

23 July 1974

Dear Dave, Tom [Tarpley], Don [Starry], CJ [LeVan], Bill [Maddox], Jack [Cushman] and Hal [Parfitt],

In France in the house of a peasant there is always a pot of soup boiling in the fireplace. From time to time someone throws in a potato, leek, some chicken stock or beef gravy, an occasional carrot or whatever. Over time the soup gets better and better. Everyone can add to it and anyone may partake. I view the attached paper somewhat the same way.

I do not intend to publish this paper as a TRADOC Headquarters publication. I would like to have you discuss it with me or send comments, recommendations or amendments and particularly additions to it. From time to time we will gather to discuss it or aspects of it.

Those parts of it which seem relevant and useful to your business should find their way into your doctrinal manuals and your instruction in both officer and NCO schools and should provide a conceptual basis for the determination of weapons systems requirements. Operational tests, force development tests evaluations and experiments should be conducted in a manner consistent with the tactical concepts on which I hope we can agree through the medium of this paper.

I do not expect or wish to whip up a lot of additional paperwork. I do want the Air Defense School to contribute some obviously missing parts. Treatment of the Engineer aspects are much too thin and I expect some input from that quarter. In short, I want this paper to stay alive and improve, but I want to keep it as an informal TRADOC document which will not see the light of day as a separate official publication. I don't care who sees it or how many copies are made. I just want to keep it like that pot of French soup.

Sincerely,

Incl  
As stated

W. E. DePUY  
General, United States Army  
Commanding

Major General David E. Ott  
Commander, US Army Field Artillery Center &  
Commandant, US Army Field Artillery School  
Fort Sill, OK 73503

TRADOC  
DRAFT CONCEPT PAPER  
COMBAT OPERATIONS

(For coordination and comment  
with School Commandants.)

I. GENERAL BACKGROUND

1. It is in the nature of our democracy and its geographic location that Army Forces sent overseas at the beginning of any war will almost certainly be outnumbered in men and outweighed in materiel and weapons. Furthermore, the quality of the weapons we can expect to face will be roughly equal to the quality of our own. This means that success in those early critical engagements will depend mostly upon the courage of our soldiers, the quality of our leaders and the excellence of our techniques and tactics. It will depend also on whether or not we are convinced - utterly convinced - that we will win. This confidence can only come from training - training supported by a full understanding of the dynamics of the battlefield. Our soldiers must not only understand what to do - they must also understand why it must be done. With this understanding imbedded in the officer and noncommissioned officer corps, the application of the proper techniques and tactics to each unique situation on the battlefield can draw upon the marvelous ingenuity and endless imagination of the American soldier.

2. Warfare has changed - not abruptly but steadily and rapidly. The range, accuracy and lethality of the modern tank cannon makes it at least 5 times as effective as the tank gun of World War II. The antitank guided missile has just appeared on the battlefield and is a deadly weapon out to 3000 meters. Even against rapidly moving crossing targets it can achieve 90% first round hits. The Air Force has introduced smart bombs and the Army will soon have smart artillery shells and helicopter launched precision missiles. But even now the attack helicopter is being armed with the TOW missile and the lethality of artillery ammunition is 4 to 10 times that of World War II. Weapons are equipped with increasingly effective night sights and a variety of sensor

---

The William E. DePuy Papers. Box: Transcripts and Diplomas. Folder: Field Manuals 100-5, 1974-1977. U.S. Army Military History Institute, Carlisle Barracks, PA.

devices are employed to detect forces and equipment on the battlefield. All this means that individuals and weapons systems which are not employed properly will surely be destroyed. In any event losses are apt to be high. The loss of tanks and other combat vehicles in the 1973 Arab-Israeli war is conclusive evidence of the mutual destructive power of modern Army forces when locked in violent combat and fighting for high stakes.

## II. BATTLEFIELD DYNAMICS

3. Modern weaponry has already reached a point where any element which exposes itself on the battlefield can be destroyed unless one of three conditions has been met.

