

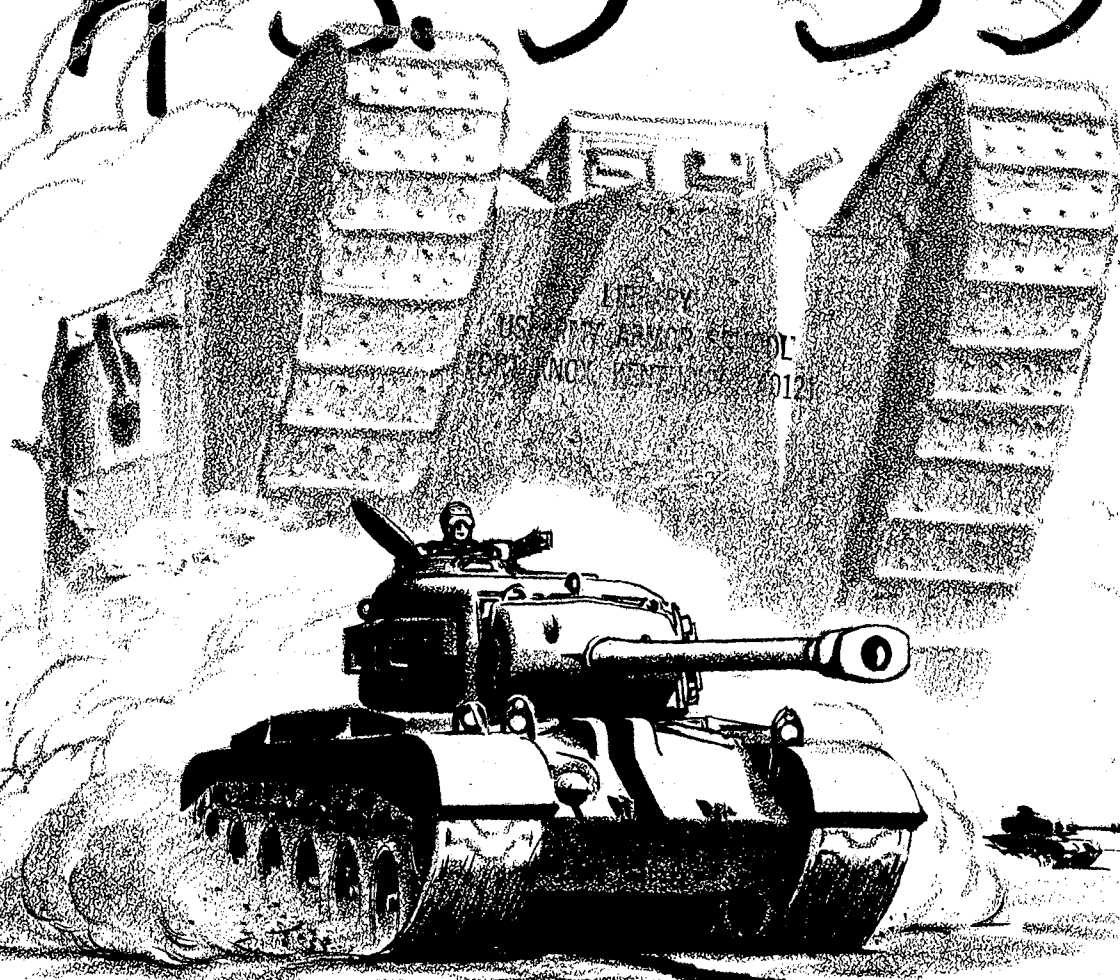
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Armor in The Night Attack

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A RESEARCH REPORT

Prepared at
THE ARMORED SCHOOL
Fort Knox, Kentucky

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ARMOR IN THE NIGHT ATTACK

A RESEARCH REPORT PREPARED
BY
COMMITTEE 33, OFFICERS' ADVANCED COURSE
THE ARMORED SCHOOL
1951 - 1952

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CHAPTER 1

INTRODUCTION

"Soldiers must be taught to move and fight at night,"¹ said one of the ablest of our American Army commanders of World War II. The night attack is certainly nothing new. General Wolfe attacked the Canadians guarding the approaches to the heights of Abraham at two in the morning. By six that morning his troops were formed on the plains of Abraham prepared to decimate a surprised French General Montcalm. This operation conducted in 1759 is one of many successful night attacks conducted in history. The battles in the present Korean conflict have also made the night attack a common affair. The Chinese have proved themselves very adept in conducting lethal operations after dark. The American Army has always been cognizant of the value of the night attack as evidenced by success in such operations; however, we have not stressed this type of training or employment until recently.

Armor, compared with infantry and artillery, is a new branch. The tactics of armor are constantly changing during its integration with the other branches of the service. Armor was not used extensively in combat until World War II. Only during this period and the years since then has the Army attempted to integrate armor with the other services in conducting preplanned attacks at night. This brings us to an important point and is partially responsible for this research paper. It is surprising that so many officers are found both infantry and armor, who will say, "A research in armor at night! Why that should be easy as you can

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find all of that doctrine written down in our manuals." Upon interrogating officers schooled in these manuals, the committee found that there exists a great variance of opinion as to just how a night attack involving tanks and infantry should be conducted. It was found that one of the greatest reasons for this variance is due to the vagueness of our manuals on this particular subject. Explanation of this subject has not been explicit, which has lead people to several interpretations. This committee feels that there should be but one interpretation of the principles of the night attack. This doctrine, in speaking of night armor operations, will allow the battalion commander to talk to his company commanders, and the company commanders in turn to the platoon leaders, with confidence evolving from the fact that there is a common understanding between them. Should the reader doubt our reasoning as to the necessity for this research, he should observe a conversation involving two or more officers discussing the tank--infantry night attack. He will usually find that it results in a great variance of opinion as to just what the doctrine of tank--infantry night attacks is.

This research deals primarily with the tank--infantry team attack at night against limited objectives. Do not confuse this with night meeting engagements, night movements, night ambushes, or night raids. A reinforced tank battalion speeding down a road in column at night to link-up with a surrounded unit will not be dealt with here, nor will this work cover night attacks conducted during the exploitation. Those operations are in a realm of their own and are predicated upon situations not covered in this study.

The committee has contacted outstanding officers who have actually participated in, or who have observed, night attacks with armor; and members of the committee have interviewed them in an effort to tie-together their opinions to form a concrete doctrine. A number of after-action reports, field observation reports, field manuals and military books have also been examined. The research committee has then taken this information from the texts and the reports and has culled out that information which has not been corroborated by the officers interviewed. Opinions and aids have also been added which are generally agreed upon but which have never actually been set down in writing on night operations with armor.

The committee presents doctrine for the use of tank-infantry teams at night in a pre-planned attack against a limited objective.

NOTES FOR CHAPTER 1

¹General George S. Patton, War as I Knew It (Boston: Houghton Mifflin Co., 1947), p 352.

CHAPTER 2

PURPOSE AND CHARACTERISTICS OF ATTACKING WITH ARMOR AT NIGHT

Purpose

In discussing attacking at night with armor it can be found that there is a great variance of opinion as to the feasibility and purpose of attacking at night. The principle reason for this diversity of thought is probably the general lack of experience and familiarity of most officers with armor night attacks in combat or in training. The following are purposes for making night attacks with armor.

To avoid heavy losses which would be incurred in attacking during daylight. This might be a situation which would involve crossing a zone heavily defended by tanks that is practically impossible to cross during daylight without paying the penalty of excessive personnel and materiel losses. The following is a quotation from Major General Ernest N. Harmon (Ret), Commanding General of the 2d Armored Division during World War II.

We used the night attack three times in the second phase of the Battle of the Bulge under similar circumstances each time. The snow was deep, which slowed our tanks down to about three or four miles an hour. We were attacking towns built of masonry in which the enemy had placed his tanks with the muzzles protruding out of the windows. The towns were on a slight elevation from the surrounding country therefore our attack had to go uphill and we were picked off as there was anywhere from 1200 to 2000 yards of open fields. By lining up the night before and carefully getting the direction angles, we attacked at about five o'clock in the morning during the month of January in a swirling snow storm in complete blackness. We managed by this method to get up to the town and in among the buildings covering the fire-swept zone in pitch darkness. We captured the towns of DEVONTREE, DOCHAMPS, and SAMREE by this night attack method. Our losses were practically negligible. By daylight we had captured the towns.

Major General J. H. Collier, then Commander of CCA 2d Armored Division, states that the infantry units which must accompany a night attack were so depleted in strength due to "cold casualties" that it was imperative to get the infantry on the objective without losses.²

To achieve surprise and psychological superiority. This is one of the primary factors in having armor participate in the night attack instead of merely using the infantry by itself. An armored battalion commander of World War II believes, as have others, that tanks are not well suited to night attacks and that they should not normally be used but that the primary purpose in using them would be to cause surprise and shock through their unexpected employment.³ A captured German document from World War II stated categorically that American armor never attacked at night.⁴ This bit of intelligence was followed closely with a night attack which benefitted the attacker immeasurably from the psychological advantage gained through surprise.

To gain a limited objective which would be an important terrain feature from which to launch a larger coordinated attack in daylight or which is vital and necessary to the situation.

