fire fight are similar to those during offensive operations (pars. 60 and 61).

66. OUTPOSTS. a. When all or part of the battalion reinforces an outpost, tank destroyer reconnaissance elements may operate 1 or 2 miles in front of the outpost line. When forced to withdraw, these reconnaissance elements maintain contact with the enemy, observing the actions of the enemy, paying particular attention to hostile armor when possible.

b. When gun companies withdraw from the outpost line, part of the reconnaissance company precedes the battalion to its next position while the remainder maintains contact with the enemy.

67. DELAYING ACTION (FM 18-22). During delaying action, elements of the reconnaissance company maintain contact with the enemy. The primary mission is that of battle reconnaissance (pars. 59-61) with emphasis placed on discovering enemy attempts to encircle the elements of the battalion that are occupying delaying action positions.

Section IV. COUNTERRECONNAISSANCE

68. GENERAL. a. The reconnaissance company is capable of executing limited counterreconnaissance missions. Reconnaissance and counterreconnaissance missions are not assigned concurrently.

b. When strong counterreconnaissance action is required, gun and reconnaissance elements are combined.

c. Large-scale counterreconnaissance is conducted by a force of several arms. Employment of the reconnaissance company in such situation is similar to its employment in other offensive or defensive operations.

69. ORDERS. Orders for the execution of counterreconnaissance specifically should include—

Information of friendly and enemy troops.
Line which the enemy is to be prevented from passing.
Boundaries of area or zone for which responsible.
Actions to be taken in event of an enemy attack or reconnaissance in force.

Section V. PIONEER PLATOON

70. GENERAL. During operations, the pioneer platoon usually is detached from the reconnaissance company for the execution of missions under battalion control. The reconnaissance company commander must be prepared to furnish supplies to the platoon regardless of its location.

71. MISSIONS. a. The primary mission of the pioneer platoon is removing, bridging, or constructing bypasses around obstacles including mined areas that interfere with the movements of the battalion. Other missions are construction of obstacles, executing demolitions, assisting in general construction work, and preparation of emplacements and camouflage. For further discussion of missions and tasks, see FM 18-24.

b. At times, to cause the platoon to execute certain tasks alone is uneconomical. Although pioneer personnel are trained and conditioned to perform hard manual labor, frequently a more economical use will be to augment other working parties with explosive and power tool details.

72. MOVEMENTS. The pioneer platoon marches where it can best perform its primary mission. This place usually is with the advance guard (par. 90 and FM 18-24).

73. ACTIONS PRIOR TO FIRE FIGHT. Prior to the fire fight the pioneer platoon may be employed to—

Improve routes between the position in readiness and combat areas.

Lay mine fields, execute demolitions, and prepare obstacles.

Assist in constructing emplacements.

Assist in preparing and camouflaging the battalion command post.

74. ACTIONS DURING FIRE FIGHT. During the firefight, the pioneer platoon may—

Improve routes to alternate and supplementary position areas. Construct emplacements in alternate and supplementary positions.

Assist in the local defense of the battalion command post.

75. ACTIONS AFTER FIRE FIGHT. After the fire fight, the pioneer platoon may be employed to—

Improve routes over which the battalion will or may move.

Protect the battalion command post during reorganization.

Assist in repairing damaged emplacements and in constructing new ones.

Lay additional mines and execute further demolition.

76. RETROGRADE MOVEMENTS. In retrograde movements the pioneer platoon may be used to improve routes, lay mines, execute demolitions, and prepare other obstacles. Execution of demolitions must be coordinated with higher headquarters.

CHAPTER 9

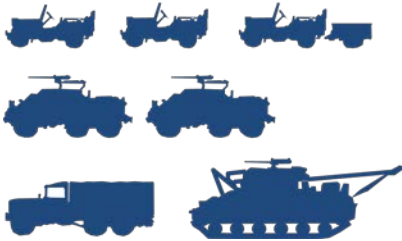
GUN COMPANY

77. REFERENCES. For detailed discussions of the platoons of self-propelled and towed gun companies, see FM 18-20 and 18-21, respectively.

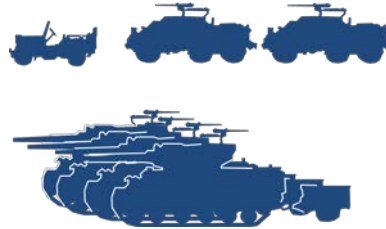
The gun company is described in detail in the references cited in **77**, above. For convenience, we will summarize it here.

The company (self-propelled) consists of a headquarters section of three jeeps, two M20 armored cars, a 2½-ton truck, and a tank recovery vehicle (an M4 chassis with a winch and recovery hardware); and three gun platoons).

HEADQUARTERS SECTION



GUN PLATOON X3



*Note: TDs typically tow an ammunition trailer for quick reload.

78. MOVEMENTS. a. For movements in general, see chapter 5. Formations are illustrated in FM 18-15. Additional formations are designed as necessary.

b. During marches when combat is not imminent, the company commander should move up and down the column in order to check the performance of his company. He should be well forward during the approach march.

79. BIVOUACS AND POSITIONS IN READINESS. Occupation of bivouacs and positions in readiness are covered in chapter 6 and in FM 18-20 and 18-21. The company commander coordinates the security measures in order to prevent gaps or duplications of effort.

80. RECONNAISSANCE OF COMBAT AREA. Occasionally in bivouac and usually in a position in readiness, the company commander receives instructions from the battalion commander which require a reconnaissance of possible combat areas. This reconnaissance usually consists of a

Text for the gun company follows in general the instructions for the tank destroyer battalion.

careful inspection of one or more areas that have been designated as company areas under Plans A, B, etc. (par. 101). However, it may be for the purpose of providing the battalion commander with information concerning one certain area. Whenever possible the company commander takes his platoon leaders with him.

81. CONSIDERATIONS AFFECTING SELECTIONS OF PLATOON AREAS. **a. Flanking fire.** Positions should be selected to provide flanking fire for all guns.

b. Mutual support. Platoon areas should afford mutual support between platoons. If there are dead spaces in a platoon's field of fire covering an approach tanks could use while advancing toward that platoon, these dead spaces must be covered by the fire of another platoon.

c. Depth. Depth in position is vital. In retrograde actions depth may be sacrificed in order to cover a wide front.

d. Reserve platoon. (1) *Self-propelled companies.* One platoon may be designated as a reserve platoon. It prepares for supporting either of the other two platoons or for covering one or more areas otherwise uncovered. It may initially occupy a concealed, defiladed position, particularly when surprise is sought. At other times, its initial position affords fields of fire. Two platoons may be held in reserve. Movements of reserve platoons, unless defiladed, must be covered by the fire of other weapons.

d. Tanks in the attack tend to bypass strong points and preserve momentum; they do not sit around and argue about every position. Once clear of the main line of resistance (MLR), they will want to shift gears and haul ass into your reserve area and beyond. This argues for defense in depth, which will complicate his continued advance and may give you time to shift other reserves to block his axis of movement.

(2) *Towed companies.* The commander of a towed company seldom designates a reserve platoon; nearly always all three platoons occupy firing positions initially. Occasionally, when terrain affords ample protection during movements, a platoon may be held in reserve prepared to move to one of two or more preselected positions. Its final movement into position must be covered by the fire of other weapons.

e. Dispositions. The most common disposition of the platoons within a company area is two platoons forward and one in supporting distance in rear. However, this disposition should not be standardized. Other possible solutions are—

- Platoons in line (used only when covering a wide front).
- One platoon forward and two in rear.
- Platoons in echeloned or staggered column.

82. FACTORS AFFECTING SELECTIONS OF PLATOON COMBAT AREAS. **a.** Factors affecting the selection of platoon combat areas are—

- Mission assigned the company.
- Approaches available for hostile tanks.
- Company plan of employment.

Locations and plans of other troops.
Fields of fire.
Observation.
Cover and concealment.
Obstacles.
Routes in and out.

b. The *mission* assigned and plan of *employment* obviously determine the choice of positions. For example, delaying action calls for an entirely different assignment of platoon areas than does the close support of infantry. Similarly, when one company is ordered to force the enemy to come under the fire of another company in ambush, the two companies occupy entirely different types of positions.

c. All *approaches available for hostile tanks* that endanger the company combat area must be covered, either by company guns or by antitank or tank destroyer weapons of other units.

d. *Locations and plans of other troops* affect the company positions. The company commander coordinates his plans and actions with adjacent companies to provide for mutual support, to avoid duplication of effort, and to insure that there are no unguarded approaches left open for hostile tanks. *The locations and plans of nearby infantry are important factors.* The fires of tank destroyer guns should be coordinated with those of antitank guns. The tank destroyer commander takes advantage of infantry dispositions to protect his company against enemy infantry. In turn, the tank destroyer guns help protect the infantry. There must be close coordination with infantry battalion and regimental commanders to insure that tank destroyer positions do not conflict with movement of infantry reserves. Likewise, there must be similar coordination with nearby artillery or armored units before the platoon positions are finally selected.

e. *Fields of fire* and the other factors of the keyword FOCOL—Observation, Cover and concealment, Obstacles, and Lines (routes) in and out—apply to the gun, the platoon, and the company (FM 18-20 and FM 18-21).

(1) *Self-propelled companies.* Commanders of self-propelled companies must always consider routes for movement of the reserve platoon, in addition to routes in and out.

(2) *Towed companies.* Commanders of towed companies at times must consider routes for movement of the reserve platoon, in addition to routes in and out.

f. *Flanking fire, mutual support, and depth* apply to the company as they do to the platoon. Usually platoon areas will be assigned to provide for flanking fire and mutual

b. Think of defense in depth like a game of pinball. It isn't successive lines of resistance, but a maze of strongly held obstacles along likely avenues of approach.

c. This means a careful recon and selection of sites. Nothing is more annoying than leaving uncovered the one axis the enemy chooses to take.

d. There must always be a coordinated fire plan. This is a mystery to most reenactors, who have no compelling reason to think about real fire instead of blank fire.

e. This is also known down the ages of Army doctrine as COKOA and OCOKA. This is the only example of the FOCOL styling I've come across.

support between platoons. Ordinarily, the company positions must have depth lest they be easily penetrated or outflanked. All of these considerations apply equally to both self-propelled and towed companies. However, certain factors with reference to the preparation of the positions will be peculiar to each (FM 18-20 and FM 18-21).

83. TIME AND PREPARATION. a. When time permits, the company commander should make a very careful and detailed reconnaissance. Taking into account considerations and factors involved, he studies all possible solutions before selecting the platoon areas.

b. The company commander must provide ample time for the platoon and gun commanders to make their reconnaissance and selection of positions.

84. DELIBERATE OCCUPATION OF POSITION. a. When time permits, the company commander issues a detailed order for occupation of position. This order usually is fragmentary. Whether the complete order is issued at one time or is issued in fragmentary form, the following outline will serve as a guide:

Par.

- 1 I Information of the enemy.
Information of friendly troops, particularly those nearby.
- 2 D Decision or mission, including time preparations are to be completed.
- 3 E Each platoon area—
Sector of fire.
Instruction for coordinating fires.
Instruction for coordinating security.
Opening fire, including measures for concealing strength of positions.
Supplementary area (s) or position(s), including possible position(s) for reserve platoon.
Rallying area (par. 99).
- 4 A Administrative details, such as—
Initial location of recovery vehicle.
Location of company aid station.
Axis of evacuation.
- 5 L Location of company and battalion command posts.
S Signals, prearranged pyrotechnic or others; radio silence or opening.

b. After receipt of the order, each platoon commander proceeds with his own selection and occupation, or prepares the position for occupation at a later time if the position is tentative. The company commander spends the time re-

84. The bitter truth: time almost never permits, particularly as the need for reconnaissance increases. It also takes a lot of experience, mastery of what the French call the *coup d'oeil militaire*—the military stroke of the eye, which is the ability to take in the dangers and possibilities of terrain at a glance. This gift is rarely given and mastered with difficulty, but is an attribute of a successful soldier (Napoleon and Wellington come to mind). It should be drilled into TD leaders.

NOTE: Again, I am ambushed by an acronym. I do not recall seeing the string IDEALS used in this context before.

maining before the approach of the enemy accomplishing several duties, such as—

- Insuring that platoon sectors of fire are coordinated.
- Inspecting and checking gun and machine gun positions and camouflage.
- Checking the observation and, warning system.
- Establishing liaison with nearby troops.
- Providing for essential administrative details such as supply of ammunition, fuel, rations, and water.
- Reporting his dispositions in detail to the battalion commander, preferably by overlay.

85. HASTY OCCUPATION OF POSITION. a. Hasty occupation of position by the company, like rapid movement to position by the platoon, is facilitated by the use of well-practiced formations. After hasty occupation, the company commander performs as many duties of deliberate occupation of position as time allows.

b. Self-propelled companies. Self-propelled units can occupy effective positions hastily. However, deliberate occupation is preferable.

c. Towed companies. Towed units should be covered by smoke or fire of other guns in occupying a position hastily.

86. FIRE FIGHT. a. The details of platoon action during a fire fight, as discussed in FM 18-20 and FM 18-21, apply in general to the company.

b. The company commander should place himself where he can see the actions of all three platoons if possible. When he cannot see all platoons from one position, he establishes his OP so as to observe action of the platoons in his most critical area. He maintains communication with his command post. He issues orders to platoon commanders from time to time as may be necessary.

c. The company commander strives to keep his positions unknown to the enemy. Every opportunity for tricking the enemy is sought. Examples of possible actions are—

(1) The fire of two platoons is conducted so as to resemble the fire of one overextended platoon.

(2) Two platoons remain silent until the enemy starts maneuvering against the platoon that opened fire: often the rear platoon should be the first to open fire.

(3) *Self-propelled companies.* (a) One platoon simulates a withdrawal, actually moving from a forward position to a reserve position in an effort to draw the enemy into ambush prepared by the other platoons.

(b) One of two platoons occupy carefully concealed cover positions, prepared to move rapidly to previously selected

85. This seems to be a BFO—a blinding flash of the obvious—but it is an essential principle. A deliberate defensive position is always preferable to a hasty one, but we do not always have the time to be all that deliberate. The biggest lapse of the process is that "deliberate" is more likely to involve coordination of positions (FOCOL, OCOKA, COKOA, whatever), and it isn't enough to be deliberate about positioning and preparing your TD without considering the entire company or platoon plan.

Keys here are (a) using the terrain and (b) thinking like the enemy, who always gets a vote.

fire positions after the enemy has committed his attack against the rest of the company.

(c) The company (or elements thereof) first occupies fairly good positions and then moves by concealed routes to better positions after the start of the fire fight. This method is particularly valuable when a reconnaissance in force is expected, the shift being made after the enemy reconnaissance elements are driven back.

d. Alternate and supplementary position.

(1) *Self-propelled companies.* After the fire fight has started, the company commander may influence the action by causing platoons to move to alternate or supplementary positions. He must be alert to increase fire power at critical points by skillfully shifting his platoons. These shifts are preplanned in order to obtain maximum effectiveness.

(2) *Towed companies.* Movements to alternate and supplementary positions under direct or observed indirect fire will result in excessive casualties. Shifts of battle positions should be made at night, under the cover of fog or smoke, or by defiladed routes.

e. Withdrawal. (1) Although the company commander may maneuver his platoons within his assigned area as he sees fit, he cannot withdraw from the area without orders from his battalion commander or, if detached from the battalion, from the commanding officer of the unit to which his company is attached. When he expects to simulate withdrawal within view of other troops, he should inform these other troops of his plans beforehand.

(2) When withdrawals are executed, disengagement is by platoon. The last platoon out should have access to a nearby, covered route of withdrawal; it usually withdraws by sections. When the enemy pursues, movements are made from one terrain feature to the next.

(3) The movement of each platoon is covered by the fire of at least one other platoon.

(4) Deception aids in slowing enemy pursuit. For example, a platoon may remain silent and hidden while the rest of the company quickly withdraws. If the enemy pursues hurriedly, this platoon is likely to have the opportunity of inflicting heavy casualties.

(5) Planning is essential for executing withdrawals effectively. These plans must be understood by all personnel.

(6) *Self-propelled companies.* The self-propelled unit is able to withdraw under fire without severe casualties (FM 18-20).

d. This is equivalent to the alternate and supplementary positions described in other manuals. To review:

An **alternate position** is a preselected location to which a vehicle can shift if the enemy has found his location and range.

A **supplementary position** is one to which a vehicle of unit may shift just in case the enemy attacks using a route considered unlikely.

d (2) Remember that a towed gun has to be manhandled off a position, attached to its prime mover, and shifted in ways the enemy may detect.

e (2) The idea here is that the enemy should be kept under direct fire as long as possible. If he determines that you are withdrawing he will often speed up and complicate your maneuver unless he is under fire. Of course, that last gun section may well take it in the shorts, but that's a reason to insist on careful, repetitive training in this maneuver.

(6) Very comforting. Don't believe it.

(7) *Towed companies.* Daylight withdrawals of towed units are likely to result in heavy casualties if made under fire (FM 18-21). However, in emergencies, withdrawals can be made under the cover of smoke or when well protected by the fire of other units. If the situation justifies such action, one platoon may be sacrificed to save the other two.

87. REORGANIZATION. a. The company commander reorganizes his company after each phase of the fire fight. He first sees that security, particularly observation, is functioning and then makes a report to the battalion commander covering ammunition and fuel status, personnel and materiel casualties, type and strength of enemy attack, and present position of enemy force. He has a number of other duties to be performed, concurrently when possible, such as—

Inspecting to see that reorganization of platoons is being properly executed.

Making readjustments of platoon positions and sectors of fire as required because of casualties or damage to weapons.

Directing movement to alternate positions.

Inspecting to see that the wounded are being given first aid, and moved to a covered position where they can await transportation to the rear.

Arranging for necessary refueling.