- a. Enemy weapons which could engage the exposed element have been destroyed
- b. Or effectively suppressed
- c. Or the view of the enemy gunners has been obscured by smoke, night, fog or bad weather.

Correspondingly, enemy weaponeers cannot destroy Army combat elements which move or station themselves on the battlefield under the protection of terrain cover or natural concealment.

4. Inherent in this capsulized description of the dynamics of the modern battlefield is the basis for all combat operations. The commander who minimizes his own vulnerability by covering and concealing his own forces while at the same time suppressing or destroying the weapons of the enemy can dominate any battlefield even against much larger forces. This dynamic applies with equal force and logic to units as small as a rifle squad or a tank platoon and to forces as large as divisions and corps. If the rifle squad advances against the enemy with one team delivering suppressive fire from concealed positions while the other team advances by a covered or concealed route, the squad leader has demonstrated his understanding of the basic dynamic of combat operations. If the battalion commander fires artillery on a distant woodline from which enemy antitank guided missiles could destroy his advancing tanks, he too has demonstrated an understanding of combat operations.

If the brigade commander fires his artillery to suppress enemy air defense weapons so the US Air Force can deliver precision munitions on enemy tanks which are holding up his attack, he shows an appreciation of the measures and countermeasures which can tilt the battle his way.

When the division commander directs the division artillery to suppress that enemy artillery which has been firing at our TOW antitank missile teams in order to minimize losses among attacking enemy tanks, we have followed the action/counteraction as far as words can convey the principles involved.

In short we seek to preserve our combat power by reducing its vulnerability by both active and passive measures —

- active measures involving the suppression or destruction of enemy weapons.
- passive measures involving the use of cover and concealment during all phases of combat operations.

### III. OFFENSIVE OPERATIONS

5. Although defensive operations are both required and preferred under certain circumstances, the general outcome of battle derives from the success or failure of offensive operations by one side or the other. Thus we discuss the attack first.

6. Attacking against forces equipped with modern weapons is a difficult and expensive operation. The defender has many advantages and one serious disadvantage. His chief advantages stem from the fact that he can, and usually does, organize the ground to his own advantage by maximizing the use of cover and concealment by his forces and by choosing ground which requires the attacker to expose himself in areas where the defenders' weapons can be brought to bear most effectively. For example, the defenders' tanks will be in hull defilade and also concealed or camouflaged while the attacker's tanks will be required to cross at least some terrain fully exposed. The defender can mine or create obstacles on the approaches which are most dangerous to him and which the attacker is most likely to use. He can preplan and register his defensive fires. He can know the terrain completely and select weapons positions which are mutually supporting with interlocking fields of fire while still utilizing cover from frontal fire. Lastly he can position each weapon so that its engagement ranges are optimized and its vulnerability minimized. For example, he can open fire with his missiles against enemy tanks before the tank guns have closed to their most effective ranges. But he has one great disadvantage; he does not have the initiative. The attacker can concentrate his combat power at one or two selected points while the defenders' forces are spread more thinly. Thus by surprise, concentration of force and concentration of suppressive fires, a bold and aggressive attack can succeed.

7. Although some attacks are deliberate from the outset, most involve a movement to contact by most of the combat elements of battalion size or lower. The division may consider the operation to be an attack but to the company it starts with a meeting engagement. The meeting can take place soon or only after prolonged movement. The chief characteristic of the movement to

contact is that the advancing small unit does not know exactly where the enemy is located. If he does he is ready for a deliberate attack. If he doesn't he must find the enemy with the minimum losses in the initial collision. The defender has most of the advantages in a meeting engagement at the time of initial contact. He has chosen the ground where the attacker is at maximum disadvantage. Normally the latter is exposed in an area from which withdrawal or maneuver are difficult. At this time the defender has surprise and tactical superiority. Thus the cardinal rule for the meeting engagement is to find the enemy with the smallest possible force. This rule tells us that as we approach the suspected enemy positions or defended areas, we should select covered and concealed routes whenever possible and we should always have a substantial part of our force in selected and successive positions from which suppressive fire can be delivered against the most likely enemy positions when the battle starts. In Infantry platoons one squad and one or more heavy weapons would normally be overwatching the forward movement of the remainder of the platoon. Only one squad would be expected to come under direct enemy fire at the outset and hopefully only one team of that leading squad would be caught out in the area selected by the enemy for his opening fire.