To exert continuous pressure on the enemy to help prevent his regaining the initiative. A successful night attack "Prevents the enemy from laying mine fields in his retreat, it lends to the continuity of the attack, and also the enemy evacuates his position more readily at night than day"⁵

To accomplish the primary purpose of any offensive action, i.e., the destruction of the hostile armed forces. The infantry role in the night attack with armor will be to protect the tanks from enemy infantrymen and tank killers by mopping up by-passed enemy personnel during the attack action.

To receive concealment from the darkness when concealment in daylight hours is not available.

To maintain the attack, we also attack at night, chiefly in the exploitation, in order to provide a 24-hour attacking day. In line with this, armor should not attack at night in woods as the effort would most likely not be profitable. General Patton expressed himself in this regard by saying:

It is not necessary or advisable to attack through woods at night. In the first place, the woods themselves give the cover which the darkness does in the open. In the second place, it is almost impossible to move through woods at night except in column on roads.⁶

Limited-objective night attacks with armor should not be confused with the tactics of night marching, raids, or ambushes. During World War II a unit of the Second Armored Division deployed into a V-type formation astride a road on which a German armored column was reportedly travelling. The Germans marched into the V and lost a considerable number of men and materiel with but small loss to the American forces. This was a night operation with armor which inflicted casualties upon the enemy, but this action should be classified as an ambush rather than a formalized night attack with which we are dealing here.

Characteristics

Reconnaissance and limited objectives.

Soldiers must be taught to move and fight at night. This is becoming more and more imperative, and it does not mean to make an approach march at night. It means to conduct lethal operations in the dark. To do this, previous and very accurate daylight reconnaissance is desirable and limited objective attacks are essential.⁷

Night attacks by armor are not economical except under very favorable circumstances of terrain, and where very thorough daylight reconnaissance has taken place.⁸ These statements by General Patton present the most essential characteristics of the night attack. Later in this study the technique and time of reconnaissance will be dealt with. Reconnaissance is emphasized here to show the importance of this characteristic. The following is quoted from a report on the Tunisian front on 10 March 1943.

Once he (the Germans) attacked with armor without adequate reconnaissance between 9 and 10 at night. This attack was smeared with decided loss to the enemy, with our troops (Ranger Battalion) highly successful, with high loss to the enemy and high morale to our troops. Reconnaissance must be accurate and intelligent and a map study must be made.⁹

Detailed planning. Along with thorough reconnaissance, limited objectives, and favorable terrain, the attack must be well planned. Plans should be made to brief everyone thoroughly. Some commanders who were questioned as to briefing said that all tank commanders and squad leaders of the infantry should be taken to a vantage point to observe the terrain and possibly all the crew members should be included. There should be within this detailed planning a precise plan for reorganization on the objective and possibly alternate plans. Also plans

of withdrawal should be included in the event the attack is not successful or the objective is not reached.

Difficulty of control. In addition, the night attack is characterized by the difficulty of control of units, difficulty of movement in the darkness, and trickiness of maintaining direction in the night over unfamiliar terrain.

Decrease in effectiveness of aimed fire and ability to maneuver. Night attacks are also characterized by their decrease in effectiveness of aimed fire both for the enemy and the attacker, and their general lack of any type of maneuver other than restricted frontal assaults. The plan of fire of the attacking unit and of the supporting fires should be simple to avoid casualties and confusion. One officer questioned who had participated in several night attacks believes that night attacks should be launched at any time of the night. There has been a great deal of controversy over the selection of the time of attack for the night attack. Some officers are in favor of attacking just as the sun sets in order to take advantage of the odd effects sunset has upon muffling sound. Major George Seignious II, presently the battalion commander of the 44th Tank Battalion, 82d Division, and a veteran of World War II writes:

I prefer attacking with armor during darkness just before dawn. This has the advantage of permitting selection of fields of fire and good reserve positions before the enemy can launch his counterattack. It also permits immediate exploitation if the enemy is routed. This may not be true if the attack were launched early in the evening.¹⁰

There will doubtlessly be situations which will demand an attack at other times due to the mission or due to the necessity of variation of times to gain surprise.

Well defined axis of advance. The night attack must have a well defended axis or direction of advance included in the plan with natural features or some man made object used as a guide. Some night attacks have even been launched by guiding on a bright star. Since night attacks are of short duration this system proves to be accurate.

SUMMARY

In this chapter the most obvious characteristics and purposes of Armor in the Night Attack have been set down along with explanatory items of interest from some of our noted Armor Commanders. For simplification in review they are listed here.

Purposes.

1. To avoid heavy losses which would be incurred in attacking during daylight.
2. To achieve surprise and psychological superiority.
3. To gain a limited objective which would be an important terrain feature from which to launch a larger coordinated attack in daylight or which is vital and necessary to the situation.
4. To exert continuous pressure on the enemy to help prevent his regaining the initiative.
5. To accomplish the primary purpose of any offensive action, i.e., the destruction of the hostile armed forces.

6. To receive concealment from the darkness when concealment in daylight hours is not available.

CHARACTERISTICS

1. Necessitates detailed reconnaissance and limited-objectives.
2. Necessitates detailed planning.
3. Difficult to control.
4. Effectiveness of aimed fire and ability to maneuver is decreased.
5. Requires a well defined axis of advance.

NOTES FOR CHAPTER 2

¹Personal letter, Major General Ernest N. Harmon, 05282, CG 2d Armd Division, WWII, 9 Nov 1951.

²Personal letter, Major General J. H. Collier, 012388, Inspector of Armor, OCAFF, Fort Monroe, Virginia, 7 Dec 1951.

³Personal letter, Lt Col William R. Tuck, 024444, WWII Bn Cmdr, 1st Bn, 1st Armd Div, 2 Dec 1951.

⁴Personal letter, Major General J. H. Collier.

⁵Major Gen H. H. Morris, 03102, Cmdr-in-Chief Carribbean Sept 49 "Report on Observation Trip to North Africa Theater," Nov 1943.

⁶General George S. Patton, War As I Knew It (Boston, Houghton Mifflin Co, 1947), P 342.

⁷Ibid, p 352.

⁸Ibid, p 353.

⁹"Notes on Recent Operations on the Tunisian Front" (Hq AGF, 30 April 1943), p 6.

¹⁰Personal letter, Major George M. Saignious, 047226, Cmdr 44th Tank Battalion, 82d Airborne Division, 17 Nov 1951.

CHAPTER 3

ELEMENTS TO BE CONSIDERED IN PLANNING THE NIGHT ATTACK

General

It is the purpose of this chapter to familiarize the reader with the various positions, formations, and methods of control as they specifically apply to the armor and infantry commanders as a team during their troop leading procedures in preparation for a night attack.

Positions

In the normal night operation, there will be a movement of the unit to an assembly area in which the commander coordinates with various attached units and supporting organizations. The commander usually performs his reconnaissance before and while the team is in the assembly area as he formulates his plan. The team then moves to an attack position, to a line of departure, and attacks a limited objective while being supported logistically over the established axis of supply and evacuation by the trains. Characteristics of the positions and routes are as follows.

Assembly area. The assembly area is the area in which the unit or units which are to make the night attack are assembled for necessary preparations and grouping prior to the attack. A good assembly area will have the following characteristics.

1. Out of effective range of light artillery and if possible of medium artillery.

2. Covered or concealed routes of advance to the attack position.

3. Concealment from air and ground observation. This is usually obtained from wooded areas. If wooded areas do not exist or are so few in number that enemy intelligence would select them as most likely assembly areas, then troops may be placed in the open if greatly dispersed. It has also been demonstrated in recent field tests that a dummy position located within approximately 2000 yards of the actual position will prove profitable if there is reasonable assurance that enemy intelligence and enemy air know of your approximate location. This will require strict camouflage discipline in the assembly area in which the troops and vehicles are actually located, as aircraft delivering an air strike on the dummy position will be constantly circling the area.

4. Several good routes of entrance and exit to facilitate rapid movement in and out of the area.

5. Firm all weather standing. It will be the duty of the quartering party or reconnaissance party to assure themselves that the ground is not of a spongy nature. Probably everyone has seen a tank unit at one time or another occupy an assembly area or "coil-up" area which appeared to be of good solid standing, and then discover four hours later that half of the tanks would have to be towed out to firm ground. Sometimes this presents a serious problem as the towing vehicle also bogs down necessitating three or four tanks to be cabled in column. This problem can be easily prevented by proper inspection of the area prior to the unit's arrival, and such an inspection can easily prevent the annihilation of the unit.

6. Cover from direct fire; i.e., reverse slope, behind stone buildings, etc., to prevent casualties from flat trajectory fire.

7. Good fields of fire for defending weapons on its perimeter. Lt Col G. B. Pickett, Jr., armor officer of IX Corps in Korea, wrote the following regarding the use of tanks in defensive areas.