Assuring that the recovery vehicle crew is functioning properly.

b. Liaison should be maintained with nearby units during reorganization so that new dispositions and actions of each are coordinated.

c. The company commander must anticipate some disorganization after each fire fight. He causes his company to practice reorganization. He plans his own actions beforehand so that he can function calmly regardless of the shock his company has undergone.

88. COMPANY IN RESERVE. a. The company and platoon commanders reconnoiter, possible combat areas and routes thereto. Reconnaissance by company officers is best performed together when time permits; when there is little time, each officer may be assigned a different area in order to obtain quickly a complete survey of possible combat areas.

b. The company commander of the reserve company learns the disposition and plans of the rest of the battalion and of nearby troops. He prepares detailed plans based upon battalion orders for his possible actions and designates these as Plan 1, 2, etc. He disseminates the plans and causes all personnel to be thoroughly familiar with them.

(7) Now, *there's* a comforting thought. The general rule of doctrine writing is to avoid expressions like "sacrificed" or "to the last man." Soldiers understand these things after some experience without being reminded that they may be screwed, blued, and tattooed to let everybody else get away.

The commander will have to offer consoling thoughts about what happened to second platoon when he executes **87**.

Usually he should be with the battalion commander or at the battalion command post until such time as his company is committed. During this time he keeps abreast of the situation, and periodically sends pertinent information to his company.

c. The reserve company is committed by battalion order except when immediate action is needed at a time when communications have failed. Then the reserve company commander, should not hesitate to enter the fire fight. The reserve company should be ready at all times to deal with individual tanks that might succeed in passing the other companies.

89. PURSUIT. Tank destroyer units alone do not engage in pursuit; pursuit is conducted only as part of a larger force (par. 110). However, tank destroyers do maintain pressure by fire, or by fire and movement, to drive the enemy out of an area he has penetrated.

a. Self-propelled companies. The self-propelled company drives a defeated enemy out of its assigned area by fire and movement. It leaves its area for further pressure only on order from battalion or from the headquarters to which attached. Direct pressure or encirclement is pushed rapidly. Reconnaissance elements should precede the company to maintain contact, select gun position areas, prevent ambush, and find suitable routes. If elements of the reconnaissance company are not available, this important function is performed by personnel of the security sections.

b. Towed companies. The towed company uses fire only to drive the enemy out of the assigned area.

90. ADVANCE GUARD. The company may be the advance guard for the battalion. The formation used is extended sufficiently to enable the support to avoid surprise direct fire. When the ground is suitable, the advance guard should be extended laterally as well as in depth.

a. Self-propelled companies. (1) The company is usually reinforced by a reconnaissance platoon and the pioneer platoon (fig. 5).

(2) For overcoming enemy resistance, the following is a guide for the employment of the advance guard:

(a) The reconnaissance platoon determines the enemy dispositions and locates his flanks. Each reconnaissance section maintains contact from positions forward and to the flank of our own troops as described in FM 18-22.

(b) The leading gun platoon maneuvers to firing positions generally to its front; it should not move far to the right or left unless such a maneuver is ordered by the company commander.

89. Down to cases: never put TD's in the lead where they may be ambushed and lost because of their thinner defensive armor. This sacrifices a critical asset by using it in an unintended way.

Of course, "never" is a tough concept to live up to consistently in combat.

(c) One of the rear gun platoons moves to bring flanking fire against the leading elements of the enemy. The other rear platoon remains in mobile reserve until the situation develops sufficiently to warrant its being committed.

(d) Pressure is maintained to drive out the enemy if he is weak or to cause him to disclose his position if he is strong.

(e) The pioneer platoon moves to a concealed, covered position and remains, ready to construct crossings over, or detours around, any obstacles that interfere with movements of the battalion.

b. Towed companies. (1) The towed company is reinforced by at least one reconnaissance platoon detailed as advance guard (fig. 7).

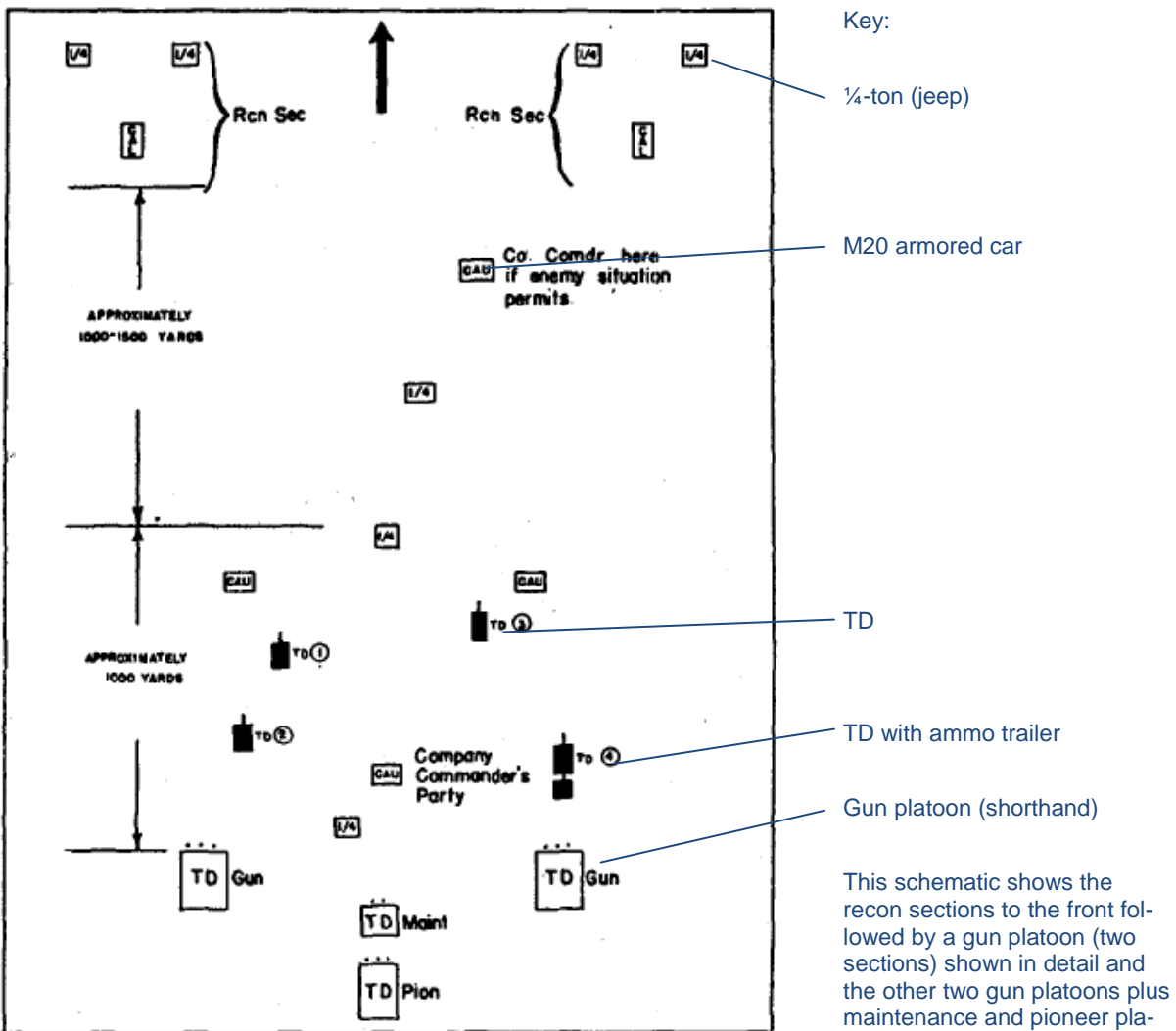
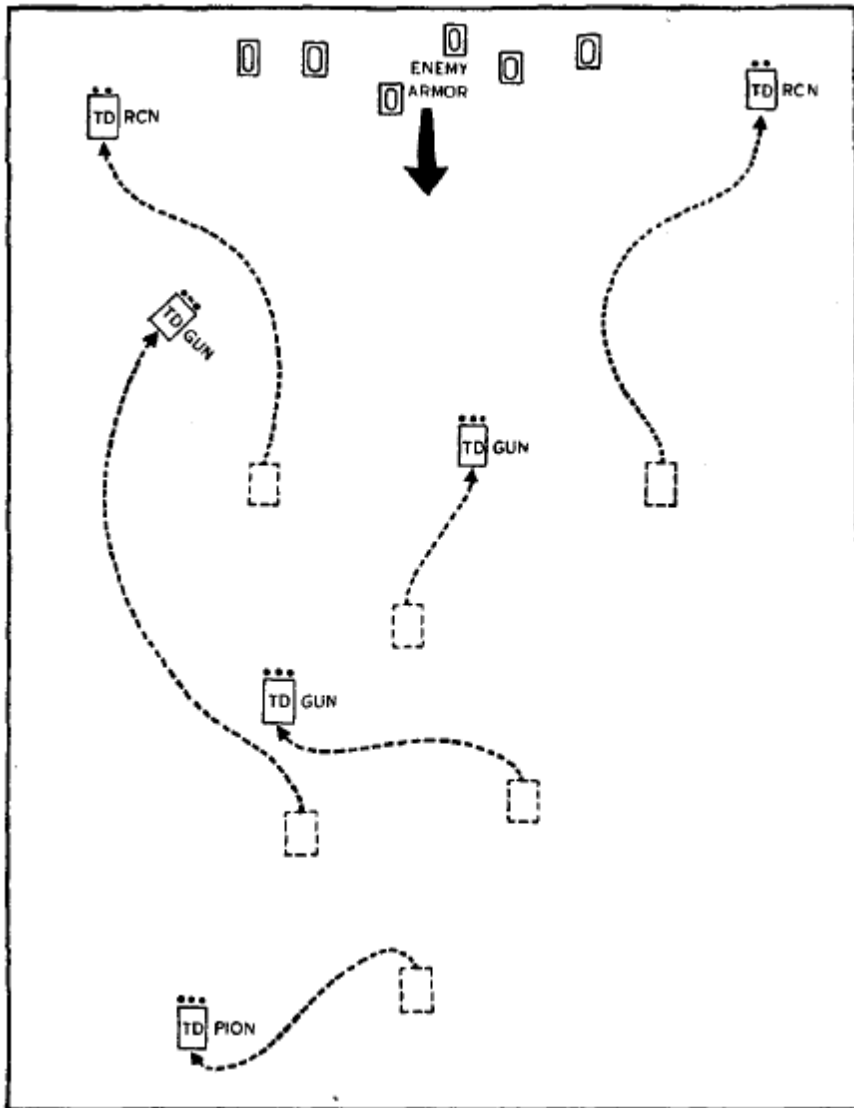


Figure 5. An advance guard formation. (Self-propelled unit)

(2) Since towed units are not suitable for maneuver against fire, the gun company of the advance guard quickly occupies firing positions across the route of the enemy's advance when resistance is met; its mission is to stop a weak attack, or in the case of a strong attack, to gain time for the deployment of, and movement to positions, by the rest of the battalion. The reconnaissance elements of the advance guard locate the enemy's flanks and determine the locations and directions of his movements.



In this development (a "development" is a planned maneuver against the enemy) the recon platoon moves to the flanks for two reasons: (1) to allow the gun platoons to shoot without masking their fire, and (2) to provide warning in case the enemy attempts to flank (which they will probably want to do). The gun platoons are moving into firing positions.

Figure 6. An advance guard development. (Self-propelled unit)

91. COMPANY WITH LARGER ADVANCE GUARDS. a. The company may be efficiently employed as part of the support of an advance guard composed largely of infantry or of infantry and artillery. In most situations, the company

should be at the head of the support. The company commander can facilitate employment by marching at or near the head of the advance party in order to make a continuous reconnaissance ahead of his company. When the support commander desires that the company commander accompany him elsewhere in the formation, the company executive or other officer should precede the company in order to make this reconnaissance.

b. The company commander keeps informed of the plans for the support so as to be able to employ his company quickly and efficiently when ordered by the support commander.

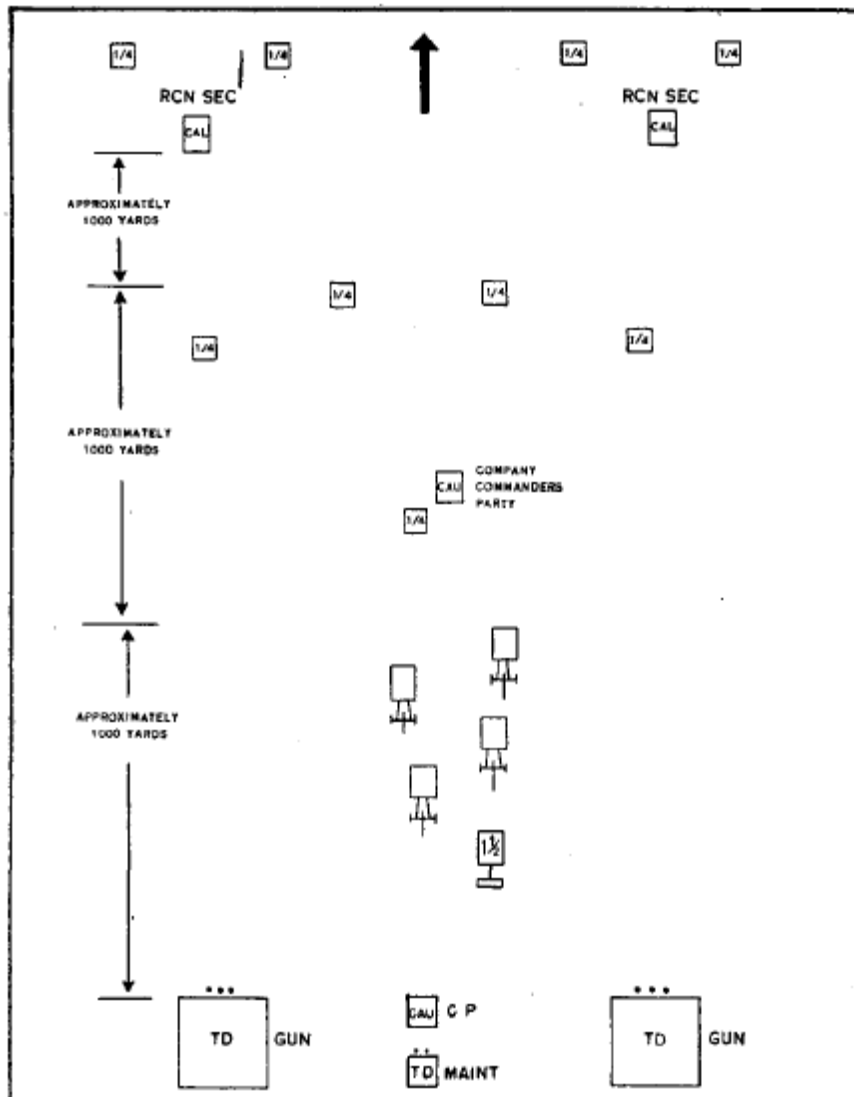


Figure 7. An advance guard formation. (Towed unit.)

92. FLANK GUARD. An entire company seldom performs flank guard missions for the battalion. Flank guard actions

of the company are similar to those of a platoon in that platoons usually occupy successive positions covering approaches the enemy might use.

a. Self-propelled companies. The self-propelled company may operate alone on a flank. However, it is employed most effectively in conjunction with other troops. The company may reinforce, or be reinforced by infantry when performing flank guard missions.

b. Towed companies. The towed company should operate alone on a flank only when foot troops or tank units are not available. When performing flank guard missions, the company should reinforce, or be reinforced by foot troops or tanks.

93. REAR GUARD. The rear guard actions of a company operating alone are similar to the actions of the platoon (FM 18-20 and FM 18-21). Attached reconnaissance elements will assist materially the company in maintaining contact with any pursuing forces. When a part of a larger force, actions will depend upon the plans of the rear guard commander. In all rear guard actions, every advantage should be taken of natural and artificial obstacles and of the possibilities of ambush. A rapidly pursuing enemy is often vulnerable to skillfully used ambush. Fire may be opened early to force the enemy to deploy.

94. DETACHED COMPANY. Upon receiving orders attaching his company to another unit, the company commander or his executive reports to that unit commander. He learns the situation, reports the probable time of arrival of the company, and arranges as necessary for ammunition, fuel, water, rations, and bivouac area. He immediately begins planning to fulfill any mission that may be assigned. He must be prepared to make recommendations for the employment of his company. The SOI of the unit is obtained and action begun to make company communication conform thereto.

95. SECONDARY MISSIONS. Secondary missions assigned the company are usually performed as platoon missions (FM 18-20 and FM 18-21). The company commander's duties usually consist of assigning missions coordinating actions and inspecting platoons.

96. REINFORCING ARTILLERY AS A SECONDARY MISSION (FM 18-30). **a.** Tank destroyer gun companies acting as field artillery perform the role traditionally filled by reinforcing artillery—that is, fire the scheduled or prearranged fires asked for by the reinforced artillery.

b. Position areas are coordinated by the reinforced artillery unit. The fire unit is the tank destroyer platoon.

c. The field artillery provides the target area survey. The tank destroyer gun company executes position area survey to include establishment of place marks near its fire units and an orienting line by short aiming circle traverse from convenient control points established by field artillery.

d. The company establishes liaison with the reinforced artillery unit which, in turn, is responsible for liaison with supported units.

e. The reinforced artillery unit executes fire direction by designating targets and prescribing time of firing number of rounds to be fired.

f. Normally wire telephone communication is used, the reinforced artillery battalion establishing communication to the reinforcing tank destroyer company. Because of limitations on field artillery radio sets and channels and the possibility of radio silence, radio is not considered as a normal means of intercommunication between reinforcing tank destroyer units and the reinforced units. However, when a special situation dictates the use of radio, the company sends a radio set to headquarters of the reinforced unit.

g. Normally wire communication is also used between the company and the platoon fire units.