In tank platoons one section would habitually overwatch the forward movement of the other section or in a tank company or mixed company task force, one platoon of tanks would overwatch the movement of the forward advancing element. In the case of companies and larger units suppressive artillery fire would be planned or even registered on the most likely positions from which tank or antitank missile fire could originate.

In any event the movement of the attacking force to initial contact should be controlled and directed so that the most favorable overwatch positions are selected personally by the combat unit leader and routes forward are selected for cover and concealment. Only on terrain as flat as a table is it permissible to plow forward in geometric formations. Even then trailing elements must be ready to open fire in support of forward elements and must be far enough back so as not to be in the beaten zone of fire directed at the forward elements.

If the terrain has the slightest roll or pitch the movement forward must be under positive control of the unit commander as he tailors his movement and selection of overwatch positions strictly to the terrain. A good commander at any echelon will find the enemy with a small part of his force—be able to deliver suppressive fire instantly—and have a maneuver element on hand covered and concealed from the enemy.

8. If the meeting engagement is with light or covering forces, they must be driven back by leading elements of the attacker. If the attacker has come up hard against a deliberate defense he will need more combat power and more time to apply it correctly. Only well trained or seasoned commanders can determine quickly which of these two situations exists.

It is important to find out quickly but in a manner which will not lead to unnecessary losses. There is a proper technique to do this. There is no way, of course, to do so without some losses and no way to do it with super caution. If the defender is thin on the ground or is merely an outpost or covering force he can be maneuvered out of position and forced back or destroyed with minimum friendly losses.

The fundamental technique of offensive combat against light forces is a continuation of the technique used in the final stages of the meeting engagement with one important exception. That exception is that the elements which have been placed in the overwatch positions actually deliver their supporting suppressive fire and additional fire support is brought to bear. Artillery is fired on all known and suspected enemy positions which could directly affect the battle and air strikes or attack helicopters are employed if appropriate targets are presented. Small combat units aggressively move forward under the 1/3 rule - 1/3 overwatch and suppressing - 1/3 moving forward by covered and concealed routes to the next overwatch position and 1/3 recovering from the overwatch and preparing for the next move forward. If a company cannot move forward in this manner and each of its forward moving elements is stopped, the commander is faced with the probability of a deliberate defense by significant forces. He may be able to arrive at the same conclusion because of the volume of defensive artillery fire used by the enemy or the general nature of the terrain. But if a battalion cannot outflank or punch through quickly, the brigade or division commander may legitimately assume that a deliberate attack will be required. This will be discussed later.

Nevertheless combat between light forces—that is a light defending force and the advance elements of an attacking force—is not unusual and calls for the highest quality of training and leadership.

9. During mobile offensive operations against enemy covering forces or during meeting engagements, the team work between the tanks/mechanized infantry/artillery and other fire support is critical. In mobile warfare the tank is the decisive weapon. The infantry and the artillery are used to assist the movement of the tanks. If friendly tanks can be moved successfully

to properly selected objectives in the enemy rear or onto critical terrain features, the enemy's system of defense can be defeated. In this kind of warfare, the infantry and artillery are used to suppress or destroy those enemy weapons which are a threat to our tanks. Because the enemy antitank guided missiles can outrange our tank cannon and our suppressive automatic weapons, it will be necessary and normal to employ artillery high explosive and smoke against known and suspected enemy ATGM positions beyond 1500 meters and sometimes closer. On the other hand, the enemy's shorter range antitank weapons—the RPG series and the recoilless weapons will ordinarily be suppressed by automatic weapons. The 50 caliber machine guns or the 20mm cannons on our armored personnel carriers are designed for this purpose as are the machine guns of the infantry platoons. In particularly stubborn cases where suppressive fire does not eliminate the active threat to our tanks, the infantry must dismount and under the overwatching suppressive fire of the armored vehicles assault the enemy positions on foot with grenades and small arms.