The effectiveness of tank units at night was increased by anticipating possible areas of enemy infiltration and possible routes of enemy attack. This technique was employed by Company A, 72d Tank Battalion prior to the Red Chinese attack on 24 April 1951 and contributed greatly to the successful night action by that unit above Kapyong on 24/25 April. Arrangements should be made to fire on enemy attack routes and infiltration areas during daylight to include assignment of target areas, selection of positions, computation of firing data, and preparations of a night range card.¹

8. Ample room for dispersion of the unit or units. If at all possible the unit or units should move into the assembly area during darkness approximately 24 hours prior to the attack. The situation will usually shorten this time factor, but the time allotment should be as near this as possible in order that the careful preparation necessitated by a night attack may be performed. Probably one of the most important duties to perform is that of "marrying-up" the infantry and tanks. This requires a great deal of time and coordination, and once done should not receive a last minute change in the attack position or during the attack. The time element is reiterated, because without its consideration, confusion resulting from poor preparation is most likely to cause the night attack to fail. General J. H. Collier states: "Once the

tank-infantry teams are formed for the attack, they should not be broken up nor should the composition of teams be changed until after daylight. This aids in eliminating confusion."²

Attack positions.

The final assembly area of an infantry or armored cavalry battalion or similar unit in the attack echelon usually is the most forward concealed position available in rear of the line of departure. It is termed the attack position. Its location is usually designated by higher commanders but where necessary it may be selected by the commander concerned. It should afford cover from hostile small arms fire.³

This excerpt Field Service Regulations, Operations best describes this position. Most of the commanders interviewed stated that they moved their units to the attack position just prior to the time of attack. "The use of artillery on the enemy positions to conceal the noise of the move is desirable on some occasions."⁴

It is not necessarily essential that the attack position for the night attack have concealment from the air due to the fact that the unit normally stays in the attack position a very few minutes. Recent field tests at night have shown the effectiveness of air-dropped flares with the airplanes delivering the air strike by attacking at an altitude between the flare and the ground. This might prove an effective strike against a unit at night without concealment; however, the period in the attack position is of such short duration that it would or could preclude the necessity of overhead concealment in the attack position for a night attack.

The majority of the characteristics of the assembly area also apply to the attack position. The size of the area need not be so large.

Security is maintained the short time that the unit is in the attack position. While in this position the commander and the small unit commander make all necessary last minute adjustments.

In order to avoid confusion on the battlefield; the unit, if possible, should move out of the attack position deployed in the manner in which it will cross the line of departure and proceed to the objective. It is believed by most commanders that to deploy after crossing the line of departure should be unnecessary due to the fact that the attack is against a limited objective. Attempting to deploy at night on the battlefield, coupled with the confusion that is naturally going to follow when the enemy position commences its defensive fires, will be complicated and possibly disastrous to the success of the operation.

Some surprise and secrecy may be gained if our own forces have been firing harassing fires on the enemy positions. During the movement to the attack position these fires may be delivered onto the enemy position giving cover to the clatter of the tanks by battlefield noise as stated before. Tank engines should be idled in the attack position and drivers should be cautioned not to race engines.

Line of departure. The line of departure should be an easily recognized terrain feature or artificial device over which the night attack is launched at a specified time toward a limited objective. The line of departure might be the edge of the attack position, a trail, or in some cases to insure positive identification, engineer's tape. The line of departure should be in close proximity to the attack position. If there is any indication that identification of the line

of departure will be difficult, there should be guides posted to lead troops to their designated location. The attacking force should not halt on the line of departure.

Objective. One of the most flagrant mistakes of infantry and armor commanders in planning night attacks with armor is in the selection of the objective. Too many commanders select an objective which is two or three miles away. Such a selection usually defeats the success of the attack prior to the crossing of the line of departure due to the tremendous difficulty of control and coordination at night. The distance to the objective should be limited and selected according to the nature of the terrain. The maximum distance for planning purposes should be 2000 yards. Major General Robertson in speaking of night attacks in World War II wrote, "The operations in the hedgerow country of Normandy, for example, will limit this distance to the objective to not over 300 yards."⁵ The hedgerow country is an example of the effect of terrain on the distance. A tank battalion commander of World War II stated,

Objectives should be positive terrain features such as hill masses, crossroads, clumps of trees, known enemy positions (artillery positions). Their size should be commensurate with the force that can be adequately controlled in the attack (the size of the attack unit depends on experience and training of your troops and of the enemy). My experiences have indicated that more than 10 tanks and two platoons of infantry running around in the same spot at night, results in more confusion than forward motion.⁶

To reemphasize, the objective for the night attack should be limited and should be easily identifiable at night.

Axis of supply and evacuation. "Definitely establish an axis of supply and evacuation to be used by medics, command vehicles and recovery vehicles."⁷ Very little traffic should be undertaken during the night on the MSR other than evacuation of the wounded. Since the objective is limited, the gas and oil probably will not have to be replaced until morning. Also the basic or prescribed load should require no replenishment until daylight. It should be an easy matter for the commander to contact the supply elements of his trains in the old assembly area for any necessary supply requirement. And in speaking of trains, they:

Normally remain in the assembly position or in the combat command trains area. Trains, being thin, soft skinned, are brought forward on prearranged plans with the protection deemed necessary under the circumstances. Emergency supplies in limited quantities should be as far forward as the battalion headquarters. The bulk of the maintenance must stay to the rear and be moved the minimum number of times. Of course certain personnel must be forward to handle minor repairs and one retriever to recover vehicles. Kitchens will move to the rear after a hot meal before the unit jumps off.⁸

Formations

In order for the night attack with armor to be a complete success, the commander must first get the troops and the vehicles onto the objective. This seems a simple enough task; however, there exists a great deal of controversy as to how the troops and vehicles will get to the objective. There are no doubt occasions where different types of formations are necessitated; therefore this committee does not intend to state a definite manner or formation in which the infantry and the tanks approach the objective. The commander should keep this statement in mind planning the formation to be utilized. "There must be tanks

with infantry and infantry with tanks. Infantry must protect tanks in close-in fighting. By the same token tanks lend added firepower to the team which would discourage counterattack."⁹

Tanks with infantry. The value of the tanks would be lost in the majority of the situations if the infantry were placed in positions directly in front of the tanks, for the tremendous firepower of the tank is then nullified. Infantry should stay between and behind the tanks in order to destroy any tank-hunters which approach the tanks. They should naturally be cautioned in regard to the effect of the muzzle blast. The tanks should be 20 to 40 yards apart depending on the terrain and the degree of darkness. The interval between the tanks should permit maintenance of lateral cohesiveness throughout the unit. In order to reemphasize the close knit cooperation which must be derived from the formation the following excerpt is quoted from a letter from Major General Bruce C. Clarke, present CG of the 1st Armored Division. "Tanks should assist the infantry in destroying the enemy. The tanks receive their protection from the accompanying infantry."¹⁰

The formation must be one which will allow complete cooperation and coordination between the armor and the infantry. It should be simple in order to cause a minimum of confusion on the battlefield and it should not be of such a nature as to cause possible casualties through elements within the formation firing on each other.

Lt Col Tuck, commander of a tank battalion in World War II, expresses his views as to the amount of infantry and armor which will

constitute a desirable team and subsequent formation.

The ratio of infantry to tank units should be a minimum of one to one with a preponderance of infantry if possible. The infantry is there to protect the tanks from short range bazooka and to assist in protecting the objective from an infantry counterattack.¹¹

Line formation. It is believed most practical for units to cross the line of departure in the formation that they will maintain to the objective. Due to the close proximity of the objective there is very little time to deploy on the battlefield. Deployment in darkness will probably result in a great deal of confusion. At the very least it would be the introduction of a complicated maneuver to an operation which demands simplicity. It has been found on the battlefield and in the testing field that the formation most easily controlled, safest to the infantry, and easiest to maneuver over the ground is the line formation. Any additional troops or vehicles can be placed behind this leading wave in a formation permitting them maximum control.

Methods of Control

Control is emphasized during movements at night; therefore positive means of communication, identification, and maintenance of control must be established. The distance to the objective, which is definitely limited, and the speed of movement are less than in daylight. Routes are marked carefully and guides are posted by the leading elements to prevent successive elements from becoming lost. To retain control and to prevent the assault echelon from being endangered by friendly protective fires, the unit commander establishes a limit of advance, both in depth and to the flanks of the objective. This limit should follow terrain features which are

recognizable at night. Troops do not advance beyond this limit because the protective fires to isolate the objective are planned just beyond it. Coordination and control must go hand in hand and it is achieved by designating a base unit, by providing positive means of identification such as requiring that leaders wear a white band on the upper arm, by designating the routes of advance and boundaries which are easily distinguished in the dark, by prescribing the rate of advance, by carefully selecting objectives and by various other means as discussed below.

Battlefield illumination with searchlights. When properly employed, battlefield illumination is extremely effective in facilitating coordination and control. Care must be exercised to ensure that enemy positions and installations rather than the attacking elements are silhouetted. Battlefield illumination by searchlight is divided into two classes; direct lighting and indirect lighting.

1. Direct lighting. Searchlights are placed in positions from which the light beams can shine directly on the area to be illuminated. The light intensity obtained in the area by this means varies according to the range, the number of lights employed, the atmospheric conditions, and the presence of smoke and dust. Under good conditions, this light intensity approximates that of daylight. This method normally is used for target designation, adjustment of fire, observation of an area, blinding effect on the enemy, and deception. Direct lighting by searchlights is not practicable in all situations or for prolonged periods because the hostile reaction will be

immediate and violent.

a. Capabilities of tanks with searchlights mounted on them. During World War II a tank battalion with searchlights mounted on the turret was organized under the supervision of General Holley.¹² Some of the capabilities of this battalion were as follows.