CHAPTER 10

BATTALION

Section I. GENERAL EMPLOYMENT OF TANK DESTROYER BATTALIONS

97. ATTACHMENTS. a. The battalion may engage in operations as part of a group or may be attached to a division or corps and occasionally to an army.

b. The attachment of a battalion is likely to be changed frequently from one headquarters to another. When a new attachment is ordered, either the battalion commander, his executive, or S-3 should report to the headquarters of the unit to which attached in order to learn the situation, the mission, and where and when the battalion is to move. Likewise, the supply officer should contact the G-4 or S-4 to arrange for supply, and the battalion surgeon should make necessary arrangements for medical supply and evacuation with the surgeon of the unit to which attached. The SOI of the higher unit is obtained and acted upon.

c. Companies may be detached from the battalion at any time. Although the headquarters to which the company is attached should supply the company, the battalion commander should check to see if his own headquarters can be of any assistance. At times, attachment of certain vehicles from the transportation platoon to the company will be necessary. When distances permit, radio contact should be maintained with detached companies. Thus their needs can be quickly known; detached companies also serve as additional sources of friendly and enemy information.

98. POSITIONS IN READINESS. a. A position in readiness is an area which an organization occupies while the battle situation is developing. Tank destroyer units habitually operate from positions in readiness which may be occupied for an hour or for several days.

b. A position in readiness should afford the following:

Routes to all possible places of employment, defiladed, wherever possible. They must not cause lateral movements under direct or observed indirect fire.

Supply and evacuation routes. Avoidance of interference with other troops.

Characteristics of a good bivouac area (par. 36).

c. A serious complication arises when specialized units such as the TD battalions and companies are detached: supply of ammunition and repair parts. An infantry division does not maintain parts to repair tank destroyers, since they are not organic to the division, and allowances have to be made to allow the division maintenance elements to order the requisite line numbered items. This takes a little time, and if attached units are dancing around from headquarters to headquarters it is hard to keep up with demand. Special Class V items (such as the 90mm shot and HE rounds for the M36) require preparation and effort from the ordnance supply units.

Be close enough to areas of employment so that tank destroyers may enter battle at the desired time.

c. During the attack, the battalion frequently occupies successive positions in readiness prepared to meet hostile armored counterattacks.

d. During defensive operations, the battalion usually remains in a position in readiness until it moves to a combat area. The position is improved continuously during the entire time it is occupied. Telephone communication is established between the higher headquarters and battalion command posts, and between the battalion and its companies when practicable.

99. RALLYING AREAS. a. Primary and alternate rallying areas are designated in battalion orders prior to combat. They are selected in advance so that all personnel know where to meet for reorganization if the unit becomes scattered and reorganization in place is not feasible. Rallying areas should be designated to fit the plans and the local situation.

b. Pyrotechnic signals may be used for guiding units to rallying areas. A different type or combination may be designated for use by each company. When possible, signals should be projected from a point at least 400 yards away from the area or other troops in order to avoid designating a target for enemy artillery.

100. PREPLANNING. a. Preplanning, together with its necessary reconnaissance, is continuous. For example, the battalion commander, when in bivouac in a rear area, should have routes reconnoitered to possible positions in readiness. When in a position in readiness during an offensive situation, he should reconnoiter the entire area through which the battalion might advance. Tentative plans are made and revised as information or instructions are received. The most detailed preplanning is usually executed when the battalion is in a position in readiness. At this time the battalion commander usually has received a mission type order from his group commander or from the headquarters to which his unit is attached.

b. The one predominating factor affecting plans is the mission; the battalion commander must always ask himself this question, "*Will this plan or action enable my battalion to accomplish its mission?*" Closely interwoven with the accomplishment of the mission is *coordination and cooperation with other troops*. Again the battalion commander asks himself, "Have I learned all that it is possible to learn about the dispositions and plans of supported and nearby troops? Will this plan give them maximum help?"

101. SELECTION OF COMBAT AREAS. a. Usually the combat area will be specified, or definitely implied, by orders re-

99. Rally areas and rally points are crucial, since units may become scattered in combat operations. Important note: rally area information must be pushed as far as possible down the chain of command because of the definition of the expression "scattered." If cpl Schmuckatelli and pfc Slipschitz got separated from the company and the rally point only got as far down as the lieutenant, they are pretty well screwed.

b. Remember: the TD unit is likely to be a visitor, and the lucky outfit you're supporting may not know you well, or necessarily trust you.

ceived from higher headquarters. Occasionally the battalion commander will choose his own combat areas—for example, when the battalion has a semi-independent mission of covering a withdrawal or protecting a flank.

b. The factors which govern the selection of positions within a combat area or the selection of a combat area itself are the same as those which affect the selection of gun company positions. They are—mission, enemy capabilities, plan, location and plans of other troops, fields of fire, observation, cover and concealment, obstacles, lines of communication, and routes in and out. The battalion dispositions, like those of the platoon and company; also require depth and are improved by flanking fire.

c. Based upon information received, the battalion commander prepares plans for possible future actions. Time permitting, he prepares certain definite and detailed plans, designated as Plan A, Plan B, etc., and disseminates these plans to the companies. Companies prepare their parts of each plan. Plans may be put into effect by a simple order, such as EXECUTE PLAN A.

d. If the battalion commander has not received orders from higher headquarters when occupying a position in readiness, he obtains information and prepares plans to fulfill the mission or missions which he expects to receive.

102. OCCUPATION OF POSITION. a. Battalion orders for occupation of positions are as complete as time permits. However, when contact is imminent, the battalion order will sometimes consist only of—

A brief statement of essential information.

Area and mission of each company.

Necessary instruction pertinent to routes and coordination.

b. Except when adequately covered by friendly troops, movement of the battalion into position is screened by organic reconnaissance elements.

c. During occupation of position contact with the enemy once made is maintained. When the enemy has not been contacted, all practicable means will be taken to gain contact. When areas occupied by friendly troops are closed to reconnaissance patrols contact is gained by observation or by officer liaison with friendly units. When the battalion is guarding a flank or covering a withdrawal, reconnaissance elements gain contact as far from the battalion as conditions permit up to a distance of 10 miles.

d. Liaison is maintained with other units to gain information in addition to that gathered by the battalion through observation and reconnaissance. The battalion

b. The worst tactical situation than can befall a TD unit is an ambush. This is one of the reasons there is a recon company in the first place. use it.

commander's duties during occupation and preparation of position are similar to those of a gun company commander (par. 84). He makes maximum use of staff officers to assist him in the execution of these duties.

103. FIRE FIGHT. a. The battalion commander controls the action from a forward position where he is in touch with the situation.

b. The battalion should employ all possible ruses to confuse the enemy.

c. The battalion commander should be alert to commit his reserve company at the proper time. Possible times are—

When the enemy is about to overpower the other two companies by frontal or enveloping action.

When the enemy has definitely committed his forces.

When the enemy has been stopped and the time is opportune for sudden additional fires.

When the enemy attempts to bypass the other two companies.

d. The battalion commander watches for opportunities to strengthen his fire power at critical points by shifting one or more companies to supplementary areas. He maneuvers his companies within his assigned area as he sees fit. He must notify friendly troops within sight of any possible movements that might be mistaken for withdrawal. Reconnaissance elements maintain battle reconnaissance (pars. 59 to 61 and FM 18-22); observation posts are established; reports are received from the gun companies; communication is maintained with the command post.

e. Maneuver of elements of the battalion is facilitated by causing all commanders to learn the names of geographical features within the combat area before the start of the fire fight provided the area is to be occupied for an indefinite period. When hills, streams, roads, and other features are not already named, one prominent reference point may be designated and positions described by indicating the azimuth and distance from the reference point. This reference point should be made known to higher headquarters.

f. Withdrawal of a battalion from a combat area is made only upon orders of higher headquarters unless the battalion commander is operating under a mission type order that permits him to withdraw when he sees fit. The clearest and most exact understanding between the battalion commander and higher headquarters on this matter must exist. When contact is broken by company, the last company to disengage usually withdraws by platoon.

g. Ruses and ambushes are very effective during withdrawals. Elements of the reconnaissance company maintain

c. Assaulting armor routinely bypasses strongly held positions. It's what they do. Be prepared.

d. The underlying principle: TDs are useful only when shooting at the enemy. Always place the gun units in front of the enemy advance; don't let them sit around looking at empty space.

e. This practice of naming terrain features also confuses the enemy, since the names do not suggest a feature on the common map. Examples: the "galloping horse" (hill shape on Guadalcanal); "Baldy" and "Rocket Ridge" in Viet Nam.

contact, keeping the battalion commander informed as to the action of the enemy.

104. SECONDARY MISSIONS. a. All battalions are trained to execute secondary missions (par. 6).

b. Battalion commanders and their staffs preplan for possible secondary missions just as for primary missions. Company and platoon commanders also prepare plans.

c. The most common secondary mission is the reinforcement of artillery. On this mission the tank destroyer battalion customarily is attached to an artillery unit. The commander of the artillery unit to which the tank destroyer battalion is attached must be prepared to release the battalion instantly in event the battalion is needed to execute its primary mission. Likewise, at all times the battalion should be prepared for immediate movement to engage enemy tanks.

d. Battalion commanders and commanders of detached companies and platoons should be alert for opportunities for the employment of their guns on secondary missions, and should submit recommendations for such employment. The decision to execute secondary missions and relief from such assignment and to return to primary missions is the responsibility of the higher headquarters.

e. Higher headquarters assists in the supply of additional ammunition if tank destroyer supply facilities are inadequate. Except in emergency, organic ammunition loads on combat vehicles remain intact for primary mission use.

f. The battalion commander assigns secondary missions to companies. Coordination of execution is accomplished by both battalion and company commanders.

g. Ordinarily reinforcing artillery type missions should not be executed at firing positions selected for the primary mission. Units should move elsewhere temporarily to execute the secondary mission.

h. Indirect fire missions may be executed from positions in readiness.

i. When units of a battalion are separated for the executing secondary missions, plans for rapidly assembling the battalion are prepared and disseminated.

c. Note again that TDs can provide both direct and indirect fire. Crews are trained for both missions, though playing howitzer is more complicated than blazing away at targets through the gunner's sight.

To provide direct fire to artillery, the TD gunner has to see the target. Providing indirect fire requires the TD to run up a slope to provide superelevation and break out the gunner's quadrant and the firing tables.

e. This usually refers to providing HE and rounds to the TDs above their basic combat load; because the primary mission relies most heavily on shot, HE would be used up rapidly in any case.

Section II. BATTALION WITH AN INFANTRY DIVISION DURING OFFENSIVE OPERATIONS

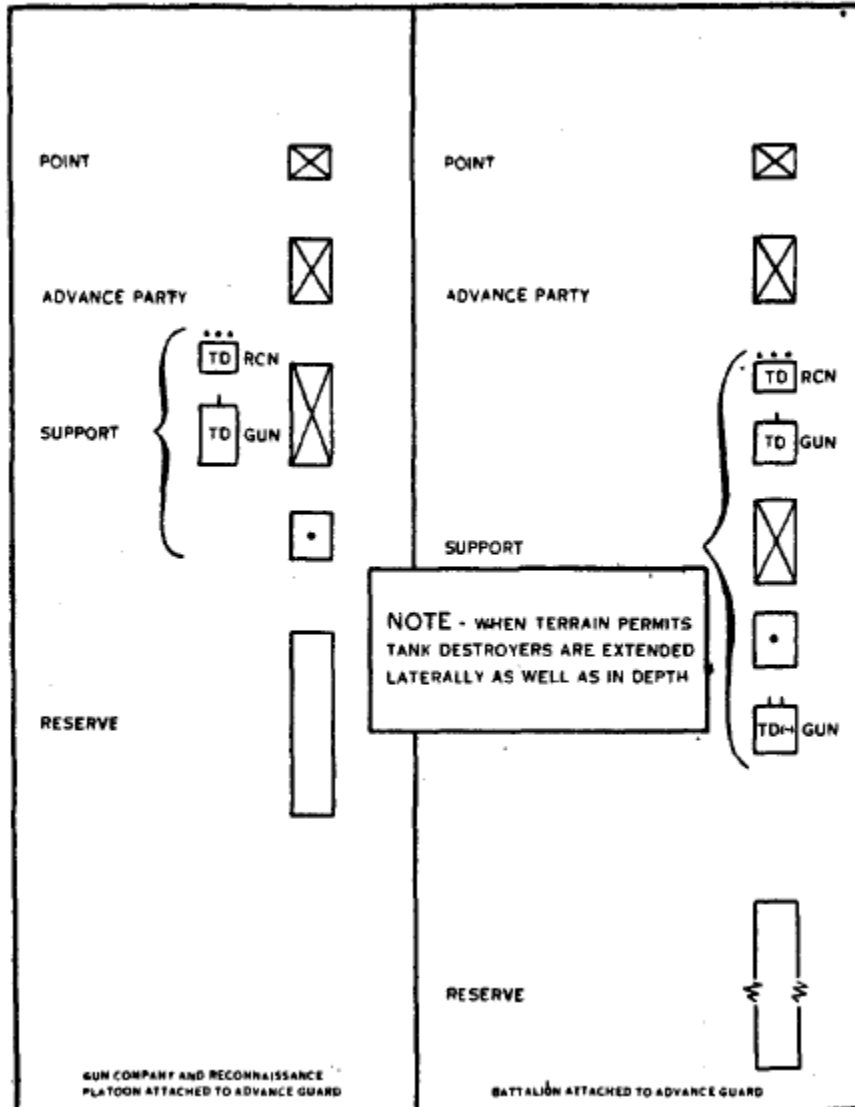
105. MARCHES. a. The battalion with an infantry division on the march may be employed to—

Reinforce the advance guard.

Assist in guarding a flank or flanks.

Accompany the main body prepared to move to threatened points.

b. The battalion may be divided. For example, one company with a reconnaissance platoon attached might be part of the advance guard, while the rest of the battalion may be with the flank guard. Again, when the division marches in more than one column, elements of the battalion may be attached to each column.



Note that the point and advance party in this case are dismounted infantry. There is no reason to put mounted scouts in front, since the rest of the division is marching at foot pace.

These cases show advance guard supports of a gun company plus a recon platoon (left) or the whole battalion (right).

Note on lateral extension: This reflects the unhappy fate of a column strung out along a road confronting an emplaced enemy in enfilade.

Figure 8. Tank destroyer units with an advance guard of an infantry division.

c. **Tank destroyer battalion reinforcing the advance guard.** The battalion, or elements thereof, attached to the advance guard marches well forward in the column. Wherever the terrain permits, the tank destroyer unit should move by

bounds on either or both flanks of the infantry. Towed tank destroyers do not leave the close support of infantry during these bounds. Disposition of tank destroyer units within an advance guard are shown in figure 8.

d. Self-propelled unit with flank guard. A small flank guard may consist of only self-propelled tank destroyer units. A gun company reinforced with a reconnaissance platoon may be used for this purpose. A large flank guard utilizing tank destroyers should also include infantry.

e. Towed unit with a flank guard. The towed unit furnishing flank protection is attached to, or reinforced by, infantry.

f. As part of the main body. When other organic or attached elements of the division cover the front and flanks, the self-propelled or towed battalion may march with the main body, prepared to move forward or to either flank. This disposition is indicated when the enemy is capable of launching a strong armored attack at any one of several locations.

106. READINESS FOR EXECUTING PRIMARY MISSION DURING ATTACK. **a.** The self-propelled or towed battalion may be prepared to execute its primary mission by—

(1) Movement to successive *battalion* positions in readiness for successive firing positions.

(2) Movement to successive *company* positions in readiness for successive firing positions, each company prepared to protect infantry from armored counterattack within a prescribed zone.

(3) Attachment of elements of the battalion to combat teams of the division.

b. Tank destroyers in support of infantry in the attack must be prepared to repel a hostile armored counterattack at any time. The most critical period of the infantry attack is when the objective has been reached or forward movement stopped. The enemy may launch a sudden armored counterattack at such times. Tank destroyers must be in position or be able to move quickly to position to repel such attack.

c. The success of the battalion or detached elements will depend largely upon the gathering of information by reconnaissance and other means, and upon preplanning. Reconnaissance is used energetically to locate possible enemy approaches; to locate favorable ground for meeting the enemy; for learning the progress, location, and disposition of friendly troops; and for determining enemy actions, particularly actions of armored units. Other information is obtained by liaison and observation. As information is received, plans are made and revised.

(3) Note: "combat teams" refers here to the regimental combat teams of an infantry division. Recall that the infantry division receives attachments tailored to their missions, including tank and TD battalions, AAA battalions, and other resources. An infantry regiment reinforced with, say, a TD company and other units is called a regimental combat team. It is roughly equivalent in strength to a modern brigade combat team.