10. The deliberate attack against an organized defense is the most costly and difficult offensive operation. Nonetheless, by minimizing one's own vulnerability while maximizing the effective employment of one's own weapons at the decisive point a position of relative superiority can be achieved. It is easier to do this on the defense because vulnerability usually increases and weapons effectiveness usually decreases while moving. Nonetheless it is necessary to move to win—to move without losing superiority. There are also psychological aspects to offensive operations which sometimes equal or even exceed the effects of the actual combat power developed by the attacker. The side which thinks it will win usually does. The opposite is also true. But at the point of decision the side usually wins which is able to bring to bear overwhelming - terrifying - force and violence. When, in addition, the violence is applied in such a manner that the "system" of defense is broken, then victory is assured. All defensive deployments depend on a mixture of weapons selected and sited to provide mutual support and to exploit their primary capabilities. All weapons also have vulnerabilities. For example, most defensive positions rely upon mortars and artillery to cover terrain which is unsuitable for direct fire flat trajectory weapons—like dense woods or thickets, ravines or choppy and rough terrain. If the defender's mortars and artillery can be suppressed with counter battery fire even in part at the critical point in time, then the attacker can slip through or charge through. If the defender's antitank guided missiles can be suppressed or their vision obscured, then the attacker can move his armor in closer and use it to destroy or overrun selected portions of the defense. If certain key weapons positions

can be destroyed or obscured, then the mutual support system begins to collapse and the enemies' defense will unravel. The attacker should plan carefully to defeat the defensive system in any deliberate attack.

11. Close air support of offensive operations has been greatly complicated by the existence of highly effective forward area enemy air defense weapons. Nonetheless, the ordnance load of the modern air force fighter is so lethal in its wide variety of special and general purpose weapons that it continues to be the most effective method of destroying hard targets available to the ground commander under conditions of intense combat against enemy forces with modern air defenses. The employment of close air support requires a coordinated plan of air defense suppression including extensive use of electronic countermeasures. Fighters are better at destruction than at suppression because of their intermittent delivery of fires. However, in a less lethal enemy air defense environment, the fighters can deliver short duration suppressive fire from automatic cannon.

12. Friendly Air Defense.

13A. Forward area air defense weapons play an increasingly important role in the combat operations of both sides because of their greatly increased lethality and numbers and the practice of moving them with the foremost elements. The Arab-Israeli War of 1973 was the first case in which one side sought completely to deny the airspace over the battlefield to the other side.

The combination of SA-6's, 7's, SA-9's, twin 57's and quad 23's - all radar directed and produced and distributed in large quantity throughout the world presents a formidable problem to the attacker. This is particularly true in the case of U.S. Forces which rely heavily upon close air support and increasingly upon attack helicopters. Thus it is that air defense suppression in concert and collaboration with the U.S. Air Force is now one of the most important operational problems facing the ground commander. Conversely, the U.S. Army does not now have a comparable array of air defense weapons. Nonetheless, considering the counter air capability of the USAF and the high effectiveness of the Redeye and the HAWK and the complementary value of Chapparal/Vulcan, a formidable defense may be thrown up against enemy air. It is absolutely essential to do this so the enemy air cannot destroy or suppress our maneuver elements and fire support echelons. Although new and improved air defense weapons are under development, we must improvise to exploit the very maximum effectiveness from what we've got now.

(Air Defense School fill in, please.)



13. Sometimes enemy defenses will be so formidable that the only way to degrade them sufficiently for successful offensive action will be to attack at night. Even this option is becoming much less attractive as night observation devices proliferate in all modern armies. Nonetheless, all defense weapons are less effective at night than in the day and this is particularly true of the longer range direct fire weapons such as the ATGM or the tank gun itself. For example the TOW is effective to 3000m in the day but has no effective night sight at this time.