- (1) Could be used offensively day or night.
- (2) Illuminated ground at night for 800-1500 yards well enough for individual enemy movements to be detected; could also bring aimed fire on the enemy.
- (3) Source of light protected by armor (small arms and fragments).
- (4) Dazzled enemy by hampering his aim.
- (5) Provided protective coat of light for tanks and infantry making the attack; concealed from aimed fire.

b. Limitations of the tanks with searchlights mounted are:

- (1) Difficult to maintain direction at night without suitable terrain and adequate preparation.
- (2) Coordination with supporting and adjacent troops difficult to maintain at night.
- (3) Must have uninterrupted line of sight to the objective.
- (4) If fog, smoke, and dust were dense, beam could not penetrate, and make a target of the light.
- (5) Source of light was plainly visible from aircraft.

c. Mission. The primary mission of the tanks with searchlights mounted was to provide illumination for aimed fire in night operations. The fire power, dazzling effect, and secrecy provided by the triangle of darkness were all secondary.

d. Guiding principles to be employed by a tank unit with lights mounted.

(1) Searchlights provide illumination for aimed fire for final assault.

(2) Searchlights not to be exposed by illumination except when friendly troops desire aimed fire, when it is necessary to counteract enemy fire, or when deception or diversion is desired.

(3) Should not ordinarily provide illumination for maneuvering. Conduct any necessary maneuvers in darkness.

(4) Searchlight tanks and supported troops should move as close as possible to objective before opening shutters. When following a barrage, dismounted troops follow as close as the situation permits.

e. Planning a tank mounted searchlight attack. Simplicity of plan, careful preparation, secrecy, and cohesion of execution are prerequisites of any coordinated attack. No important attack undertaken at night should be so organized that its success is directly dependent on tank mounted searchlights to dazzle the enemy or to provide concealment for the troops. In planning night operations involving tank mounted searchlights, commanders concerned should first plan and organize the operation as an ordinary night attack; then fit the searchlights into

it where they can most effectively provide the illumination for the aimed fire of the attacking troops. Commanders of supported troops must confer with the commanders of the tanks mounting searchlights and agree on the following:

- (1) Objectives and areas to be illuminated (priority and sequence).
- (2) Schedule of illumination (time and distance).
- (3) Plan for searchlight support and its coordination with attacking troops to include fire support provided by tanks mounting searchlights, flank security, reserves, and action to be taken on arrival at objective.
- (4) Action to be taken should smoke be used.
- (5) Signal operation instructions.
- (6) Decision on how close the searchlight tanks

should advance to the objective such as:

- (a) Take part in the final assault.
- (b) Support assault by fire and illumination until objective is secure.

f. Methods of advance. The line or the echeloned flank should not be restricted by lateral boundaries, and should have priority of movement. Maximum advantage of dusty conditions should be taken by forming an echelon from leeward to windward, leeward element moves first. The following methods are useful for advancing.

- (1) Move tanks mounting searchlights by short bounds.
- (2) All tanks mounting searchlights advance at once.

g. Use of smoke. Smoke is extremely effective as a countermeasure against searchlights, mainly because it outlines the source of the lights. As soon as tanks with searchlights mounted contact smoke, the lights should be doused while the tanks proceed through the smoke and turn the lights on again on the other side.

2. Indirect lighting. Searchlights are placed in defiladed positions, and the lighting effect is obtained either by reflection of the light beams from clouds above the area to be illuminated, or by diffusion of the beams projected over the area. The same general factors governing the intensity of light obtained by the direct lighting method determine the intensity of light obtained by the indirect lighting. Under good conditions this light intensity is approximately that of a half moon. Indirect lighting normally is used to aid movement to assembly areas and attack positions, movement forward of the line of departure, observation and control of the attack, and movement of reserves and supplies. Since the searchlights are placed in defiladed positions this method of lighting can be used for relatively long periods of time.

Illuminating shells. When the battlefield is illuminated by flares, they may be fired by mortars, artillery, or they may be dropped from aircraft. The intensity of light obtained depends on the type, size, and number of flares used. When parachute flares are used, particular attention is paid to wind velocity and direction to prevent the flares from drifting above or behind the assault force, thus giving the defender a distinct advantage. Parachute flares usually are fired or dropped over or behind the hostile position to outline the position for the assault

troops. Large numbers of flares are necessary to provide continuous illumination during a night attack. Therefore it is necessary to have a sufficient number available if their use is contemplated.

White phosphorous shells. White phosphorous shells may be fired on and immediately beyond the objective.

Tracers. Tracers may be fired from weapons such as 40-mm dual purpose AA guns in selected positions on either flank of the assault force. Diversionary methods should be employed along with tracers to prevent the directional guns from outlining the flanks of the assault force. During WW II, the Canadians made a successful night attack at Caen, on the Brittany Peninsula, using this method of control in conjunction with white phosphorus shells on and beyond the objectives.¹³

Infra-red devices.¹⁴ Infra-red devices actually are still in the development stages at this writing, but various methods for driving and gunnery usage have been tested. Some of the basic tactical aspects of these two devices as a means of control are as follows:

1. IR driving. The use of IR tank driving equipment will facilitate the movement of tanks in tactical marches at night and in movement to assembly areas and to line of departure during hours of darkness preceding night or dawn attacks. It is most important to realize though that movement of tanks across open country will require prior reconnaissance and marking of routes.

2. IR gunnery. Basically, it is believed that offensive tactics will be formulated along the following lines. Long range infrared equipment mounted on a suitable vehicle or vehicles will

search out and designate targets to fighter tanks equipped with IR gunnery equipment of somewhat more limited range capabilities. The IR equipped fighter tanks will then move to within the effective range of their gunnery equipment for delivery of assault fire as part of a combined arms attack.

3. Governing factors effecting the employment of these infrared devices as a means of control.

a. Capabilities. The IR equipped tank, in addition to possessing those characteristics of a normal tank, also possess the following characteristics.

(1) The IR equipped tank can be utilized in offensive and defensive roles by day or night. Time to install or remove equipment is not excessive.

(2) Its illumination sources cannot always be detected without the use of special equipment; however, there is a visual security range beyond which the beam cannot be detected.

(3) Its crew can detect and bring aimed fire on enemy troops without the use of visible light radiation.

(4) Its crew can detect targets to a range of 400-600 yards depending on atmospheric conditions, i.e., smoke, dust, snow, etc.

(5) The equipment enables the user to gain surprise over the enemy providing the noise associated with the power generators is reduced.

b. Limitations. The following limitations considered with the capabilities of the IR equipped tank will dictate the manner

of employment.

(1) Direction at night is difficult to maintain without adequate preparation and suitable terrain.

(2) Supporting troops must have special equipment in order to utilize the IR illuminations.

(3) Coordination with adjacent or supporting troops will be difficult to maintain.

(4) Fog, smoke, or dust raised by vehicles, shell fire, or chemicals materially reduce the "seeing" range.

(5) Camouflage is partially effective against IR vision.

4. General considerations in the use of IR equipment as a means of control at night are threefold.

a. It is essential that troops who use and support IR equipped tanks be carefully trained to make the best use of this unusual form of support.

b. An attack on a dark night which completely utilizes IR will suffer from the great disadvantage that every man included in the action must have special equipment to enable him to make use of the illumination provided.

c. Since orientation using IR equipment in cross-country operations is difficult to maintain, action against only limited objectives is indicated.

Headlights, compass, and landmarks. These three measures are best utilized in conjunction with each other; however, it may

either be necessary that they be used simultaneously or that they be used in phases. In the event that they are used in conjunction with each other, the attack in all probability will be against an unlimited objective, i.e., a raid, or a town or village some distance from the present location of the attacking force. In this situation, the attack will commence with the use of the compass. If there are any landmarks on which to guide, successive compass readings will be used to reach them. When the enemy is encountered, every vehicle driver by means of a prearranged signal will switch on his headlights. With this boldness as a measure of surprise and with the swiftest movement possible, the enemy will be engaged and overrun. Related below is an example of how the russians used this method with great success during their offensive of 1942 and 1943.

Near Perelazovsky, Russia in 1942, the Russians were slowly forcing the Germans to give ground. In this particular incident the Russian tanks entered the battle straight from the march, crushed the German resistance, and by moving with ever increasing speed passed over the German's second defensive line. Movement over the broken ground of the "Steppes" required much time. Day faded into darkness but the tanks continued to push forward. Vehicle lights were switched on and by using the compass in conjunction with headlights, the tankers literally sailed the blizzard swept "Steppes." The strong wind swept up snow which covered the visors and windshields of the trucks.

Finally, the tanks reached a State Farm, which was the first landmark. The Germans had been on this State Farm, but they had fled, and the stores which they had left on fire served as a lighting tower for the Soviet column.

The tanks continued to press forward. Enemy artillery opened fire from somewhere to the right, and then the tankers switched off their lights.¹⁵

When the compass, landmarks, and headlights are used in phases, it will be against a limited objective. As an example, the attack may

commence with a compass reading taken on a distant landmark which is in the line of advance. At a point predetermined either by the distance to be traveled or by a visible landmark between the LD and the objective, the headlights of all vehicles will be switched on. This is a bold means of surprising the enemy and it must be coupled with the swiftest movement possible in engaging and overrunning the enemy on the objective.