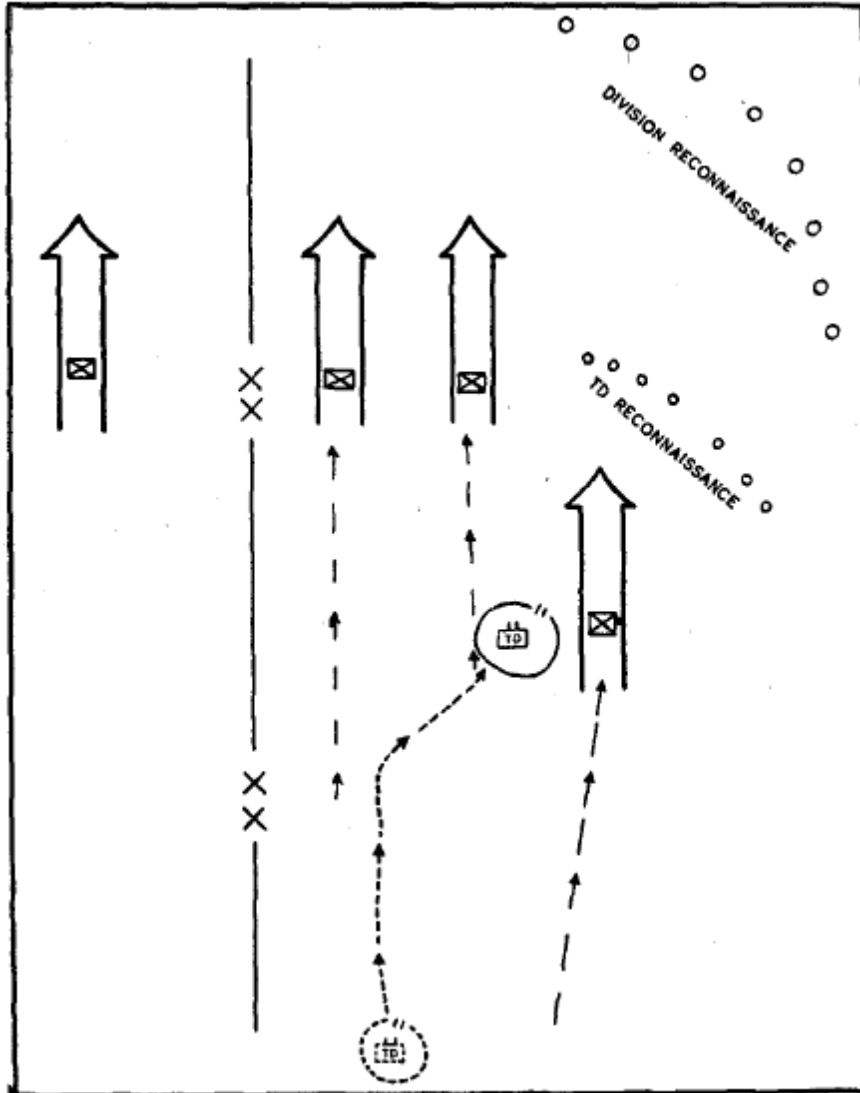


Figure 9. Battalion occupying successive positions in readiness toward the most vulnerable flank of an infantry division in the attack.

107. MASSED BATTALION. When a strong armored counter-attack is an enemy capability, the battalion should be massed. This is desirable particularly when one or both of the division's flanks are exposed.

a. Self-propelled battalion. When information of an approaching armored counterattack is received, energetic reconnaissance measures are taken to determine the enemy's location, direction, and strength. When sufficient information is received upon which to base a decision, the self-propelled battalion makes its final move to intercept the hostile armor on ground of its own choosing to the extent permitted by enemy action. Selection of the area where interception takes place is largely dependent upon the components of the counterattacking force. If armor alone is

met, or if the attacking armor is lightly reinforced with infantry, self-propelled tank destroyers may engage the enemy tanks well to a flank of the friendly infantry; when the enemy tanks are strongly reinforced with infantry, the tank destroyer positions should be near or with friendly infantry. Usually, the situation will be vague at the start of the fire fight; normally only one gun company is committed pending the development of the situation; this company frequently is placed astride the axis of the enemy's advance. As the situation develops, the other two gun companies are committed, preferably against one or both the enemy's flanks. Pressure is maintained by fire and movement until the enemy is stopped, destroyed, or driven out of the division zone.

The purpose of this dance is to avoid having all or most of the intercepting force engaged before the enemy's strength, dispositions, objectives (and main attack or *Schwehrpunkt*) has been determined. Once all your strength is engaged, you have lost the initiative.

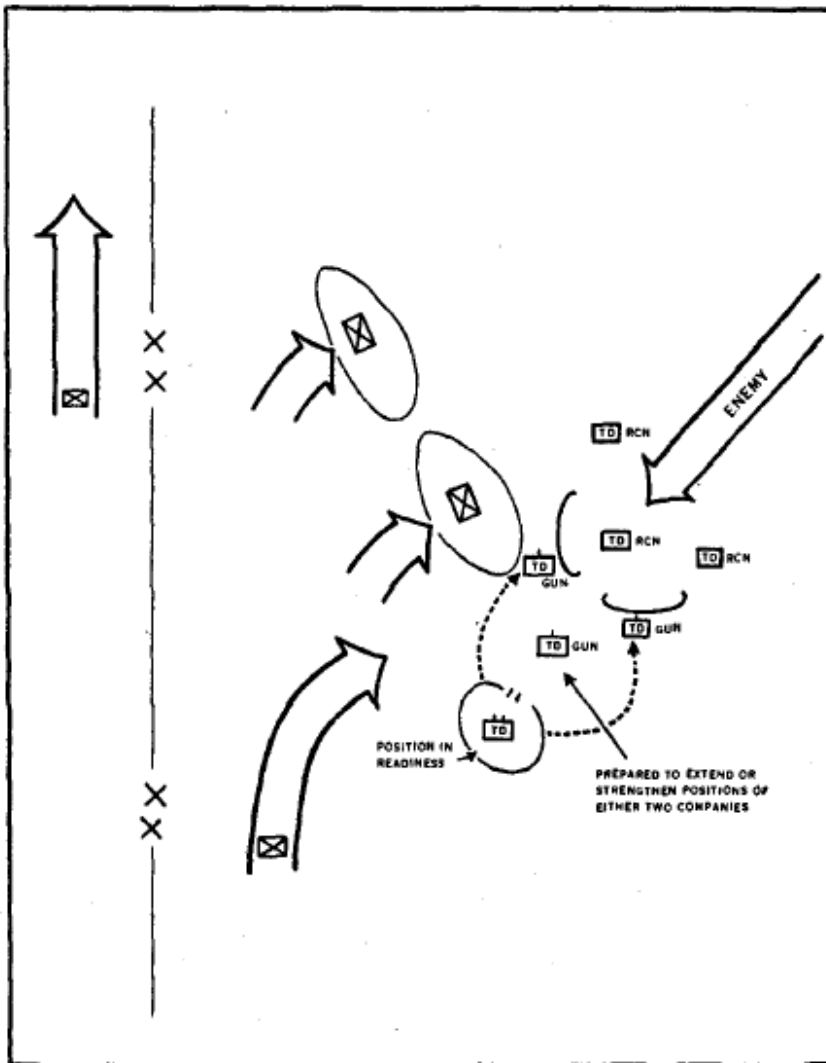


Figure 10. Self-propelled battalion meeting an armored counterattack.

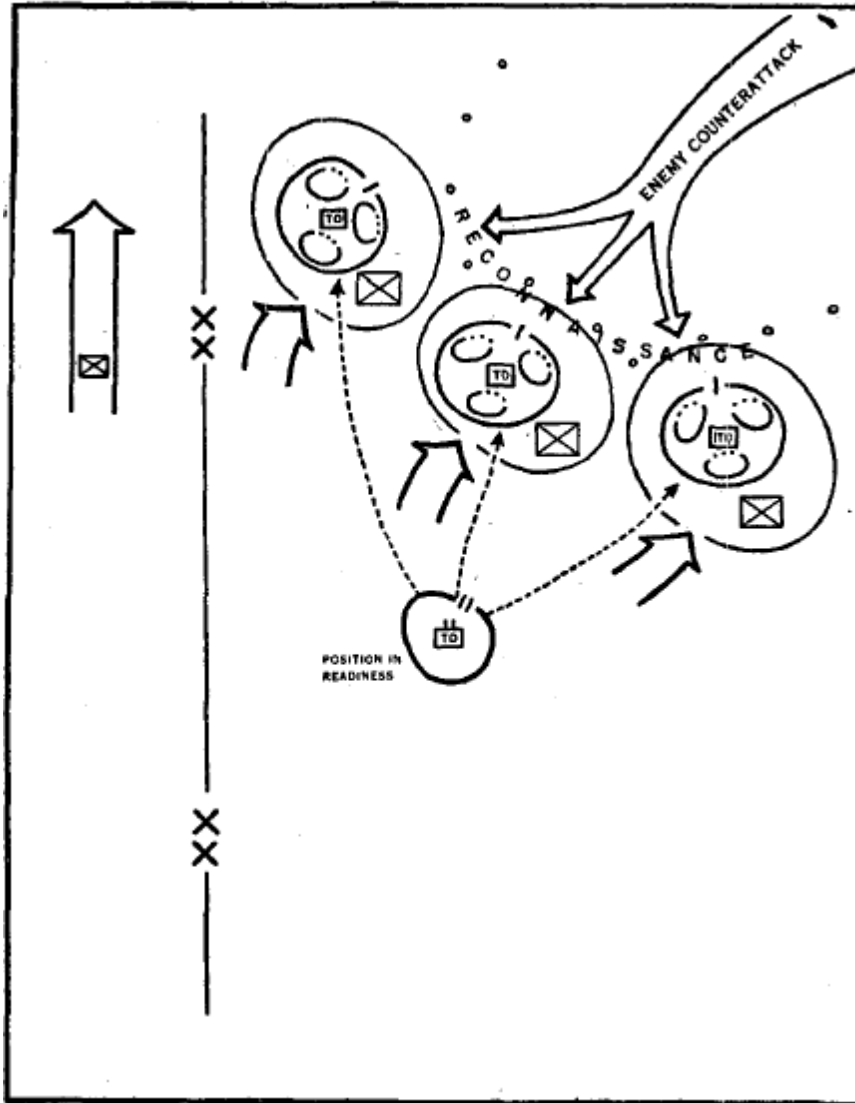
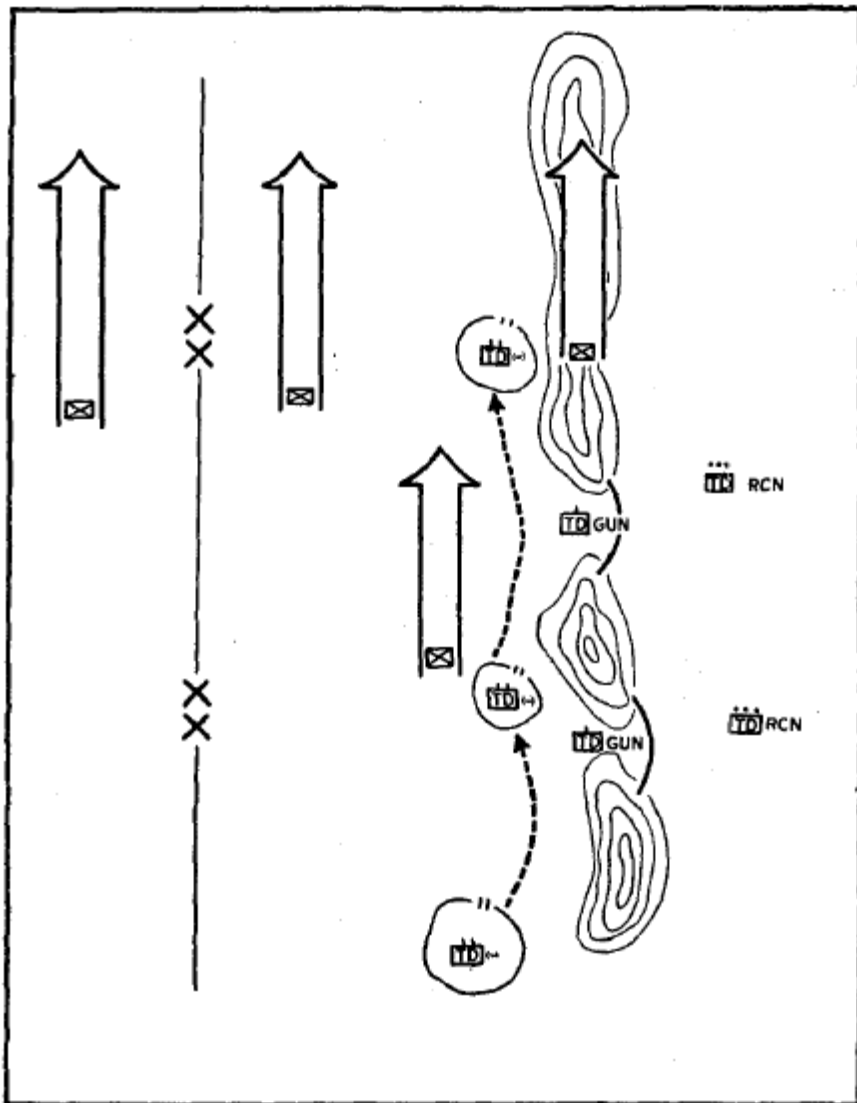


Figure 11. Towed battalion meeting a counterattack.

b. Towed battalion. (1) When information of an approaching armored counterattack is received, energetic reconnaissance measures are taken to determine the enemy's location, direction, and strength. When sufficient information is obtained, the towed battalion makes its final move to intercept the hostile armor. The situation frequently will be vague; therefore, all elements of the battalion are not committed immediately. The combat area of the first company committed is usually within an area held by infantry and is astride or to a flank of the enemy's approach; the hastily dug-in tank destroyer guns reinforce the infantry antitank guns from positions in rear or to a flank of the infantry guns. Since towed guns once committed are difficult to

move, towed tank destroyer units should have infantry support when meeting tanks reinforced by infantry.

(2) When the approaches available for the hostile counter-attack are limited in number, all companies of the towed battalion may be committed soon after the general location and direction of the counterattack is determined.



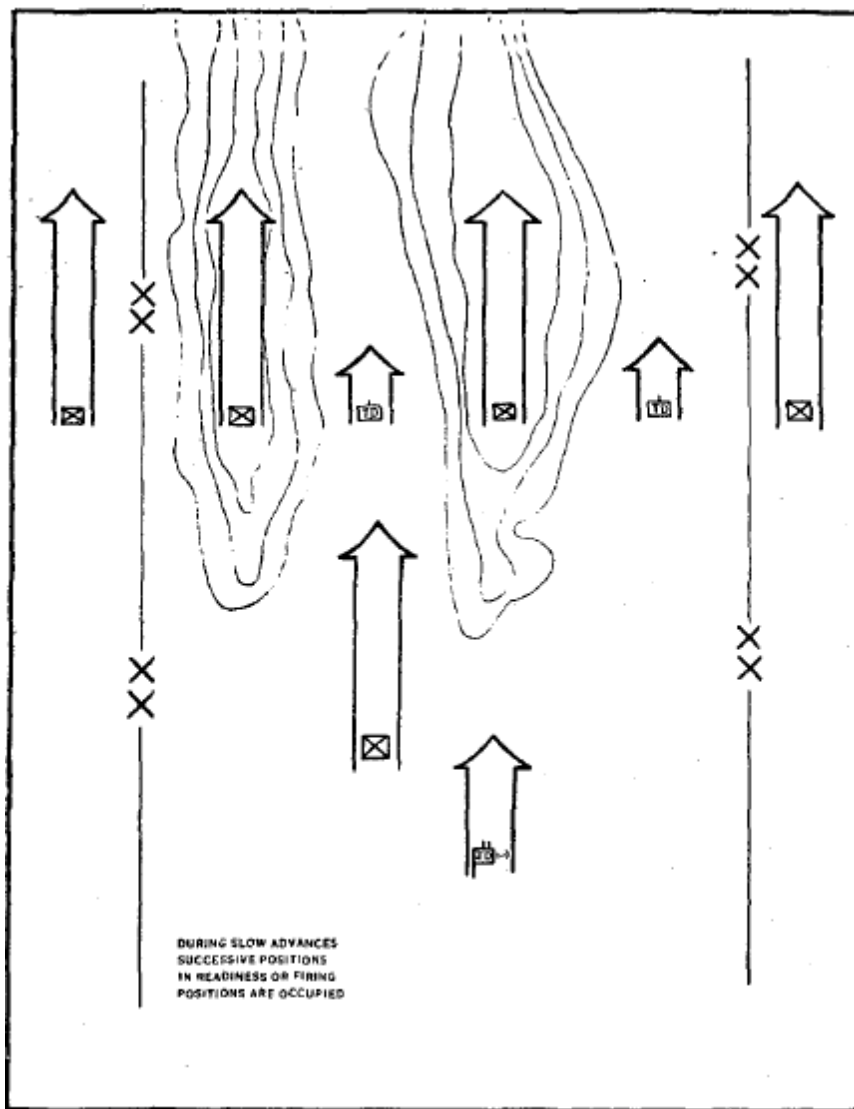
Visualize this as an advance paralleling Long Mountain in the Eastern Alleghenies (the ridge line on the northern border of fort Indiantown Gap). The advance is protected by the topography—yes, light infantry could cross the ridge lines, but without fire support units, armor support, and other firepower and security assets. The right flank is really threatened at the Gaps. To prevent surprises, gun companies occupy the gaps in sequence, bounding forward to maintain cover as the main body moves.

Figure 12. Tank destroyer company covering approaches during an attack of an infantry division while the remainder of the battalion occupies successive positions in readiness.

(3) When the number of approaches available affords the enemy more than one scheme of maneuver, the towed companies are usually committed successively as information warrants. The element guarding an approach stops the counterattack from that direction or else delays the enemy pending the arrival of the rest of the battalion. Except when covered by defilade, protected by heavy fire of friendly

troops, or concealed by smoke or dust, towed guns must be emplaced, and preferably dug in, before the enemy tanks arrive in the battle area.

108. COMPANIES OPERATING IN ZONES. a. The commander of a self-propelled or towed battalion may assign zones of advance for two or all three of his gun companies, each company having a reconnaissance platoon attached. When only two are assigned zones, the rest of the battalion follows in reserve. The use of company zones is applicable when the division flanks are protected, when the terrain prohibits rapid lateral movement, and when a sudden armored counterattack from the front is an enemy capability. Each company assigned a zone occupies either successive positions in readiness or successive firing positions.



An important point to emphasize here: we generally do not break off company-size TD units without assigning a share of the recon company. Yes, it's that important.