These measures of controlling movement onto the objective during a night attack require accurate and detailed planning and the utmost in coordination.

Communication. As a means of control, three types of communication are available. These must be used with discretion and they must be prearranged. Generally a unit SOI will cover the prearranged code to be utilized when any of these methods are employed.

1. Pyrotechnics. Pyrotechnics are planned and used if necessary. The decision to use such an alternate means prior to the actual assault, or upon the discovery of the attack is the commander's decision. It is absolutely necessary that all commanders know the signals being used for the attack. This includes signals for calling for and lifting supporting and protective fires.

2. Visual communication. Visual communication is used in the illuminated night attack the same as in an ordinary daylight attack. In a non-illuminated night attack, visual communication consists of devices such as filtered flashlights, luminous devices on individuals, and luminous markings on vehicles.

3. Radio. Radio is the primary means of communication and control for a successful armored night attack. Alternate channels must be set up and every precaution utilized to keep this vital means of control in operation throughout the attack.

SUMMARY

In planning the night attack, the elements to be considered are great in number and must be studied and coordinated to the last minute detail. The positions to be considered are the assembly area, the attack position, the line of departure, and the objective. After considering the positions the commander must decide upon an axis of supply and evacuation, the type formation to be used, and the methods of control which will best facilitate a positive means of communication, identification, and maintenance of control. He must study the ramifications of each of these items in light of the enemy situation, the weather and terrain, his own troops available and his mission. The more control measures utilized, the less danger there is of failure due to a single malfunction. Infra-red, tank mounted searchlights, artificial moonlight, artillery and mortar illuminating shells, and luminous badges are all worthy of careful consideration.

NOTES FOR CHAPTER 3

¹Lt Colonel George Bibb Pickett, Jr, 023932, "Tanks in Korea": 1950-1951 Armor (Nov-Dec 1951), p 12.

²Personal letter, Major General J. H. Collier, 012388, Inspector of Armor, OCAFF, Fort Monroe, Virginia, 7 Dec 1951.

³FM 100-5, Field Service Regulations, Operations, 1949,
p 98.

⁴Personal letter, Major George M. Seignious, 047226, Bn
Cmdr 44th Bn, 82d Airborne Division, 17 Nov 1951.

⁵Major General Robertson, 03378, "Combat Operation #29, Hq 12th
Army Group," Aug 1944, p 1.

⁶Personal letter, Lt Colonel Thomas C. Chamberlain, 023145,
Bn Cmdr 11th Tk Bn, 10th Armd Div WWII, 11 Jan 1952.

⁷Ibid.

⁸Ibid.

⁹Personal letter, Major General J. H. Collier.

¹⁰Personal letter, Major General Bruce C. Clarke, 016068,
CG, 1st Armored Division, 4 Dec 1951.

¹¹Personal letter, Lt Colonel William R. Tuck, 024444,
Commander, 1st Battalion, 1st Armored Division in WWII, 2 Dec 1951.

¹²Commanding Officer, 9th Armored Group, "Searchlight
Tactics" (Combat Vehicle Section, Army Field Forces Board No. 2,
Fort Knox, Kentucky, 19 May 1944).

¹³Author is unknown Canadian Officer, "The Night Attack with
Guiding Aids," (The Armored School, Document Section, Fort Knox,
Kentucky), p 1.

¹⁴Army Field Forces Board No. 2, "Infrared Equipment"
(Combat Vehicle Section, Army Field Forces Board No. 2, Fort Knox,
Kentucky, 27 Nov 1951).

¹⁵Colonel Peter Ribakov, Red Army, "Soviet Night Attack
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CHAPTER 4¹

PREPARATION FOR THE NIGHT ATTACK

General

In view of the considerable difficulty to be encountered in taking full advantage of the characteristics of mobility and effective aimed fire in making a night attack with a tank unit, plans must be drawn up with care, and preparations made in great detail. General Fuller has said "the attack will demand considerable preparation...the plan should be as simple as possible."² Consideration should also be given to assuring complete coordination between the units and arms taking part in the attack.

Actions of the Commander

Coordination. As soon as a commander knows that his unit is to make a night attack he must give first priority to alerting all personnel and units concerned for the proposed operation. For all units involved this alert can take the form of a warning order to include the nature of the operation (with a definite statement of the mission), the amount and type of reconnaissance to be made by commanders and key personnel, the time for submission of recommendations from these commanders, and the time and place to report for orders. The warning order should also include at least a proposed task force or team organization in rough outline form for planning purposes.

Most of the actions of organic units, upon receipt of the warning order, will be determined by SOP's, but non-organic units

will require certain additional information. Units to be attached for the operation should be told the location of the unit to which they are to be attached and the time and details for joining. All supporting units for the operation, such as engineers and artillery, should receive, in addition to the warning order, notice of any special requirements to be made of them which are known at this time. Special liaison matters such as flank contact, security, and routes for return in case the attack is unsuccessful must be arranged with adjacent units. Friendly units to be passed through as the organization moves into the attack must receive information as to the mission and must be alerted for later details of passing through.

The key personnel who are to assist in planning the attack must receive not only the information contained in the warning order, but also be told what information and assistance is expected from each of them, and what jobs are to be done in preparation for the attack.

Reconnaissance. Map reconnaissance of the area for the attack, to include the use of aerial photos, should be initiated immediately by the commander and his key personnel. This map reconnaissance is used to determine the following features.

1. The critical terrain in the area and its influence on the attack.
2. The probable objective for the attack and routes of advance to the objective.
3. Possible locations of enemy obstacles such as mine fields which would have to be breached prior to the attack.

4. Probable locations for enemy strong points, antitank weapons, main line of resistance, and reserve elements.

The commander and his key personnel will next conduct a route reconnaissance of the roads to the area for the attack, and a detailed visual reconnaissance of the terrain over which the attack will pass from both observation posts and liaison planes if available. During his reconnaissance the commander should select the routes to the attack position, the attack position, the line of departure, the ground over which the attack will be made, the boundaries for the attacking forces, and the objective for the attack. The visual reconnaissance should be made both in daylight and during the hours of darkness, preferably extending over that twilight period when the relationship between the appearance of terrain in the daytime and its appearance at night can best be appreciated.

Subordinate commanders and key personnel - to include all tank crewmen if possible - should make a reconnaissance of the area for the attack from an observation post so that the terrain over which they are to attack will be completely familiar. The reconnaissance made by vehicle commanders and drivers should include a walk over the route from the attack position to the line of departure to insure a thorough knowledge of the route.

Dismounted patrols, made preferably at night to maintain secrecy, should be used to obtain detailed information of both the terrain and the enemy dispositions. The night patrols must be carefully controlled both as to number and area of patrolling to prevent

arousing the suspicion of the enemy, thereby losing the important element of surprise.

Additional required information can be obtained from interrogation of prisoners of war, interpretation of captured documents, questioning civilians, friendly units in the area, or from intelligence sources at higher headquarters.

Estimate of the situation. When a complete reconnaissance of the area has been made and all the available information of factors which might affect the attack has been assembled, the S2 and S3 of battalion sized units and larger prepare an estimate of the situation based on the broad statement of mission which the commander had previously issued. This estimate carefully outlines the situation with which the commander is confronted, and presents him with facts upon which a decision can be based. (See Appendix for sample check list.)

Plan of attack. When the commander has rendered his decision as to how the attack shall be made, the commander and his key personnel prepare, in great detail, the plan of attack. In addition to determining the organization for the attack, the scheme of maneuver, and the role of all the attached and supporting units in the attack, the plan should include measures to insure coordination, control between supporting and maneuvering elements, security, secrecy, and communication. The planning should be as complete as possible, to include actions in case the attack is unsuccessful.

Attack order. The order issued for a night attack must implement in detail the plan which has been prepared (see Appendix for sample attack order check list). Only the minimum time required to properly prepare plans and orders may be allowed at any headquarters in order that all subordinates may have the maximum amount of time possible to make their preparations.

The order should be issued at an observation post from which the terrain can be seen. Then the order must be completely explained to all personnel, using maps, charts, sand tables, and any other available aids, so that no one can fail to understand any phase of the attack.

A copy of the attack order should be sent to all attached and supporting units in addition to organic units, and final arrangements consistent with the order must be made with adjacent units and units to be passed through.

The time for the attack will not be made known until the last possible moment consistent with smooth operation in order to maintain secrecy and achieve surprise with the attack.

Subordinate Commanders' Coordination

When the order has been issued, the commanders of the subordinate units bring their units together to form the prescribed teams for the operation. During this process the commanders should get to know each other and determine the SOP's of employment which they will need to use for the particular operation. All radios must be netted to secure proper communications for the units. Mutual

recognition schemes must be developed to include the use of filtered flashlights or wands, white tape or bands, and luminous discs or markings on vehicles and helmets. Personnel, equipment, and vehicles should be made difficult to see in the dark from the front. This can be accomplished by covering light parts of vehicles with mud, and by having personnel blacken their faces and wear dark clothing with no shiny metal showing to the front.

A detailed rehearsal of the night attack should be conducted whenever possible. The rehearsal would be particularly valuable if conducted at night over terrain similar to that over which the operation is to take place.