Figure 13. Tank destroyer companies advancing in zones when supporting an infantry division in the attack.

b. A company commander operating in a zone should be prepared to commit his company without orders of the battalion commander in the event of communication failure.

c. Enemy counterattacks are met by successive commitment of platoons, each platoon being committed as quickly as information warrants. If the enemy counterattack is confined to one zone, the remainder of the battalion joins the fire fight as rapidly as conditions permit.

109. COMPANIES ATTACHED TO COMBAT TEAMS. Although division of the battalion is undesirable in most situations, there are times when attachment of gun companies to other units is necessary. This may occur when a large-scale armored counterattack is not an enemy capability and when the enemy is habitually using his armor in support of local counterattacks against our forward infantry. One or two companies, each reinforced by a reconnaissance platoon, may be attached to units of the division, while the rest of the battalion remains under division control.

109. For example, a TD company was attached to Team Desobry at Noville as a blocking force to break the momentum of the 2nd Panzer Division advance.

110. PURSUIT. a. During pursuit by direct pressure, tank destroyers move well forward, usually with the advance guard.

b. During pursuit by envelopment, tank destroyers usually are attached to the flank guard covering the division's exposed flanks. When an armored counterattack from a flank is not an enemy capability, tank destroyers accompany the leading elements.

b. Nonperiod observation: this mission cries out for what would ultimately be called "travelling overwatch"—recon in the lead, then tanks, then (a terrain feature behind) TDs to provide accurate fire support if the tanks run into resistance. This way, fire support is always available.

111. ATTACK OF A RIVER LINE (FM 7-40 and FM 100-5). a. Tank destroyers have three roles during the attack of a river line—support of the crossing of the first wave, protection of the leading elements against a local tank counterattack soon after the crossing is made, and protection of the command as a whole after the bridgehead has been established.

b. For supporting the initial crossing, tank destroyers may be attached by company to the infantry combat teams leading the attack. The guns first are placed in concealed hull or position defiladed positions near the river bank to assist in covering the crossing of the leading wave.

c. Tank destroyers cross by bridge or ferry after the leading wave has cleared the far bank. They closely follow the infantry by occupying successive positions in readiness, prepared to destroy any counterattacking armor.

d. That part of the battalion not attached to leading combat teams follows soon after the attached companies. It occupies a position in readiness prepared to move to any part of the bridgehead perimeter.

e. When the bridgehead is enlarged and when sufficient time has elapsed to permit the enemy to bring up forces for

a large scale counterattack, the entire battalion may revert to division control.

112. ATTACK OF A HOSTILE SHORE. See FM 31-5

(when revised).

113. SECONDARY MISSIONS. a. Reinforcing or supplementing field artillery fire. (1) The battalion may augment the scheduled fires of preparation prior to the start of an assault, reverting to its primary mission soon after the infantry moves forward.

113. The point here is, we don't leave firepower assets sitting around when they could be putting steel down range.

(2) When the enemy is not capable of launching an armored counterattack, the battalion may support the attack by direct or indirect fire.

b. Attack of permanent fortification (FM 31-50). (1) For the initial assault, tank destroyers may be attached by company to assaulting units. Employment is described in FM 18-20 and 18-21.

(2) After the break-through, the battalion reverts to its primary mission. Subsequent employment is the same as in other attacks.

Section III. BATTALION WITH AN INFANTRY DIVISION DURING DEFENSIVE OPERATIONS

114. POSITIONS PRIOR TO FIRE FIGHT. a. When organizing for the defense, the battalion usually occupies a position in readiness prior to the time when the location and direction of the hostile armored attack are determined (par. 98). When the terrain prevents rapid movement, one or two gun companies may occupy separate positions in readiness under battalion control in order to lessen the distance over which movement is made for establishing first contact.

b. Self-propelled battalion. Only in the most exceptional instances will the self-propelled battalion occupy firing positions ahead of the time when the location and direction of the armored attack are known. A possible exception occurs when there is only one narrow avenue of approach available to the enemy.

c. Towed battalion. The towed battalion may occupy firing positions initially and before the location and direction of the armored attack are known when—

The battalion can cover with strength and in depth all possible tank approaches, or when—

Another tank destroyer battalion is available for reinforcing the division's antimechanized defenses.

115. PREPLANNING. a. Defensive situations afford the maximum opportunities for preplanning.

b. Self-propelled battalion. Plans for the self-propelled battalion usually consist of preparations for moving the battalion, or elements thereof, to preselected combat areas. When time permits, primary, alternate, and supplementary gun positions are prepared in each combat area.

c. Towed battalion. Plans for the employment of the towed battalion consist habitually of selecting and preparing positions for each gun so as to cover in depth as much of the division's critical area as possible. Preparations consist of digging and camouflaging gun and machine gun emplacements, foxholes, and observation posts. When time is available, alternate and supplementary areas and gun positions are selected and prepared.

116. SELECTION OF COMBAT AREAS. a. How far forward the combat area or areas will be depends largely upon whether or not enemy armor is able to overrun friendly infantry. When infantry occupies rugged ground or is protected by a complete system of mine fields or natural obstacles, the battalion should be disposed to prevent the enemy from bypassing infantry defense areas and penetrating the rear areas. When hostile tanks can overrun infantry positions, the battalion must be prepared to support the infantry. If one sector of the division is vulnerable to being overrun by tanks, part of the battalion may cover this sector while the remainder covers routes of possible penetration.

b. When an exposed flank affords good tank approaches, the battalion should be disposed to protect that flank. However, the enemy's capability of an armored frontal attack must never be overlooked.

117. OCCUPATION OF POSITION. a. Occupation of position is ordered usually by division; the battalion commander should be prepared to recommend the time to occupy a preselected position. At times, the battalion commander may be operating under a mission type order which authorizes him to select the time for occupation. Determining the time is based upon information which may be obtained by

Liaison with division headquarters.

Observation from points in vicinity of the outposts.

Observation from points near the combat area.

Liaison with forward or flank units.

Reconnaissance patrols operating to a flank.

b. Occupation is carried out as secretly as possible. Special care is taken to avoid disclosure by dust or unnecessary movement.

c. Occupation is facilitated by the battalion being given high road priority.

d. Self-propelled battalion. When sufficient information is received, the battalion moves from the position in readiness to the combat area. Gun positions are occupied in advance of the approach of the tanks. Since self-propelled guns, being difficult to conceal, are likely to be neutralized before they can accomplish their primary mission if they occupy forward positions too soon, such positions usually are occupied just prior to the armored advance. On occasion, self-propelled guns may occupy camouflaged, dug-in emplacements prior to the tank attack.

e. Towed battalion. (1) When sufficient information is received, the battalion moves from the position in readiness to the combat area. Whenever practicable, this movement is made at night. Dug-in gun positions are occupied and camouflaged in advance of the approach of the tanks. Maximum advantage is taken of cover and concealment, not only for facilitating fire against tanks, but for protection from hostile fires prior to the fire fight with the opposing armor.

(2) A part of the battalion is held in reserve in the combat area only when the terrain affords completely defiladed routes for movement of the reserve to firing positions.

118. OUTPOSTS. a. Part of the battalion may augment the force manning an outpost, particularly when the outpost has the mission of gaining time for organization of the main battle position. Employment of the tank destroyer elements is coordinated with that of the outpost infantry and artillery. Plans for withdrawal must be carefully coordinated. Upon relief from outpost, tank destroyers revert to battalion control.

118. An outpost is not the same as an observation post (OP). An outpost is there to fight and delay if necessary. This has been part of doctrine since at least the Civil War.

b. Self-propelled battalion. Withdrawal of self-propelled units presents no unusual problem. On the other hand, because of their mobility and armor, these tank destroyers may assist in covering the withdrawal of less mobile troops.

c. Towed battalion. Crews may have difficulty in withdrawing towed guns from outpost positions during daylight. Except when a night withdrawal is planned, towed units therefore should be used to augment outpost troops only when the damage they can do to the enemy will more than compensate for their loss. Guns that cannot be withdrawn are destroyed.

119. DEFENSE OF A RIVER LINE. a. (1) When executing its primary mission during defense of a river line, the battalion usually occupies a position in readiness initially.

(2) The employment of the battalion is dependent upon the plans and actions of the division. When the division is

engaged in a passive defense, the battalion is employed as in a normal defensive situation (pars. 114-117). If the division is employed with a counterattacking force, the battalion accompanies the division prepared to meet hostile armor (pars. 106-109).

b. Secondary mission, self-propelled units. Self-propelled guns may be sited in concealed, hull defiladed positions near the river for destroying hostile covering direct fire weapons and boats. Plans are prepared in advance for timely withdrawal of these guns to the battalion position in readiness.

c. Secondary mission, towed units. Towed-guns may be emplaced in dug-in, concealed positions near the river for destroying hostile direct fire weapons and boats. Although plans are prepared in advance for withdrawing these guns to the battalion position in readiness, the possibility of their loss must be taken into consideration when considering such employment.

120. RETROGRADE MOVEMENTS. **a.** During retrograde movements the battalion may be disposed as follows according to the enemy's capabilities:

Massed where it can move to reinforce either the rear or a flank guard.

As part of the rear guard.

As part of a flank guard.

Divided between rear and flank guards.

b. When the enemy is capable of executing a strong armored pursuit by either direct pressure or envelopment, the battalion occupies successive positions in readiness prepared to move to any threatened point.

c. When the enemy armor can pursue only by direct pressure, the battalion is attached to the rear guard.

d. When an armored pursuit by envelopment presents the greatest threat, the battalion is attached to the threatened flank guard.

e. When the enemy is capable only of harassing armored attacks at any point, the battalion may be divided between the rear and flank guards.

f. Delaying action. In delaying action the tank destroyer battalion is used to delay, fend off, or destroy hostile armor. Self-propelled destroyers because of their mobility are more suitable for this task than are towed weapons. Tank destroyers operate in close coordination with other troops in this action.

121. SECONDARY MISSIONS. a. Reinforcing or supplementary artillery fires. (1) When there is no tank threat, the battalion's main mission may be the execution of indirect fire.

(2) When a tank threat is not imminent, the battalion may execute indirect fire missions from near its position in readiness. Plans are prepared and disseminated to provide for the battalion reverting quickly to its primary mission.

b. Beach defense. The battalion may reinforce troops defending a beach against a waterborne attack by—

(1) Occupying positions near the beach for destroying hostile landing craft, being ready to move to prepared supplementary positions.

(2) Occupying a position in readiness, prepared to move to one or more of several prepared positions.

(3) Reinforcing a counterattacking force.

Section IV. BATTALION WITH AN ARMORED DIVISION

122. PRIMARY MISSION. a. Self-propelled battalion. The primary mission of the self-propelled battalion is to destroy or drive back enemy armored attacks or counterattacks. It is best employed as a unit with other troops when performing this mission; however, it may operate alone on a flank (FM 17-100).

b. Towed battalion. The primary mission of the towed battalion is to reinforce the antitank front established by the infantry and artillery of the division. Companies frequently will be attached to combat commands, advance, flank, or rear guards.

123. PRIMARY MISSION DURING AN ATTACK. a. When a strong armored action is an enemy capability, the battalion remains in a state of readiness prepared to destroy, or assist in the destruction of, the enemy armor.

b. Self-propelled battalion. (1) When an enemy counterattack may strike at any point, the self-propelled battalion occupies successive positions in readiness from which it can quickly move to either flank or to the front of the division. Continuous reconnaissance is maintained to locate routes to all possible areas of employment. Upon the approach of hostile armor, the battalion moves to reinforce the flank or advance guard in contact with the enemy. Pressure is maintained by fire and movement to drive the enemy away from the zone through which the division is advancing.

TD battalions were often assigned to armored divisions. The 704th, for example, served for much of the fall of 1944 through 1945.

(2) When the enemy is capable of striking only one flank of the division, the battalion reinforces the flank guard or, reinforced by armored infantry and division reconnaissance elements, constitutes the flank guard.

(3) Following seizure of a division objective, the battalion, usually with armored infantry, moves to cover reorganization of the division. If one approach is available to the enemy, it covers this approach. When several approaches are available, it awaits in a position in readiness prepared to move to any threatened point; the battalion outposts these approaches when other troops are not available.

c. Towed battalion. (1) When the counterattack may strike at any point, companies of the towed battalion usually are attached to the advance and flank guards.

(2) When the enemy is capable of striking only one flank of the division, the battalion is attached to a flank guard.

(3) Following seizure of a division objective, the battalion reinforces the armored infantry covering reorganization.

124. ATTACK OF A RIVER LINE. **a.** When the armored division exploits a crossing made by one or more infantry divisions, tank destroyers are employed as described in the preceding paragraph.

b. When the armored division makes a crossing initially, tank destroyers cross soon after the bridgehead has been seized. They assist in covering the crossing of the remainder of the division, usually by reinforcing the troops operating at the shoulders of the bridgehead.

125. PENETRATION OF A MINE FIELD. Soon after the engineers and infantry have forced gaps through the mine field and have driven out the hostile covering troops, tank destroyers may then pass through the gap and occupy positions, prepared to assist in destroying or driving back the enemy should he launch a counterattack with armor.

126. OUTPOSTS. All combat units of the armored division rotate outpost duties in order to prevent any one unit becoming excessively fatigued (FM 17-100). Tank destroyers perform their share of outpost duties.

127. SECONDARY MISSIONS. Since the armored division can meet strong armored attacks with effective organic weapons, tank destroyers may execute secondary missions on rare occasions, even when a hostile armored attack or counterattack is imminent. However, in most situations involving enemy armor, tank destroyers are best employed in the execution of their primary mission.

128. SECONDARY MISSIONS DURING ATTACK. **a.** When a strong armored attack is not an enemy capability, tank destroyers are used to augment the fire power of the armored

division. The battalion may augment the division fire power by—

Reinforcing the division base of fire.

Reinforcing the division artillery.

Reinforcing one combat command or the division reserve.

Being divided to reinforce both combat commands and the division reserve.

b. Reinforcing division base of fire. The most common secondary mission assigned tank destroyers with an armored division is the reinforcement of the division base of fire with direct or indirect fire. For details of forming a base of fire, see FM 17-100.

c. Reinforcing division artillery. Usually reinforcing the division artillery consists of augmenting the base of fire. However, the battalion is prepared to reinforce or supplement artillery fire by direct or indirect fire in support of armored infantry or for other missions.

d. Reinforcing one combat command or division reserve. Tank destroyers may be attached by battalion or company to one-combat command or to the division reserve. They support the attack by reinforcing or forming the base of fire covering the maneuver of the combat command or reserve. During the approach, tank destroyers usually march in rear of the leading tank or infantry battalion to be in position for quickly forming this base of fire.

129. DEFENSIVE OPERATIONS. a. When operating with infantry divisions, the armored division assists the defense by counterattacks. The role of tank destroyers is the same as that during a general attack.

b. When operating defensively alone, the armored division may execute a limited objective attack to deny certain ground to the enemy. Again, tank destroyers operate as they would were the division engaged in an offensive action.

c. When the armored division occupies a defensive sector or prepares an all around defense for itself, tank destroyer employment is similar to employment with an infantry division (pars. 115 to 117). The self-propelled battalion is usually held in mass, while the companies of the towed battalion may be attached to various elements of the division.

d. During retrograde movements, tank destroyer employment is the same as when attached to an infantry division (par. 121)

Section V. BATTALION WITH A CORPS

130. GENERAL. a. Preplanning by the commander of a battalion attached to a corps may be limited to the preparation of plans for movements to several general areas. However, the situation frequently is such that he can anticipate probable employment in definite combat areas. Necessary information is obtained by—

Liaison with corps headquarters.

Reconnaissance of all routes to possible areas of employment.

Reconnaissance of probable combat areas.

Liaison with tank destroyer battalions in contact with the enemy, especially with any heavily engaged.

b. Since a probable mission will be reinforcement or coordinated action with another tank destroyer battalion, the battalion commander should send liaison officers to the command posts of battalions in contact with the enemy. If long range radios are not available for these liaison officers, relay stations should be established.

c. During stabilized situations, especially when the corps is occupying defensive positions, the battalion commander will have, several days, or possibly weeks, for more thorough reconnaissance and preplanning. Then detailed plans for employment should be prepared (par. 115).

130. It is generally accepted practice that responsibility is on the higher unit (in this case the corps) to inform units under its direct command of their missions and time requirements. This does not imply that the TD battalion commander just sits around waiting for somebody at corps to tell him what to do.

CHAPTER II

GROUP

131. GENERAL. The group can expect to enter combat under corps or army control. However, when group employment is confined to a division area or to a flank of a division, the group may be attached to that division.

132. INFORMATION. a. The group commander obtains information needed for preplanning from the same sources as those available to a battalion commander (par. 42). He should never overlook the possibilities of obtaining information from other tank destroyer units in contact with the enemy.

b. The group coordinates the battalion intelligence and counterintelligence activities with the higher unit and within the group. The group commander insures prompt dissemination of intelligence information within the group, and to the higher unit.

c. When reconnaissance is necessary to obtain information, it may be accomplished by group staff officers or by the assignment of reconnaissance missions to battalions. *Group assignment of reconnaissance missions prevents duplication of effort by the battalions and insures that all critical areas are covered.*

133. PREPLANNING. a. Preplanning by the group commander is similar to the preplanning executed by a battalion commander with a corps (par. 130). When plans are definitely decided upon, they must be disseminated to battalions in time for their plans to be prepared accordingly.

b. (1) The group may be augmented by another tank destroyer battalion at any time; occasionally it may be reinforced with other troops. Plans are maintained for receiving these additional troops. These plans include—

- Maintaining extra copies of the group SOP.
- Reserving call signs and frequencies within the group SOI for possible attachments.
- Maintaining extra copies of SOI.

(2) When information of attachment is received, the group commander furnishes copies of the group SOP and SOI to the attached unit.

134. TIME AND SPACE. a. The group commander must never forget time and space while preparing plans and when issu-

Since operational TD forces above battalion are theoretical (I can find no case in which a group or brigade was activated in any operational sense), i will not comment on these sections.

ing orders. He and his staff must know how much time is required for a group order to reach *gun* commanders in different situations; he times his orders accordingly.

b. Because the time length of a group in single column is so long that the rear battalion is likely to enter action two or more hours after contact is made by the leading unit, group movements should be made by multiple columns whenever possible.

135. ORDERS. a. Orders to battalion commanders are usually of mission type. The group order includes sufficient details to provide for coordination both with other troops and between the battalions of the group.

b. A standing operating procedure will reduce length of orders and secure coordination between battalions. The SOP should be comprehensive but brief, inducing ready assimilation by a battalion just joining the group.

136. SECURITY. The group commander coordinates the security measures of the battalions to insure completeness and to avoid duplication of effort.

137. EMPLOYMENT. a. The factors concerning the selection of combat areas, positions in readiness, occupation of position, and the conduct of battle that affect employment of a battalion also govern employment of a group.

b. Battalions of a group usually occupy separate positions in readiness in order to avoid congestion when moving to combat areas. The selection of positions in readiness is carefully made to avoid unnecessary moves prior to commitment. The contemplated employment is the deciding factor in the assignment of areas to battalions.

c. When there is doubt as to the enemy's action or the dispositions of friendly troops, the group commander may initially employ only one battalion to develop the situation. He seldom commits all of his battalions simultaneously. The factors governing the employment and commitment of the reserve are the same as for the battalion.

138. REINFORCED GROUP. In order to perform semi-independent missions such as covering a flank of a corps, the group may be reinforced with motorized infantry, engineers, cavalry, or with a combination of troops of these arms. Air observation, when available, will materially assist the execution of a semi-independent mission.

CHAPTER 12

MOTOR MAINTENANCE

139. IMPORTANCE OF PREVENTIVE MAINTENANCE. Mobility in battle is dependent upon the degree to which preventive maintenance has been carried out. Preventive maintenance includes first-echelon maintenance and higher echelon periodic inspections, lubrication, and repairs. Failure to follow schedules on inspections and lubrication may not show up during training when vehicles are only partly loaded and moderately driven, but under hard combat service preventive maintenance delinquency will be reflected in disabled and immobilized vehicles. A defective part may put a \$60,000 gun out of action.

140. RESPONSIBILITY. Responsibility for preventive maintenance starts with the driver and continues on up through all echelons of command to the battalion and higher commanders. There is no break in this chain of responsibility (AR 850-15). All battalion and higher commanders must place as much stress on maintenance training as they do on any other phase of training. Other training will be wasted if neglected maintenance results in lost mobility. Commanders are responsible that definite preventive maintenance schedules are established and carried out. This responsibility, like that of a tactical decision, cannot be delegated.

141. ECHELONS OF MAINTENANCE. a. AR 850-15 and TM 9-2810 describe the various echelons of the maintenance system. It cannot be emphasized too strongly that these echelons of maintenance are but arbitrary divisions in which *minimum* operations only are listed. Combat organizations are kept as mobile as possible by reducing the amount of tools, equipment, and supplies to the minimum necessary to provide essential preventive maintenance. However, maintenance operations are limited only by available tools, equipment, training of personnel, time, and the tactical situation. The time element must be carefully judged; for example, organic maintenance echelons should not spend a long period of time in making extensive repairs to one vehicle when they could repair several slightly damaged vehicles in the same available time. Generally, vehicles requiring extensive repairs are sent to higher echelons in order to gain time for the repair of less damaged vehicles.

b. *Time, skill and available parts* will be the principal controlling factors for the repairs that will be made in any

141. Maintenance for TDs owned and operated by reenactors will likely be at the first echelon (crew) level. Large combat vehicle-oriented clubs may have fairly sophisticated maintenance facilities and skills equivalent to second-echelon (company maintenance sections).

echelon. Available parts to effect repairs are provided in initial stocks or obtained by exchange at supporting ordnance maintenance companies. Time will be limited by the special situation confronting the battalion. Skill is determined by the training and experience of the maintenance crews.

142. DRIVER AND CREW MAINTENANCE (FIRST ECHELON).

Proper driving and crew maintenance are major factors in obtaining maximum performance from vehicles with minimum loss of time from breakdowns. It is essential that every driver take personal interest and pride in his assigned vehicle and exercise constant care in its cleanliness and upkeep. The same vehicle should be assigned to a driver over the longest feasible period. All crew members must be thoroughly instructed in driver maintenance and in minor repairs. Crews should accompany their vehicles during maintenance services in order to know how to effect emergency battlefield repairs within the limits of available tools.

143. COMPANY MAINTENANCE SECTIONS (SECOND ECHELON).

All tank destroyer companies have small maintenance sections equipped with a minimum of tools, equipment, and parts. These are sufficient to permit adequate scheduled maintenance up to and including monthly services and limited emergency repairs. Schedules in detail are prescribed in TM 9-2810 and in the Technical Manual issued with the vehicle, and must be studied and followed as a guide to insure complete and adequate upkeep. Maintenance sections of self-propelled gun companies are equipped with an armored recovery vehicle designed to move vehicular battle casualties to covered locations where repair work can be effected. Vehicular casualties will be high, and all maintenance personnel must be trained in the use of the recovery vehicle. Company mechanics must understand that their primary function is preventive maintenance, and that their principle efforts will be directed to detecting and correcting minor defects before they develop into major troubles.

144. BATTALION MAINTENANCE PLATOON (SECOND ECHELON).

In addition to the maintenance sections in each company, the battalion has a maintenance platoon in its headquarters and headquarters company. This platoon contains sufficient personnel, equipment, and supplies to effect semi-annual maintenance services or equivalents on all vehicles, and make more extensive repairs than can be effected in the company sections.

145. BATTALION MOTOR OFFICER. a. The motor officer acts as a special staff officer to advise the battalion commander on automotive matters. His duties consist principally of coordinating automotive training and maintenance in the battalion, and include—

Supervision of driver training.

Supervision and coordination of automotive repair, supply, and evacuation activities.

Dissemination of technical information concerning the care, operation, repair, or modification of vehicles.

Preparation of schedules for battalion maintenance and inspection operations.

Recommendation of battle locations for the maintenance platoon and the vehicular axis of evacuation.

b. It is neither desirable nor practicable to determine in advance the solutions to all possible problems of maintenance. Intelligent and satisfactory solutions are dependent upon the training, efficiency, initiative, and common sense of motor and maintenance officers, and to the ability of those officers to adapt themselves to situations that are changing constantly.

146. MOTOR PARTS SUPPLY. All organizations are authorized an initial stock of motor parts which is dependent upon the number of each make of vehicle assigned. The quantities authorized are given in the appropriate. SNL (Standard Nomenclature List) for the particular vehicle and include parts which most frequently require replacement. These parts are carried in trucks assigned to the maintenance platoon.

147. BATTLEFIELD RECOVERY AND EVACUATION. **a.** The primary objective in battlefield recovery is to expedite the repair and return of disabled vehicles to the fire fight. Battlefield recovery is performed within the battalion by company and battalion maintenance units. Evacuation from the battalion maintenance platoon location to the rear for salvage, or the subsequent return of the vehicles for further service is a function of army service troops. However, at times it may be necessary for the battalion to use its own recovery vehicles for evacuation to the recovery point of army service troops.

b. Speed in battlefield recovery is vital, since there is no assurance that friendly troops will remain in possession of the battlefield. Also expeditious return of disabled vehicles to service will materially affect the course of the battle. It will be habitual to recover vehicles under fire. It may be necessary for forward combat elements to provide covering fires and smoke for recovery operations. Close cooperation between forward combat personnel and maintenance personnel is essential.

148. COMPANY RECOVERY FUNCTIONS. **a.** Initial recovery of vehicles and execution of minor repairs in the vicinity of battlefield locations are functions of the company maintenance sections, which operate in as close support of the

combat vehicles as is possible consistent with available cover. Crews of disabled vehicles must notify higher authority of their location by the most expeditious means. The ¼-ton truck of the company maintenance section moves from point to point to aid in locating disabled vehicles.

b. Self-propelled battalion. Upon discovery of a vehicular casualty, if in an exposed position, the armored recovery vehicle is immediately employed to move the vehicle to a covered position where it is repaired by the company maintenance section. Vehicles disabled beyond the capabilities of the section to repair, or on which the repairs will take more than a short period, are immediately moved to covered positions on the previously designated axis of evacuation and their location marked and reported to the battalion maintenance platoon. Rapidity in handling is necessary to avoid further damage to disabled vehicles from enemy action.

149. BATTALION RECOVERY FUNCTIONS. **a.** The battalion maintenance platoon keeps in close touch with the company maintenance sections. The command radio net may be used. Contact parties move along the axis of evacuation to locate disabled vehicles left by the companies and to resupply the company section. The battalion maintenance platoon uses the 10-ton wrecker for evacuation. It is necessary to select the best available route for the axis of evacuation, since the cross-country mobility of the wrecker is very limited when towing a heavy vehicle.

b. Rapid handling of vehicular casualties makes it essential that the battalion maintenance platoon be located well forward in a sheltered area protected from direct and observed indirect enemy fire. In general, a location in the vicinity of the battalion command post will meet most requirements as to distance from the forward combat elements.

c. Vehicles disabled beyond the capabilities of repair by the battalion maintenance platoon within the time limits imposed by the tactical situation are evacuated to the third-echelon maintenance organization, normally by that unit upon notification from the battalion.

150. SECURITY FOR MAINTENANCE INSTALLATIONS. **a.** Since company and battalion maintenance installations are located well forward, security must be provided at all times. Outguards should be established, using the crews of the vehicles under repair when available. The maintenance platoon coordinates its security with that of the battalion command post.

b. The crew of a disabled vehicle remain with the vehicle and provide local security during the period it is being re-

paired in the vicinity by company or battalion maintenance. Should evacuation to the battalion maintenance bivouac or third echelon be necessary, one or more members of the crew accompany the vehicle; remaining members rejoin their unit. Standing operating procedure should be prescribed and practiced until all personnel clearly understand their duties in varying situations.

CHAPTER 13

SUPPLY

151. BASIC PRINCIPLES. The basic principles for successful supply of tank destroyer units are mobility, speed, and conservation.

a. Mobility. Tank destroyer supplies must be as mobile as their combat elements. Reserves are not placed in elaborate dumps or depots, but are carried on organic transportation. When needs exceed the capacity of supply trains, unit commanders and their S-4's must exercise resourcefulness.

b. Speed. Simplicity promotes speed. Supplies are forwarded to the fighting soldier through a minimum of administrative echelons. Battalions deal directly with higher administrative headquarters. Group and brigade headquarters, being primarily tactical, serve as liaison between their battalions and the unit to which attached, arranging for accessible supply points, maintenance, transportation, and evacuation facilities.

c. Conservation. Delivering "enough and on time" to the fighting troops is only half the story of supply—elimination of loss and waste lessens the burden on the supply system. Every effort will be made to prevent supplies from falling into the hands of the enemy.

152. SUPPLY PROBLEM. The supply problem is complicated by three main factors—bulk, movement, and scarcity.

a. Bulk. In a tank destroyer unit there are 3 tons of equipment for each man. Its many vehicles and guns require large quantities of supplies.

b. Movement. Units may often move rapidly over long distances. Throughout changing situations the continuity of supply must be maintained.

c. Scarcity. Units have special equipment and require large amounts of special supplies. They do not have unlimited transportation for every need, but must make the most efficient use of means that are available.

153. DISTRIBUTION OF SUPPLIES. Supplying the field forces is accomplished as described in **FM 100-10**. **FM 7-30** contains a description of regimental supply that is applicable in part to a tank destroyer battalion. Tank destroyer units do not establish their own supply points, but use those established by the larger unit (division, separate corps, or army) to which they are attached for class I, III, and V supply.

Requisitions for class II and IV supplies should be consolidated by unit and forwarded direct to Army supply points.

154. SUPPLYING THE PLATOON. In combat, each platoon rapidly consumes four principal kinds of supplies—ammunition, fuel, water, and rations. Lack of any one of these will soon cause the platoon to deteriorate as a fighting unit. Two factors, properly applied, prevent supply failure. First, the platoon carries as part of its organic load a sufficient amount of supplies for at least one day of combat operations. Second, any supplies used are replaced at the earliest opportunity.

a. Ammunition. Ammunition on combat vehicles is intended to be sufficient to carry a platoon through a fire fight. As opportunity presents itself, the basic load of ammunition on each combat vehicle is replenished from the platoon reserve, which, in turn, is replenished from the battalion ammunition train. Disabled weapons at times constitute a source of supply that should not be overlooked. Advantage should be taken of lulls in combat for immediately resupplying the platoon (FM 18-20 and 18-21).

b. Fuel. With full tanks, the platoon can move approximately 150 miles without refueling. The operating range is maintained by refueling whenever the opportunity presents itself.

c. Water. Water supply for individuals and vehicles of the platoon is a responsibility of the platoon commander.

d. Rations. Rations are supplied to the platoon in the form of hot food from the company kitchens whenever possible. The platoon carries individual rations on each vehicle as a reserve for use when hot meals cannot be supplied by company kitchens. Because units operate over extended areas, cooking by individuals and vehicle crews is frequently necessary.

155. SUPPLYING THE COMPANY. a. The company is the administrative headquarters for keeping the platoons supplied. It keeps records, submits reports, and requisitions supplies. The company commander exercises supervision over the supplies and equipment in his unit.

b. The company periodically makes ration returns, status reports of fuel and lubricants, and ammunition reports to guide higher echelons in making the proper amounts of supplies available. It initiates requisitions for needed equipment and supplies authorized by appropriate Tables of Equipment, and for such additional special equipment and supplies as are necessary.

c. Each company should have an SOP for obtaining a re-supply of ammunition, fuel, water, and food. This SOP will

Believe this estimate at your peril. There are too many variables involved. Assume it will require at least 50% more fuel than the book promises. The S-4 will whine and complain, but in the final analysis it is your ass, not some staff wienie's.

be designed to fit into and supplement the SOP of the battalion of which the company is a part.

(1) *Ammunition* is handled in the method best suited to the situation. It may be loaded on trailers brought back from the combat area for that purpose; trucks may be sent forward to a bivouac or rally position to refill the trailers and destroyers; or loaded ammunition trailers may be exchanged for empty ones.

(2) *Fuel*. Gasoline is distributed to the companies by means of 5-gallon drums when and in the manner that the situation permits.

(3) *Water* is resupplied by company transportation. Empty containers are picked up after each meal and the resupply of water obtained from prescribed water points.

(4) *Rations* are obtained from the class I railhead or distributing point at the time designated by higher headquarters. The headquarters company kitchen truck is usually selected to pick up rations for the battalion since it habitually remains at the rear echelon bivouac. Several different plans should be evolved for messing the men, each designed to fit a particular type of tactical situation.

156. SUPPLYING THE BATTALION. a. The battalion is organized to perform its function as the major administrative headquarters in the tank destroyer organization. It has trains (the headquarters company transportation platoon and the company supply vehicles) to carry reserves of essential supplies, and personnel especially charged with administrative duties. The battalion S-4 is the unit supply officer; his duties are prescribed in **FM 101-5**. He is assisted by various staff officers, including the motor officer (maintenance), transportation officer (commands transportation platoon), headquarters company commander (supervision of rear echelon), and by a supply section of enlisted men under the direct control and supervision of the S-4. The supply section assists the S-4 in all matters pertaining to supply-maintaining the-records, preparing the reports, and supervising the procurement and distribution of supplies.

b. *The transportation platoon* is commanded by the transportation officer and includes a platoon headquarters, a kitchen section, an ammunition section, and (in self-propelled battalions only) a gas and oil section. The kitchen trucks for the various companies are assigned to the headquarters company as a part of the transportation platoon. The platoon commander assists the S-4; he provides the transportation for procuring and delivering supplies in accordance with the battalion supply plan. When extra trucks are needed to haul ammunition and fuel, kitchens may be

Remember that Class I supply is rations (see **FM 100-10**). In combat, A rations (normal food) are rare, but worth another thirty miles of advance for each hot meal issued; A and B require the company mess forward with actual cooks. C and K rations are "foodlike substances" that require no preparation. Quartermasters tend to believe forward troops should subsist on mummified boxed rations at all times because transportation and issue are simplified, while they dine on steak and lobster with a nice Chianti.

unloaded and the kitchen trucks used for supplementing the transportation platoon.

c. Being vulnerable and not properly a fighting part of the team, the transportation platoon is left behind in the rear echelon when the battalion strips for combat (see app. I). Usually the company kitchens and supply vehicles remain with the transportation platoon.

d. At times the rear echelon may be located a considerable distance behind the combat echelon. Its trucks haul supplies from designated supply points to the rear echelon bivouac, from which point distribution to the combat elements is made. In situations where friendly air superiority can not be maintained, this distribution is effected habitually at night, the vehicles moving for ward after dark and returning to the rear before daylight. With air superiority, the forward moves are not necessarily restricted to night time, provided that daylight movement will not disclose positions to enemy observation and fire.

157. AMMUNITION FOR REINFORCING ARTILLERY MISSIONS. **a.** When tank destroyer units are to be employed on secondary missions as reinforcing artillery, arrangements are made for tank destroyer organic vehicles to transport sufficient ammunition to perform the secondary role, provided the plan can be foreseen sufficiently far in advance to permit such action. Organic battalion ammunition section loads are dumped in position areas when these vehicles are hauling ammunition for secondary missions. Organic ammunition loads carried on combat vehicles remain intact for primary mission use.

b. When the need for employment as reinforcing artillery cannot be foreseen in sufficient time for the tank destroyer unit to haul its ammunition, the higher commander must allot sufficient trucks from other sources.