Movement to the Attack Position

The attack position for a night attack will normally be some distance forward from the assembly area, preferably very near the front lines of the friendly unit to be passed through. If the commander feels that sufficient factors exist which might make the movement of his units from an assembly area to an attack position undesirable, he can use the assembly area as the attack position for his units. However, if the assembly area is to be used as the attack position, all movement in the area must be made with great stealth and the camouflage of positions becomes very important to preserve secrecy.

Formation. A column formation will normally be used for the movement from the assembly area to the attack position. The order of march in the column is selected to maintain security and

facilitate the movement of the units into previously selected locations in the attack position. Drivers of tanks should idle their vehicles into position to lessen noise and eliminate the visible flame from the exhaust.

Control. To control the movement to the attack position under the cover of darkness, minimum distance (visual distance) will be maintained between vehicles in the column, and visual signals with filtered flashlights or wands used to direct movement. Guides or route markers will be used at all places along the route where vehicles might make a wrong turn, and dismounted guides used to lead vehicles into position wherever necessary.

Security. To provide security for the organization both during the move to the attack position and as long as it stays there, security detachments should be posted to the front, flanks, and rear. Eating and resupply should be accomplished prior to the move into the attack position in order to hold noise to the minimum and prevent unnecessary movement. No lights or smoking will be permitted in the attack position.

Summary

Units which are to participate in a night attack should receive advance notice in the form of a warning order at the earliest practical time. Based on the information received, commanders should immediately initiate the required reconnaissance, both map and visual, to obtain the information necessary to make their estimates, formulate their plans, and issue their orders. The planning for a night attack must be as complete as possible, and detailed orders should be issued to all the units involved. Subordinate commanders then accomplish the necessary

preparations of personnel and equipment for the attack. The movement into the attack position will normally be made in a column formation, with minimum distance between vehicles and units; and will employ markers and guides for control, and security detachments to the front, flanks, and rear to provide security.

NOTES FOR CHAPTER 4

¹The troop leading procedures recommended in this chapter are based upon, and are in agreement with, the procedures prescribed in the following Department of the Army field manuals:

FM 7-10, Rifle Company Infantry Regiment, October 1949.

FM 7-17, The Armored Infantry Company and Battalion, March 1951.

FM 7-20, Infantry Battalion, March 1950

FM 17-32, Tank Platoon and Tank Company, March 1950.

FM 17-33, Tank Battalion, September 1949.

FM 100-5, Field Service Regulations Operations, August 1949.

FM 101-5, Staff Organization and Procedure, July 1950.

²Major General J. F. C. Fuller, Armored Warfare (Harrisburg: The Military Service Publishing Company, 1943), p 61.

CHAPTER 5

CONDUCT OF THE NIGHT ATTACK

General

The attack is considered launched when the attacking force crosses the line of departure, but the control has already become decentralized when the attacking force leaves the attack position. This position has been occupied for only those few minutes necessary to receive any last minute instructions or to redistribute special supplies. Usually, however, this pause is occupied by each unit commander to check the status of his unit, its formation, morale, and discipline. This is his last chance to insure that his unit does not go off "half-cocked." Up to the attack position he has relatively complete control. He knows that from here on his control will become sharply curtailed due to decentralization. Each commander should, if possible, check with his subordinates to insure that the darkness has not been so confusing as to cause a loss of direction.

Units must avoid forming habits of attacking at the same time each night. However, if it is desired to have sufficient time to reorganize to resist counterattack on the objective, the attack will probably be launched before midnight. If the night attack is to be part of a general dawn offensive, it will probably be launched after midnight allowing just enough time to complete seizure of the objective before continuing the attack with the general dawn offensive.¹ The hour at which the attack commences will depend on

the objective and the overall mission of the next higher command.²

Fire and Movement

Fire. The infantry units holding the front lines may initiate the firing which starts the attack on signal from the armored commander. This is done because the armored commander desires that the attack be launched with maximum violence by use of all firepower available and also because he realizes that when the line of departure is behind front line units, friendly forces will mask some of his own fires. Here also, regardless of whether the artillery preparation has been omitted for surprise, the artillery should commence firing its planned concentrations for casualty effect and to provide a guide for attacking troops to the objective. The front line troops, by prearranged plan should cease fire of direct fire weapons as the attacking force passes through their lines. A feint might be made at one or more spots up and down the line, complete with vehicles, artillery, illumination equipment, and any other distractions to keep the enemy ignorant of the location of the main attack as long as possible. This firing should be part of a general increase in firing all along the front.

Movement. The movement from the line of departure to the objective must be planned in straight lines wherever possible. Changes in direction should be included in the planning only if the point of change is some well defined terrain feature such as a steep hill, road, railroad, stream, or other feature recognizable in complete darkness, and even then is a dangerous undertaking.

This generally precludes the use of any maneuvering element separate from the main body due to added difficulties in control and recognition. Therefore it seems that the key to tactical planning for the night attack is the frontal assault. The present trend of thought points toward illuminating shells on the objective as the most reliable method for maintaining direction. This is due to the accuracy with which this guide may be placed by the artillery. However, it is of most value when used in conjunction with the other illumination and direction finding equipment previously discussed.

Methods of Advance

Transportation of Infantry. Since the night attack is characterized by the limited objective which makes the distance involved relatively short, the infantry will not normally take its personnel carriers forward of the line of departure initially. This leaves the alternative of walking or riding on the back decks of the tanks. The attaching distance will usually be from about 700 yards to 2000 yards. This distance is based on the contention that the minimum distance between stabilized opposing forces will be just out of effective rifle range, and that a strong point deeper than 2000 yards will require a penetration rather than a limited objective type of attack.

The small unit teams will be formed in the assembly area and should remain a closely knit combination until daylight at least. This night unit is a closer bond than daylight teams have due to the shorter intervals, discarding of the personnel carriers, and a more intimate

relationship between the tanks and infantry.³ In this close relationship lies the key to successful control at night. The infantry may ride the tanks from the assembly area or attack position to the line of departure and in some situations it may be desirable to delay initial firing which will allow infantry to ride tanks past the line of departure until it is necessary to commence firing.

When dismounted, each individual infantryman must be assigned a specific tank to accompany rather than follow another individual. This tank should have a separate and distinct signal light or luminous device to facilitate specific identification. The speed of tanks must be adjusted to the speed of the infantry and sufficient interval maintained between tanks to allow the infantry to fire between them.

Maintenance of control and direction. Maintaining coordination and direction is the function of the tank unit. The tank driver must be particularly alert to maintain his position and interval. The armored unit commander must follow his unit close enough to direct its movement and control its fire, but far enough back to prevent becoming locally involved so that he is prevented from fulfilling his primary mission of supervision of the entire unit. The tank machine guns must be fired continuously to clear the route, keep the enemy under cover, and aid the progress and add to the morale of the infantry. The tank commander must keep close contact with the squad leader. This squad leader may ride the back of the tank while controlling his squad. By coordination with the tank commander, he may sometimes fire the .50 cal machine gun and by use of its tracers he may direct the fire of

his squad. The squad leader and the tank commander must coordinate so that the tank does not outdistance the infantry and each must support the advance of the other.

The line formation is preferred in night assaults, however, with the use of direct illumination with CDL and searchlights. The same formations may be used that would normally be preferred during daylight. However, any variation should not stray far from this basic line formation since there is always a possibility of lighting failures in which event the attack must continue in darkness.

Actions Upon Reaching the Objective.

Tanks reaching objective before the infantry. If illumination is particularly effective and the terrain is favorable, the infantry may halt within assaulting distance while the tanks proceed to the objective at greater speed buttoned up and under continued high artillery air-bursts. The infantry may continue small arms and 60-mm mortar fire in support of the tank assault. As soon as the tanks pass through the objective to their assigned sector of defense, the artillery is shifted to rear and flanks on previously plotted likely avenues of approach to harass any retiring enemy and to guard against counterattack. At this time the infantry initiates its assault employing marching fire. It moves swiftly through the objective searching out bazookas and other AT weapons and eliminating any remaining organized resistance. It then rejoins the tanks.

Infantry reaching objective before the tanks. If illumination is not effective or if obstacles are present, tanks may halt short of the objective and overwatch the infantry assault after the artillery has shifted to rear and flanks.

Tanks and infantry reaching objective together. If knowledge of the terrain and enemy situation is vague, tanks and infantry may keep close formation and assault the objective together. This is the method recommended here as this keeps the team organized and ready to continue the attack or defend itself in complete darkness in the event of lighting failure or unexpected reverses.

Reserve

It is not felt that a reserve or uncommitted force can be effectively utilized in the night attack except with extremely effective lighting conditions. If lighting is good the reserve can be employed the same as in daylight operations; but since it is good policy to plan for any eventuality as regards artificial lighting, maximum force should be thrown into the initial assault at the expense of the reserve provided the objective is wide enough to justify the use of the entire force. If a reserve is constituted, it will move out of the assembly area and occupy the attack position. It will remain there until the objective is taken. It can then move forward to assist in the reorganization on the objective.