158. GROUP AND BRIGADE SUPPLY OFFICERS. The duties of group and brigade supply officers with respect to the battalions are as prescribed in **FM 101-5**. The group and brigade organizations being tactical rather than administrative, the supply officers of these units normally execute only that portion of the supply plan which applies to their own headquarters and headquarters companies. Their primary function is to assist, supervise, and coordinate the supply activities of the battalions. In their liaison with higher, headquarters, such as corps or division, they also present and coordinate the traffic plan and arrange for road priorities. When massed tank destroyers attached to corps operate in division areas, there must be close liaison and coordination with division supply agencies.

159. GROUP SUPPLY. Although the group supply section is equipped only to assist the battalions in the procurement of supplies, exigencies of the situation sometimes may cause issuing agencies to issue rations, fuel, or ammunition to the group. Therefore, the group supply officer should develop a procedure for temporarily assembling part of the supply personnel and transportation of each battalion under group control. This procedure also should include a method of breaking down group blocks of supplies for distribution to battalions. This practice should be regarded as an expedient; battalion supply sections revert to battalion control at the first opportunity.

160. EVACUATION BY SUPPLY VEHICLES. Each supply vehicle en route to the rear will pick up all wounded encountered and deliver them to the nearest aid station or other medical installation along the route. The supply officer will maintain contact with the battalion surgeon in order to utilize supply vehicles for the transportation of wounded from the battalion aid station to the rear, should such a method of transportation be necessary.

161. SALVAGE. FM 100-10 covers the fundamentals of salvage operations. Pertinent Field Manuals of the services cover details of the operation.

a. In time of war any article that is abandoned becomes salvage. Combat troops and quartermaster salvage agencies cooperate in the recovery of salvage material. To the maximum extent consistent with the tactical situation, tank destroyer units collect and return to collecting points or railheads all unserviceable and excess supplies.

b. Unit S-4's supervise salvage activities for their units. Salvage collecting points in locations favorable for transportation moving to the rear are designated in administrative orders of division and higher units (**FM 100-10** and **101-5**). Unit S-4's utilize fully all transportation returning to the rear to carry salvage material to the collecting points. When sufficient transportation is not available to transport salvage material to collecting points, it is marked and its position reported to the division or other unit to which the tank destroyers are attached.

c. Arms and equipment of the sick and wounded are collected at medical establishments.

162. CAPTURED MATERIAL. Captured material is collected by units at unit service parks and after examination by unit S-2's in conjunction with S-4's, is evacuated by higher echelon. Captured material should first be disarmed of possible booby traps by competent personnel. Active measures must be taken for its protection and transmission to proper

authorities for study and salvage. Theater commanders prescribe procedure for salvage operations.

CHAPTER 14

MEDICAL SERVICE OF TANK DESTROYER BATTALION

Section I. GENERAL

163. RESPONSIBILITY. The battalion commander, assisted by the battalion surgeon, is responsible for the health of the command and for medical service rendered personnel casualties prior to their transfer to higher echelons of medical service. Battalion medical service begins with the combat soldier in the most forward vehicle and terminates on evacuation of the casualty from the battalion aid station. It is essential that every soldier have a thorough knowledge and ability for proficient application of first aid.

164. FUNCTIONS OF THE BATTALION SURGEON. Functions and staff duties of the battalion surgeon are generally prescribed in FM 8-10 and **101-5**. The battalion surgeon is charged with both a command and a staff function.

a. As medical detachment commander he is responsible for all administration, training, and welfare of the medical detachment, under the direction of the battalion commander.

b. As a member of the battalion commander's special staff he is responsible for advising the battalion commander concerning the health and sanitation of the command, for preparation of medical department reports of the battalion, and for the supervision of battalion training in first aid and sanitation.

165. RELATIONSHIP BETWEEN BATTALION COMMANDER AND BATTALION SURGEON. The surgeon, as a special staff officer, consults with and advises the battalion commander in all matters pertaining to the health of the command. This relationship may take any of the following forms:

a. The battalion commander may give orders as to the standards he expects under any given set of circumstances. Attainment of specified standards will be verified through inspections by the battalion commander and surgeon.

b. The battalion commander may call the surgeon in for advice on a particular situation relative to the best plan for the health and the sanitation of the command.

c. The surgeon may make formal or informal recommendations to the battalion commander in any matters that he deems will improve the health and sanitation of the unit.

d. It is essential that the surgeon be familiar with the functioning of the entire battalion in order that—

Medical plans may be formulated.

The unit's health and sanitation may be safeguarded better.

166. ROUTINE DUTIES OF BATTALION SURGEON. In the conduct of routine duties the battalion surgeon—

Commands the medical detachment, being responsible for the training, in basic subjects as well as medical subjects, of the individual soldier of the detachment. Maintains the battalion dispensary and prophylactic station.

Conducts sick call daily at hours designated by the battalion commander.

Provides medical service for detached troops.

When necessary, arranges for the evacuation of sick and wounded.

Maintains detachment administrative records and submits battalion medical reports.

Requisitions through S-4, inspects, and maintains all medical equipment and supplies for the battalion.

Administers required vaccinations and inoculations.

Records and delinquencies are coordinated with S-1.

Recommends quarantine measures when necessary.

Inspects messes, quarters, latrines, clothing, and waste disposal facilities daily or as often as required.

Insures that water is safe for drinking purposes.

Conducts a monthly physical inspection of all enlisted men, and special physical inspections as prescribed in AR 615-250.

Determines and improves the physical fitness of all battalion personnel for combat service. This function includes providing for the testing of vision and securing of serviceable glasses when necessary.

Provides facilities for dental survey every 6 months, and correction of dental defects.

Supervises the training of first aid and sanitation for all members of the battalion, as directed by the battalion commander.

167. COMBAT DUTIES OF BATTALION SURGEON. During combat operations the battalion surgeon in addition to the above—

Keeps posted constantly on the battalion's tactical situation and future plans in order to have a sound medical plan that will meet every situation.

If liaison with higher echelons of medical service is lost, establishes contact to expedite receipt of supplies and evacuation of casualties.

Recommends reinforcement of battalion medical service when required.

Maintains a flexible battalion aid station for treatment of casualties and preparation for evacuation to the rear.

Supervises evacuation of casualties from forward areas to the battalion aid station.

Prepares and submits combat medical reports.

168. MEDICAL PLAN. The medical plan is the surgeon's recommendation for employment of the medical detachment during all phases of a projected action or maneuver. The medical plan is based on an estimate of the tactical situation, the commander's plan for employment of the battalion, and the calculated medical needs of the battalion. This plan is largely standing operating procedure and will include—

a. Movement into position. Recommendations for the movement include the—

Attachment of medical vehicles to components of the battalion.

Relative position of the medical detachment in the march column and approach march.

Disposition of casualties during march.

b. Attachment of medical personnel. (1) The attachment of aid men to companies depends on the immediate tactical situation and the number of aid men available. The following attachments are provided as a guide only and must remain flexible in order to meet changing conditions.

Self-propelled battalion—

Headquarters company— 1 (with personnel section, rear echelon).

Reconnaissance company— 2 (with motor maintenance section).

Each gun company— 1 (with motor maintenance section).

Towed battalion—

Headquarters company— 2 (1 with motor maintenance section, 1 with per-

sonnel section, rear echelon).

Each gun company— 1 (with company command post group).

(2) The remainder of the medical detachment—

Establishes the battalion aid station.

Operates medical vehicles where casualty concentrations most demand.

c. Methods of marking and reporting casualties. Casualties removed from vehicles will be deposited in covered defiles near prominent terrain features. White cloth material on a tree, bush, or post may be used to mark casualty location. The battalion SOP designates the procedure for reporting location of casualties. The vehicle commander notifies the platoon leader who informs the company commander. The company commander dispatches the aid man to the casualty site and relays the casualty report on the battalion net to the surgeon. The surgeon's responsibility for evacuation and treatment is established. Coded coordinates and prearranged map points will be employed for reporting locations; all personnel will avoid sending messages in the clear in their effort to expedite care of the wounded.

d. Axis of evacuation. The axis of evacuation for a company or battalion is ordinarily a road or track following the direction of the unit's advance. Placing the wounded, who cannot walk, at points along the axis facilitates evacuation to the aid station. Forward area ambulances operate along this axis.

e. Establishment of battalion aid station (FM 8-10). The battalion aid station must be organized for hasty service and rapid movement, and must be capable of being divided into two sections.

(1) Although it is rarely possible to satisfy all requirements, a desirable aid station site will possess the following features:

Protection from direct enemy fire.

Convenience to troops served.

Accessibility to supporting medical troops.

Proximity to wounded's natural lines of drift for wounded.

Facility for future movement of aid station to front or rear.

Proximity to water.

Protection from the elements.

(2) The factors which control the location of the battalion aid station are—

- Imminent tactical situation.
- Available camouflage facilities.
- Defiles, cover, and concealment afforded.
- Probable lines of drift.
- Availability of roads.

(3) The aid station will be as near a road as cover and concealment permit. The site will vary from 1 to 5 miles behind the line of contact depending upon the terrain and stability of combat.

(4) Casualties are gathered at the aid station, given emergency treatment, and prepared for evacuation to the rear by higher-unit ambulances. In emergency, supply vehicles en route to the rear may be used for transporting wounded.

f. Supporting higher medical unit. The battalion is supported by the medical battalion of the division to which it is attached, or by a component of a medical group when the tank destroyer battalion or group is attached to a corps or army. The supporting unit establishes collecting stations for the evacuation of casualties and the replacement of expended battalion medical detachment supplies. Between phases of combat, medical supplies are obtained through the battalion S-4 from the organization to which the battalion is attached, or in the absence of attachment, from the army medical supply depot.

g. Reinforcing medical units. In the event casualty rates are unusually high, the battalion commander upon recommendation of the battalion surgeon, requests that division reinforce the medical detachment.

h. Disposition of casualties. (1) Casualties who are not seriously wounded usually remain with their vehicles until it is expedient to send them to the aid station.

(2) Seriously wounded whose presence interferes with the operation of vehicles or weapons are given first aid by fellow crew members. If possible they walk to an aid station; otherwise they are placed in a protected location, marked, and reported as -described in subparagraph *c* above.

(3) Supply vehicles en route to the rear will pick up all wounded encountered and transport them to the battalion aid station or nearest medical installation.

(4) Medical detachment ¼-ton 4 x 4 trucks equipped with improvised litter racks, comprise the best available means of transporting the seriously wounded to the aid station.

(5) Responsibility for evacuation of the battalion aid station rests with higher medical echelon. However the attachment of tank destroyer battalions is frequently shifted

from one higher unit to another. Therefore, the battalion surgeon must be constantly alert to arrange for continuous medical support during changing situations. In emergencies, the surgeon may recommend to the battalion commander that battalion organic transportation be used to clear the aid station.

i. Location of battalion surgeon. In order to complete the medical plan the proposed location of the battalion surgeon will be included. Normally the surgeon will be at the battalion aid station with the bulk of the medical detachment. However, prior to commitment of the entire battalion, the surgeon may be with the battalion command post; or, in position rendering medical aid to portions of the battalion that may have been committed.

169. FIRST AID. a. First aid embraces certain measures instituted by personnel first encountering casualties. These measures are directed toward relief of pain, reduction of morbidity, and the saving of life.

b. It is essential that every combat soldier be thoroughly prepared to administer first aid on the fields of combat. Many lives will depend on the battalion's standard of proficiency in first aid. The combat soldier will, however, continue toward the objective and under no circumstances, even during fighting lulls, will duties of the battlefield be neglected to escort casualties to the rear. Assistance will be limited to first aid and the movement of wounded short distances to protected places along the axis of evacuation.

c. All members of the battalion will be capably trained to (see FM 21-11)—

Use the individual first-aid and sulfadiazine packets.

Use the vehicular first-aid kit including the morphine syrette.

Render first aid for wounds.

Control bleeding.

Recognize and know first aid for shock.

Improvise splints for fractures.

Apply first aid measures to conditions peculiar to the theater of operations, such as—

Snake bites and effects of heat in tropics.

Frostbite and freezing in extreme cold.

Section II. REMOVAL OF CASUALTIES FROM VEHICLES

170. GENERAL. a. The burden of removal of casualties from vehicles rests with the combat soldier as medical personnel are rarely present when removal is necessary.

b. All crew members of turret vehicles will be trained in the removal of casualties from the type vehicle to which assigned. Medical personnel will be trained to remove casualties from all types of battalion vehicles. The means employed for the removal of casualties are determined by the

Type and location of the injury.

Type and condition of the vehicle.

Position and location of wounded in the vehicle.

Time available for removal.

c. When time permits, the following first aid and removal procedures apply to casualties in all type vehicles:

Control bleeding by pressure or tourniquet.

Administer morphine.

Cut away or remove clothing and entangled equipment that interfere with treatment or extrication.

Apply necessary first air dressings and improvised splints.

Adjust shoulder straps, or prepare pistol belt harness as required for lifting patient.

Avoid strain or pressure on injured parts while shifting the patient inside the vehicle and during process of removal.

d. When the vehicle is on fire the casualty, by necessity, is removed through the most available opening by the quickest practical means.

171. REMOVAL FROM THE 76-MM GUN MOTOR CARRIAGE.

a. Gun commander, gunner, or loader (fig. 14). (1) Move casualty to a sitting position that permits free access through turret opening.

(2) Standing on the turret rim, two men grasp the casualty by the arms, clothing, or shoulder straps and lift him from the turret well.

(3) The patient is lowered to the side of the vehicle and placed on a litter, or on the shoulders or cradled arms of men on the ground (fig. 15).

(4) The removal of seriously wounded through the escape hatch is a difficult procedure. However, if the vehicle is immobilized, and the turret opening is blocked, or covered by sweeping fires, the floor hatch will permit escape of the entire crew.

b. Driver or assistant driver (fig. 16). (1) Move casualty to a sitting position that permits free access through a forward hatch.

171. Procedures for removing injured crewmen from the vehicle are worth knowing and practicing. However, unless there is a serious emergency it is prudent to have the advice of a first responder or physician prior to attempting such an evacuation.

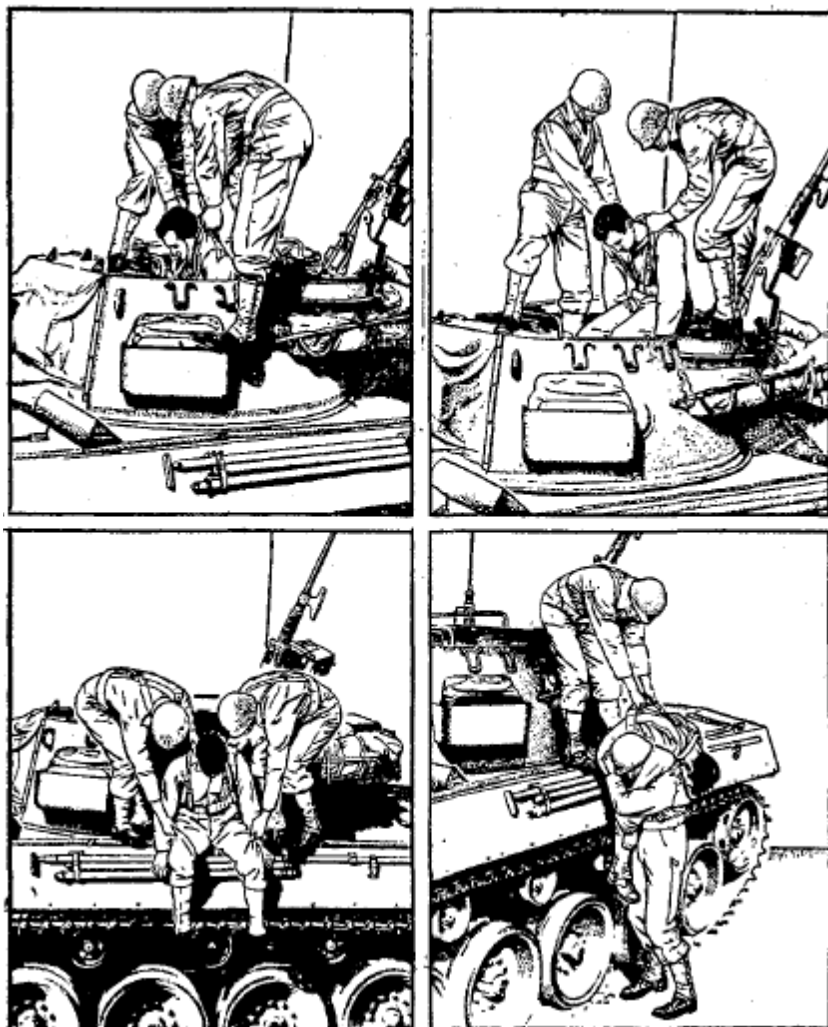


Figure 14. Removal of casualty from turret well.

(2) Standing on the forward deck, two men grasp the casualty by the arms, clothing, or shoulder straps and lift him from the compartment.

(3) The patient is placed on a litter, or on the shoulders or cradled arms of men on the ground.

(4) When closed hatches are jammed so that they cannot be pried open, rotate the gun approximately 1,600 mils (900) left and pull casualty into the turret well. The opening between the driver's compartment and the turret well of the 76-mm gun motor carriage is so small that this method is used only as an emergency expedient.

172. REMOVAL FROM THE 3-INCH GUN MOTOR CARRIAGE AND SIMILAR CARRIAGES. a. Gun commander, gunner, or loader (fig. 14). (1) Removal is usually the same as described and illustrated for the 76-mm gun motor carriage.