Summary

As a general guide in the conduct of the night attack, the time of the attack will vary according to the mission and also to avoid

establishing a regular pattern. For more detailed coordination and liaison with front line troops is required than in daylight attacks. Changes in the direction of attack are dangerous. The infantry will normally leave the personnel carriers in the assembly area and ride the tanks to the line of departure. The tank unit commander is primarily responsible for the maintenance of direction. His most reliable guide is artillery illumination of the objective. The infantry must stay with the tanks in the attack. A reserve is normally useless in conducting a night attack.

NOTES FOR CHAPTER 5

¹Research report prepared by committee No. 21, "Armor in the Night Attack" (The Armored School, Fort Knox, Kentucky, 1949-1950), p 11.

²Nicholas Corotneff, USSR, "Tanks in Night Combat," The Cavalry Journal, (July-August, 1943), p 48.

³Lt Col W. D. Duncan, "Tanks and Infantry in Night Combat," The Armored Cavalry Journal, (January-February, 1948), Passim.

CHAPTER 6

REORGANIZATION

General

Once the objective has been reached and overrun by the attacking forces, plans for holding the position which were formulated along with plans for the attack, are put into effect.¹ The degree of change necessary in these plans after taking the objective will be inversely proportional to the thoroughness and foresight with which the plans are made. Conversely, the change in these plans will be directly proportional to the unanticipated reaction of the enemy to the attack.² While the attacker has no control over the enemy's reaction, this same enemy's earlier reactions under similar conditions will give an indication of what he may do. Plans for the reorganization and defense of the objective, however, are completely dependent upon the attacker's skill and thoroughness. Maps, aerial photographs, and aerial reconnaissance will all contribute materially toward the planning of the defense for a piece of terrain which the "would be defender" cannot personally reconnoiter on the ground.

The theory is offered by some that difficulty in maintaining direction at night and unpredictable enemy reaction make specific plans for reorganization on an enemy held objective impractical; and, consequently, that tank-infantry teams should set up immediate defenses wherever they end up on the objective. This requires the commander and his key subordinates to tie in these defenses during the reorganization so that the entire objective is adequately pro-

tected.³ This theory should be a contingency which all teams will be prepared to meet in the event some unit is prevented from reaching its assigned objective, is cut off, loses its direction, or fails in the accomplishment of its share of the overall mission.⁴ But it is emphasized that this alternative only becomes necessary when the commander's plan, for one reason or another, is not carried out as designed. A complete plan should still be made so that if all goes well, the need for the issuance of further orders and reorganization on the objective will be held to a minimum.

Organization of the Defense

Tanks and crew served weapons. The defensive plan should, where possible, designate not only the area of responsibility of the various teams of a unit, but the specific location of tanks and automatic weapons covering likely avenues of approach to the objective.⁵ It is the duty of the team commanders to check to see that the tanks and automatic weapons are in the correct position on the objective and that the crews know their mission; and where necessary, to move an incorrectly placed tank or weapon without delay into its assigned position and reorient the crew. Where it becomes apparent on the ground that a position should be changed from that called for in the defense plan, the change should be made and details of the change sent through channels to the commander of the operation. When combat losses in the attack leave key positions open, tanks occupying less vital positions should be moved into the more vital ones and a rocket launcher team placed in the less key position until

The next higher commander can be notified and provide a tank for that purpose.

Infantry. The same infantry which accompanies a tank in the attack should go into defensive positions in the vicinity of that same tank on the objective.⁶ This does not mean that all of that infantry must dig in at the base of the tank. A portion of the infantry should remain in the proximity of the tank to continue to provide close protection. The remainder should be utilized to establish contact with elements to the left and right of the tank and thus seal the all-around perimeter defense. Still other portion of this same infantry should be sent out to establish listening outposts. These must be far enough out to prevent the enemy from forming for a counterattack within assaulting distance of the newly captured position⁷ until reconnaissance elements can be sent forward to re-establish contact with the enemy.

Security. If the enemy should continue to withdraw when driven from the objective it is difficult for the attacking unit to maintain contact with patrols sent out before dawn, due to the difficulty of organizing and briefing the patrols and coordinating their passage through friendly lines still in the process of organization.⁸ In addition, protective mortar and artillery adjustment by our observers would be likely to inflict casualties. However, reconnaissance elements should be sent out as soon as possible to re-establish contact. Prior planning will simplify the necessary coordination.

Reserve. The composition of tank-infantry teams should not be changed during the hours of darkness once the attack is launched.⁹ This necessitates the consideration of the defense of the objective in the organization of the various teams for the attack. Infantry with some tank support will be needed to hold the objective, and a tank-infantry team will be needed as a supporting force on the objective ready to repel an enemy penetration. While this reserve team may, and normally will, participate in the attack, it will withdraw to a previously designated assembly area within the perimeter defense on the objective at the same time the other teams are going into their previously determined defensive positions on or near the objective.

Counterattack plans. Alternate plans for repelling enemy counterattacks will have been prepared and included in plans for the reorganization.¹⁰

Speed. As soon as the enemy realizes that his troops have been driven from the position, the vicinity will probably be subjected to shelling by hostile artillery and mortars.¹¹ Thus reorganization on the objective must be immediate so as to be as advanced as possible before it is subjected to this interference.

Reports. The commander notifies his next higher commander upon seizing the objective. Should he have no orders as to future operations, he requests them at this time.¹²

Command post. The command post is set up in an easily recognized, centrally located position as designated in the attack

plan.

Artillery and mortars. Artillery and mortar observers should begin to adjust defensive fires as soon as they arrive on the objective. Adjustment by sound may be necessary.¹³ Illuminating shells fired at irregular time intervals from 500 to 1000 yards in front of the position will help to disorganize and minimize the effect of an enemy counterattack before dawn.

Terrain. While frequent mention has been made of organizing the objective for defense once the enemy has been overrun, it is conceivable that the attacker may utilize entirely different terrain in organizing his defenses from that used by the enemy. So long as this is taken into account in the prior planning, it makes no difference in the scheme of reorganization.¹⁴

Resupply and Evacuation

Resupply. Tank commanders and squad leaders report on casualties, prisoners of war, and ammunition and fuel status to their platoon leaders at the earliest opportunity. This information is consolidated and passed on at successive echelons so that all commanders remain informed of the situation.¹⁵ Since night attacks are normally made against a limited objective, immediate fuel resupply should not be necessary. If insufficient ammunition remains to ward off a counterattack, resupply must begin at once, but the rapidity of a night attack normally makes it economical as regards ammunition expenditure.

Evacuation. Evacuation of the seriously wounded and recovery of vehicular casualties begin immediately. Evacuation of prisoners of

war and resupply will normally wait until daylight. From the beginning of the night attack until the lines are reconstituted the next day, no definite front line exists. Personnel and vehicles moving between the objective and the line of departure may either lose their way or be mistaken for by-passed or infiltrating enemy and be fired upon by friendly troops in the darkness.

Summary

In reorganizing on the objective, implementation of carefully considered plans is the keynote. Adjustments in these plans can be made as necessary. Tanks and crew served weapons are assigned specific locations with definite avenues of approach to cover. Commanders must check to be sure the weapons are properly located and the crews are properly oriented as to their mission. The infantry which accompanies a tank in the attack should take up defensive positions in the vicinity of the same tank, being careful to establish contact with the next position on each flank. Security is achieved primarily by sending out listening posts far enough to prevent the enemy from forming for counterattack within assaulting distance of the position and by illuminating the surrounding area from time to time with artillery and mortar illuminating shells. The integrity of the tank-infantry teams should be maintained at least until daylight. A predesignated team, which has participated in the assault, will be withdrawn to a position within the defended area from which it can either support the teams on the perimeter by fire or counterattack. Counterattack plans should be made before the night attack is launched. Speed in reorganization is

essential. Commanders must render frequent progress reports at all echelons so that all commanders will remain informed of the situation. Artillery and mortars may have to be adjusted by sound in the darkness. Reports on casualties, prisoners of war, and ammunition and fuel status are consolidated and passed on by commanders at all echelons. Resupply will not be necessary normally before daylight. In fact, evacuation of seriously wounded and vehicular casualties will normally be the only traffic entering or leaving the position prior to daylight.

NOTES FOR CHAPTER 6

¹FM 17-33, Tank Battalion, 1949, p 170.

²FM 7-40, Infantry Regiment, 1950, p 170.

³FM 17-33, p 170.

⁴Personal letter, Major General Bruce C. Clarke, CG, 1st Armored Division, 4 December 1951.

⁵FM 7-17, The Armored Infantry Company and Battalion, 1951, p 474.

⁶Personal letter, Major General John H. Collier, Inspector of Armor, OCAFF, Ft Monroe, Virginia, 7 December 1951.

⁷FM 7-17, p 474.

⁸FM 17-22, Reconnaissance Platoon and Reconnaissance Company, 1950, p 96.

⁹Personal letter of Major General John H. Collier.

¹⁰Personal letter of Major General Bruce C. Clarke.

¹¹FM 7-40, p 170.

¹²FM 17-33, p 170.

¹³FM 7-17, p 474.

¹⁴personal letter of Major General Bruce C. Clarke.

¹⁵FM 7-20, Infantry Battalion, 1950, p 191.

CHAPTER 7

SUMMARY

Conclusions and recommendations. Night attacks with armor are not a familiar thing to the American "Tanker" because they have been rarely employed. In almost every instance where Armor made a night attack in World War II, it was a case of necessity. In view of recent events, the committee feels that night attacks with armor should become familiar, second nature affairs, to all "Tankers."

Armored units conducting night attacks must consider all of the elements which have been discussed in the preceding chapters. The most important considerations are:

1. the positions to be occupied.
2. the formation to be utilized in the attack.
3. the methods of control.
4. the preparations for the attack.
5. the method of conducting the attack.
6. the reorganization upon seizure of the objective.

Training in night attacks with armor must be emphasized and stressed in order to realize a greater benefit from their employment and also to increase the tendency to use them when a favorable opportunity presents itself. As has been pointed out in this study, there is a great variance of opinion even among our outstanding armor commanders of World War II as to the methods of attacking at night. However, we can conclude from these various opinions and experiences that attacking at night with armor is an absolute necessity at times.

Some of the advantages gained by attacking at night are:

1. avoiding heavy losses which would be incurred in attacking during daylight.
2. achieving the element of surprise and psychological superiority.
3. being able to exert continuous pressure on the enemy.

Some of the disadvantages of attacking at night are:

1. the plans and preparations are necessarily more detailed.
2. the means of controlling the attack are limited.
3. only limited objective attacks can be planned.

Night attacks require detailed preparation and planning.

Every commander down to include tank commanders and squad leaders should make an extensive reconnaissance both during daylight and darkness. Plans should be prepared for all possibilities and detailed orders, with simplicity as a keynote, must be issued and disseminated to every individual in the unit. In order that all this may be accomplished, the unit designated to conduct a night attack should move into its assembly area about twenty-four hours in advance of the time of attack.

Armor attacking at night loses the element of surprise by stealth; therefore, use of artillery to support the attack should be utilized to its maximum capabilities. It can be used to cover the noise made by armored vehicles when they are moving to the attack position or from the attack position to the line of departure as well as in the support role for the attack.

The time at which the attack should be launched is an element that depends on the mission of the unit. For example, if the attack is to be continued at daylight, the night attack should be launched so as to be completed just before dawn. If the objective is to be held, the night attack should be launched prior to midnight to allow time for reorganization before daylight.

With the advent of various illuminating devices such as tank mounted searchlights, infrared driving devices, and infrared gunnery devices, the method of conducting and controlling a night attack will depend upon the mission, the terrain, the situation, and the troops and material available. If facilities for illumination are available, they should be used. A combination of searchlights, flares, and other illuminating devices if used will give more assurance of continued and uninterrupted control. White phosphorus and other illuminating shells should be placed on the objective and just beyond the objective to mark it during the attack.

In attacking at night with armor, occasions will arise where different types of formations will be required; however, it is felt that the tanks and infantry should approach the objective together. It is most practical for the attacking force to cross the line of departure in the formation with which it intends to assault the objective. The formation most easily controlled, safest to the infantry, and easiest to maneuver over the ground is the line formation with the infantry dismounted between and in back of the tanks. Any additional troops or vehicles may follow the assault wave in column;

however, armored personnel carriers and reserves should remain in the attack position until it is feasible for them to be moved forward.

Various methods of conducting the attack have been pointed out, but it is felt that the best method is for the tanks to utilize their cannon and machine gun firepower to the maximum all the way to the objective. With the infantry accompanying the tanks, the two forces can move onto the objective together.

Reorganization of the objective must be preplanned. A tight perimeter with infantry in front of, around and making contact between tanks; and a tank-infantry team held centrally to add depth to the position is the best method of reorganization of the objective after it has been overrun.

Evacuation of casualties, both personnel and vehicular, should be conducted only as required. Resupply of fuel, lubricants and ammunition should be coordinated with the forward movement of the personnel carriers. In view of the fact that the night attack will be launched against a limited objective, resupply should not be required until dawn.

It is recommended that the doctrine as outlined herein be tested by armored units and incorporated into the appropriate field manuals for future use.

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APPENDIX

ESTIMATE OF THE SITUATION

(CHECK LIST)

(Taken from FM 17-33)

1. MISSION.

What is my mission?

Do I need additional information?

2. SITUATION AND COURSES OF ACTION.

a. Considerations.

WEATHER. Does it affect my mission? If so, how?

TERRAIN. Is there sufficient maneuver room for my tanks?
Where will the ground conditions support tanks?
How do the critical terrain features affect my mission? What obstacles affect the accomplishment of the mission? (Streams, steep banks, woods, mine fields.)

ENEMY SITUATION. Where is the enemy? What type of troops does he have? (Tank, antitank, etc.)

MY SITUATION. What troops are available? (Infantry, tanks, artillery support, engineers.) Are supplies adequate?

b. Enemy capabilities.

What can the enemy do to interfere? (Where, when, how, what strength?)

Attack	Yes	No
Counterattack	Yes	No
Defend	Yes	No

c. My courses of action.

Organization for combat Scheme of maneuver

Plan A

Plan B

Plan C

3. CONSIDER EACH PLAN AGAINST THE APPLICABLE CAPABILITIES OF THE ENEMY.

Such as:	FOR MOST CAPABILITY	SECONDARY CAPABILITY	OTHER CAPABILITY
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Plan A

Plan B

Plan C

4. COMPARE MY PLANS, THEIR ADVANTAGES AND DISADVANTAGES, AND SELECT THE BEST PLAN.

Makes maximum use of tactical effect of terrain, weather

Takes best advantage of enemy situation and capability

Takes maximum advantage of characteristics of troops assigned to me, fire power, mobility, mass surprise

Plan A

Plan B

Plan C

5. DECISION. MY PLAN IS --

WHAT?

WHEN?

WHERE?

HOW?

BATTALION NIGHT ATTACK ORDER
(CHECK LIST)

(Taken from FM 7-17)

CLASSIFICATION

BATTALION NIGHT ATTACK ORDER
(CHECK LIST).

MAPS: Identify maps referred to.

TASK ORGANIZATION: List reinforced tank and armored infantry companies and units therein, units to be kept under battalion control, and composition of battalion combat and field trains.

1. GENERAL SITUATION.
 - a. Enemy forces.
 - b. Friendly forces.
 - (1) Situation and mission of combat command and adjacent units.
 - (2) Supporting units: tanks, artillery, infantry units firing in support, and engineers.
 - (3) Security elements in the vicinity.
2. MISSION.
 - a. A statement of the task to be accomplished by the battalion (reinforced) as a whole; include who, what, where, when, how, and why.
 - b. Details of coordination applicable to the battalion as a whole.
 - (1) Objective.
 - (2) Formation.
 - (3) Direction of attack.
 - (4) Battalion boundaries and, when applicable, company boundaries.
 - (5) Attack position.
 - (6) Line of departure.
 - (7) Time of attack.
 - (8) Limit of advance.
 - (9) Use of illumination.
 - (10) Other means of control.
3. TASKS FOR SUBORDINATE UNITS.
 - a. Use a subparagraph to give specific instructions to each assaulting company.
 - (1) Objective.
 - (2) Formation.
 - (3) Attack position.
 - (4) Route of advance.
 - (5) Mission on capture of objective.
 - (6) Organization of objective.
 - (7) Special security measures applicable to one company.
 - (8) Use of carriers.

- b. Use a subparagraph for specific instructions to the supporting force.
 - (1) Plan of supporting fires during attack, as applicable:
 - Designation of elements.
 - Position areas.
 - Targets.
 - (2) Movement or displacement before capture of the objective.
 - Time of movement.
 - Formation.
 - Method of advance (use of carriers).
 - (3) Displacement or movement to objective after its capture.
 - Designation of elements.
 - Time.
 - Methods.
 - New position areas.
 - Targets or sectors of fire.
 - (4) For elements not displacing, targets or sectors of fire after the objection is captured.
- c. Use additional subparagraphs for specific instructions to any other attachments.
- d. Use the last subparagraph before x for instructions to the reserve. This includes:
 - (1) Initial location.
 - (2) Missions and movement prior to capture of the objective.
 - (3) Missions and movement after capture of the objective.
- x. Instructions common to two or more units.
 - (1) Means of identification.
 - (2) Special measures to maintain secrecy, to include limitations on reconnaissance.
 - (3) Special measures for control and coordination, to include use of engineer tape and illuminating devices.
 - (4) Action when hostile security measures are encountered.
 - (5) Specific orders for night patrolling before the attack and after the capture of the objective.
 - (6) Rallying points in case withdrawal is ordered.
 - (7) Reorganization on the objective and consolidation of the position.

4. ADMINISTRATIVE AND LOGISTICAL MATTERS.

- a. Ammunition supply.
 - (1) Location of the battalion combat trains.
 - (2) Alterations to standing operating procedure for ammunition supply.
- b. Arrangements for feeding.
- c. Instructions concerning tools, wire, antitank mines, and other special equipment when the captured position is to be organized for defense.

5. COMMAND AND SIGNAL MATTERS.

- a. Orders for the use of signal communication.
 - (1) Index to signal operations instructions.
 - (2) Restrictions, if any, on use of radio.

- (3) Special pyrotechnics signals.
- (4) Any special instructions concerning signal communications.
- b. Command post.
 - (1) Location before, during, and after capture of the objective.
 - (2) Location of the battalion commander.

CLASSIFICATION