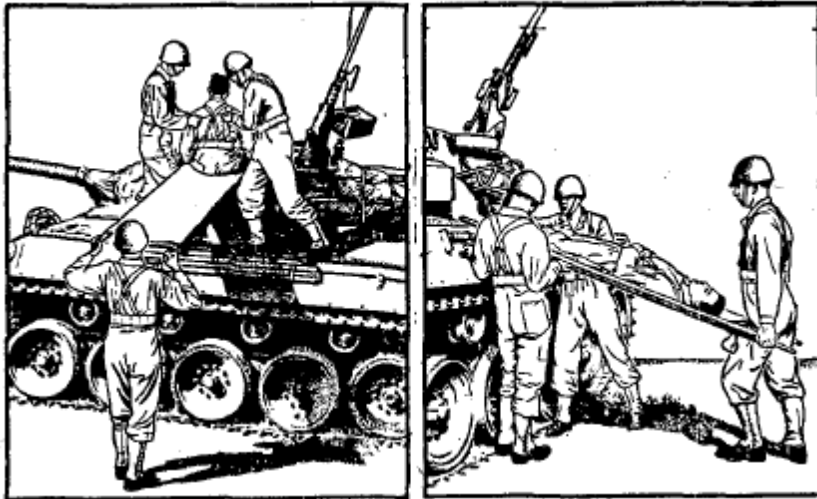


Figure 15. Use of the litter

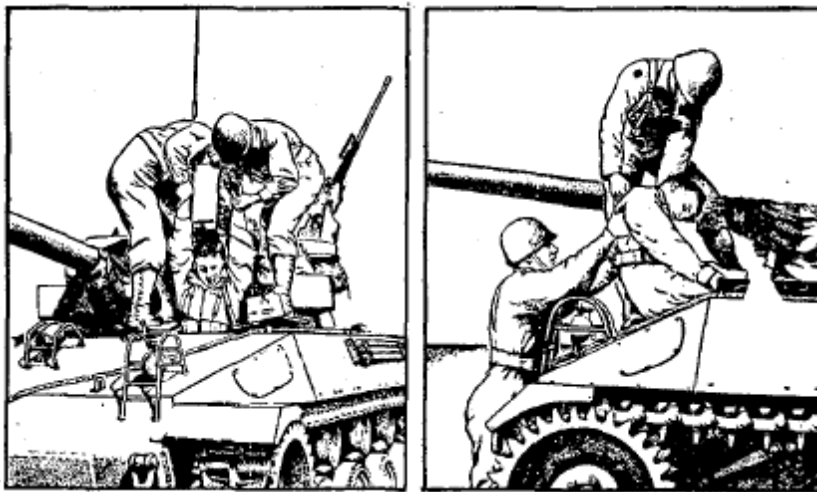


Figure 16. Removal of a casualty from the driver's compartment.

(2) Removal from the driver's compartment by the inversion method as illustrated in figure 17, may also be used to displace wounded from turret well when the wounds are in the trunk or arms.

b. Driver or assistant driver. Removal may be effected through the forward hatches; however, removal is more efficiently accomplished by pulling the casualty back into the turret well and lifting him out through the turret opening (fig. 18).

173. REMOVAL FROM CAR ARMORED LIGHT M8 AND CAR ARMORED UTILITY M20. See descriptions and illustrations of methods outlined in paragraph 171 and 172.

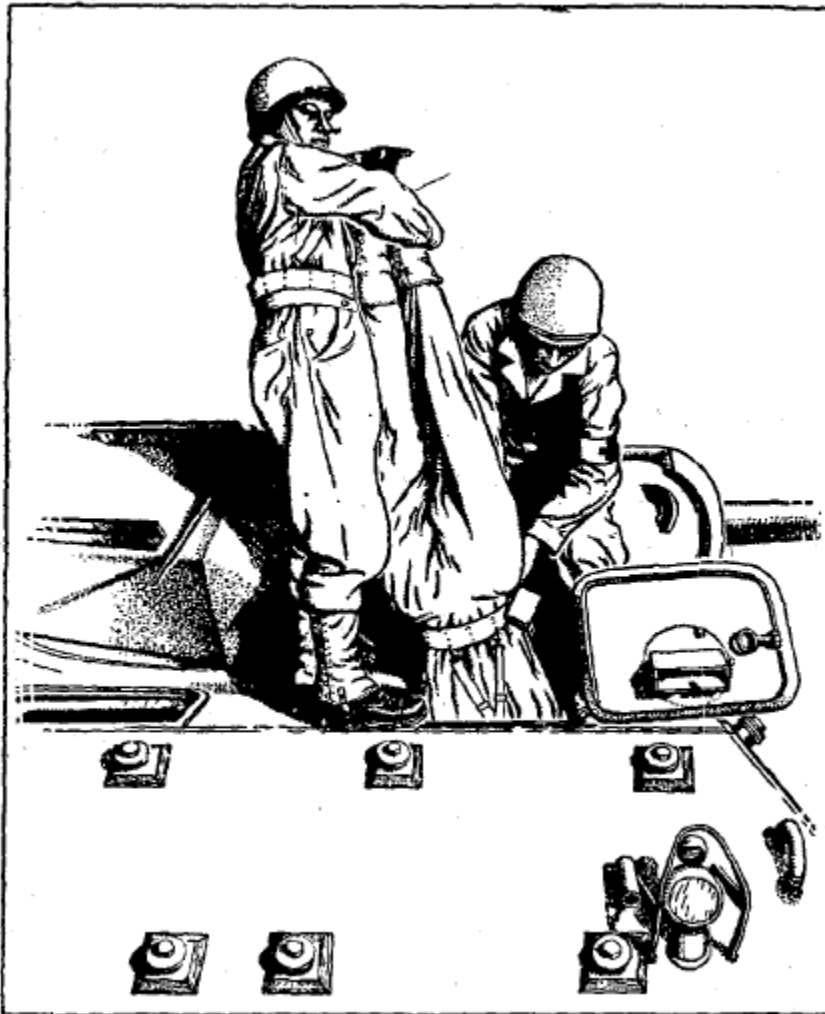
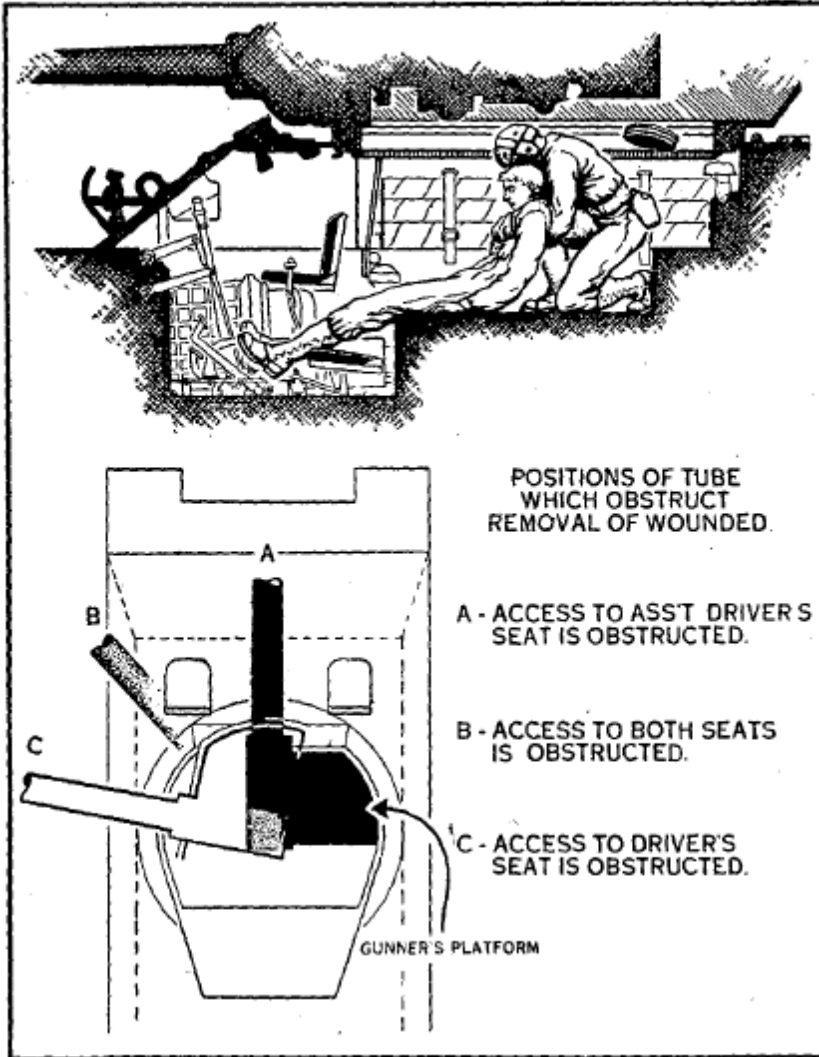


Figure 17. Inversion method of casualty removal.



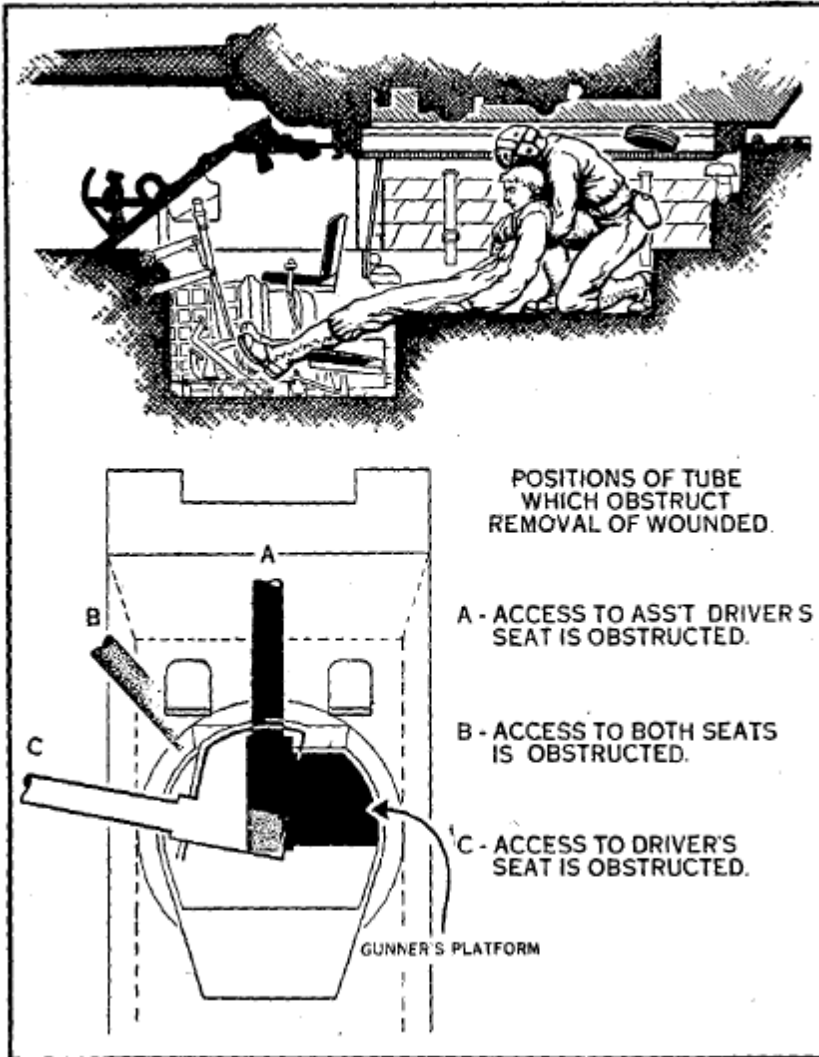


Figure 18. Removal of driver through the turret.

APPENDIX I

ORGANIZATION OF BATTALION INTO ECHELONS

Section I. GENERAL

1. ECHELONS. a. In combat the tank destroyer battalion, either self-propelled or towed, is divided into two echelons—the combat echelon and the rear echelon.

b. No attempt is made herein to allocate specific duties to all personnel or to designate vehicles in which personnel will ride. Commanders make such dispositions as are indicated by their experience, the combat situation, and mission. The composition of any particular grouping will inevitably follow a somewhat uniform pattern, but it should be variable according to the tactical situation.

Section II. COMBAT ECHELON

2. COMPOSITION. In the self-propelled battalion, the combat echelon consists of the battalion command post, the battalion motor maintenance platoon, the medical detachment, the reconnaissance company, and three gun companies. The company clerks, the supply and mess personnel, and supply and mess vehicles are not included in the combat echelon. In the towed battalion the composition is the same except that the reconnaissance company is replaced by the two reconnaissance platoons of the headquarters company.

3. BATTALION COMMAND POST. a. The battalion command post is the nerve center of the battalion, functioning as the clearing house for all matters, administrative and tactical, affecting the battalion. It should be situated to the rear of the combat position, concealed from aerial observation, out of range of enemy small arms fire, but close enough to insure effective control.

b. The battalion commander's party is composed of the battalion commander with those members of his staff, usually the S-2 and the S-3, and the enlisted personnel and vehicles required to afford the commander the means for

exercising command of the battalion, personal reconnaissance, and contact with higher headquarters.

c. The specific location, internal arrangement (fig. 4), administration, and security of the command post are responsibilities of the S-1. He is assisted by the executive officer of headquarters company. The latter is directly charged with the supervision and control of the enlisted personnel of the headquarters company at the command post, and of such items as messing, sanitation, and general administration.

d. To provide for messing the personnel at or near the command post, the headquarters company kitchen may be divided into two parts, one with the command post and one with the rear echelon. A 1-ton trailer may be used to carry the mess equipment with the command post. It can be drawn by the message center vehicle, and the mess personnel may ride in that vehicle.

e. The message center is established under the supervision of the communications officer.

f. When the liaison officers are not on missions they remain at the command post. Should an additional liaison officer be needed, the headquarters or reconnaissance company executive officer may be used.

4. MOTOR MAINTENANCE PLATOON. The platoon is located generally in the vicinity of the battalion command post in a position offering cover and concealment and good routes to both front and rear. This position well forward will insure the rapid handling of vehicular casualties of the combat elements of the battalion and their prompt return to the fire fight.

5. MEDICAL DETACHMENT. The medical detachment is commanded by the battalion surgeon. The detachment sets up its aid station in a position offering as much cover as possible and adjacent to the axis of evacuation and lines of drift.

6. RECONNAISSANCE COMPANY, SELF-PROPELLED BATTALION. The reconnaissance company combat echelon is composed of the company commander's party, the company command post, the company maintenance section, the pioneer platoon, and the three reconnaissance platoons. The commander's party is located near the battalion command post when not on a specific mission. Since the reconnaissance company maintenance section is small, the closest coordination with the battalion maintenance platoon is necessary. When not employed on a mission, the pioneer platoon may remain in the vicinity of the battalion command post to assist in establishing security for the command post area and to aid in camouflage.

7. RECONNAISSANCE PLATOONS, TOWED BATTALION. The two reconnaissance platoons of the headquarters company, towed battalion, have the same organization as those of the self-propelled battalion. The towed battalion has a reconnaissance officer on the battalion staff. While he does not command the reconnaissance platoons, as a staff officer he coordinates their use for the battalion-commander. When not engaged on a reconnaissance mission, the platoons remain in the general vicinity of the battalion command post.

8. GUN COMPANY. The gun company combat echelon is composed of the company commander's party, the company command post, the company maintenance section, and the three gun platoons.

Section III. REAR ECHELON

9. COMPOSITION, LOCATION, AND COMMAND. a. The rear echelon is composed of the headquarters company headquarters, the battalion supply section, the battalion personnel section with all company clerks, and the transportation platoon with all company kitchen and supply personnel. In the self-propelled battalion, the headquarters company motor maintenance section is a part of the rear echelon. In the towed battalion, one vehicle and crew from the battalion motor maintenance platoon operates with the rear echelon.

b. The rear echelon is usually located with or near the rear echelon of the unit to which the battalion is attached, in a position offering concealment from the air and adjacent to good routes to supply installations of higher units and to the combat echelon.

c. The headquarters company commander is in command of the rear echelon. He organizes it for defense against air and ground attack (fig. 3). He assists the battalion S-4 in carrying out the battalion supply plan.

10. BATTALION PERSONNEL SECTION. This section is under the battalion personnel officer. He coordinates with the S-1 in the administration of personnel matters. Company clerks work under the supervision of this section. Since this section may operate either at the battalion rear echelon bivouac or with the rear echelon of higher units, it is always prepared for detachment from the battalion.

APPENDIX II

81-MM MORTAR ON RECOVERY VEHICLE

1. GENERAL. This annex lays down the principles involved in the tactical use of the 81-mm mortar. This weapon is, at present, issued as equipment on the recovery vehicle, on the basis of one per tank destroyer company (self-propelled).

2. REFERENCE. For information regarding training, technique, ammunition, and courses to be fired, see FM 23-90.

3. PERSONNEL AND TRAINING. The personnel requiring training in the use of the 81-mm mortar in maintenance sections are the motor sergeant, motor mechanics, basics, and the driver of each recovery vehicle. Training should include determination of initial direction by direct alignment only (see par. 59 a (1), FM 23-90). Although training practice, to a large extent, is with HE shell, only the smoke projectile is issued for combat.

4. TACTICS. a. Mounted. Following a fire fight in which the enemy has been forced to withdraw, the mortar may be left mounted on the vehicle and a smoke screen projected between the damaged vehicle and the enemy.

b. Dismounted. In the event recovery is effected during the fire fight, the mortar may be dismounted and a continuous smoke screen projected between the damaged vehicle and the enemy during the time the recovery vehicle and crew are actually evacuating the damaged vehicle provided the smoke does not interfere with the fire fight.

3. It is clear from this discussion that the primary use of the mortar is to provide smoke to mask critical movements (e.g., withdrawal or shift to supplementary positions) that would otherwise be observed by the enemy.

Sometime in 1970, persons unknown from my tank company happened to discover a Marine Corps 60mm mortar which had evidently "fallen off a truck." We used this to fire illumination rounds for night operations, a practice that requires quite a lot of 60mm illumination rounds to fall off other trucks.