The first generation or two of night vision devices were limited in capability to an extent that they only provided some assistance to movement at night as in the case of Infrared driving devices and some assistance to riflemen and gunners as in the case of the metascope and the starlight scopes. We are now beginning to receive night vision devices with longer range and greater resolution. The tank sight, the dragon sight, the night vision goggles and some early versions of thermal imagery devices are opening up a whole new range of possibilities. The force which can operate at night exactly as it does in daytime - that is full use of cover and concealment and effective use of suppressive fire - will easily defeat a force which cannot. The U.S. Army is on the edge of this capability now. Small highly trained infantry elements using night vision goggles could exploit this capability now in patrolling and raiding.

There are two categories of night attacks. One of these is much more common - easier - and less costly. This is an attack which seeks to by-pass enemy positions and thus place a friendly force on favorable terrain behind or on the flank of the enemy defense. The movement at night degrades enemy weapons effectiveness and reduces losses. The achievement of success and the seizure of the objective disrupts or defeats the enemy's defensive "system." The other mode of night attack is an assault against a key enemy position - a position so strong that daylight attack would be too costly. This is the most difficult and sophisticated of all offensive operations. It should never be undertaken without detailed reconnaissance - sufficient knowledge of the terrain and enemy so that each squad/tank can be given separate and individual orders and objectives. All leaders down to squad must have seen the terrain. The distance from the attack position (the last cover) to the enemy should be no more than can be negotiated in a single rapid rush. Either overwhelming fire support or complete surprise are essential.

(Attack helicopters in the attack and counterattack)

(Airmobile offensive opns - exploitation  
pursuit  
special operations)

21. Pursuit to exploit a successful attack *or* a successful defense is the counterpart to the tactics of delay. The pursuer is by definition stronger in the aggregate. The defender seeks to be stronger at the point and time of each collision between the delaying and pursuing forces. The tactics of pursuit are much the same as the tactics of a meeting engagement except the pursuer takes higher risks and longer steps. In order to avoid unnecessary losses, the pursuer advances rapidly by covered routes with a part of his force ready to support any engagement with suppressive fire. But he also seeks to cut through and get behind the delaying forces. He continues his attacks at night. He sends his infantry aggressively through difficult and untrafficable terrain deep behind the delaying forces. He pushes his reconnaissance elements forward day and night. If he has air cavalry he moves it around flanks and into the rear looking for soft spots - bottlenecks - headquarters and support. Airmobile infantry armed with antitank weapons positioned on the enemies' lines of withdrawal could be decisive in destroying and trapping his light forward elements. The pursuit is characterized by boldness - speed - and stamina.

#### IV. DEFENSIVE OPERATIONS

14. The basic concept of the defense is to optimize the employment of one's own weapons—to exploit every conceivable advantage of the terrain to minimize one's own vulnerability — and to establish a system of mutually supporting weapons positions and actions which anticipate and defeat the attackers' plans and actions. The defender has many advantages. He can select terrain which gives him cover and concealment. His tanks can be in hull defilade thus exposing only 1/8 of their bulk and only the most heavily armored parts. His antitank guided missiles can be placed to cover tank approaches which expose the attacker at long ranges on forward slopes. Approaches to his position which are broken or covered with thick vegetation and thus difficult to cover with direct fire weapons may be mined and heavy concentrations of artillery and mortar fire may be pre-planned and registered.

15. The attacker, however, also has some advantages of which the defender must be aware and against which he must take both active and passive measures. The attacker will concentrate on a narrow sector which he regards as the weakest part of the defense. He will concentrate both assault elements and suppressive firepower. Thus the defender must adopt all possible measures

to reduce the effect of enemy suppressive fires and must be able quickly to reinforce the threatened sector.

16. The first and cardinal rule in minimizing vulnerability to suppressive fire is concealment. Any part of the defense which can be seen by the enemy will be destroyed or suppressed. Every commander from squad to battalion must inspect his defenses from out front—from the terrain from which the enemy direct fire weapons will be brought to bear on his defense. If any can be seen they must be moved or improved.

17. Even perfect concealment will not provide adequate protection against direct fire suppression. The enemy will fire suppressive fires at areas where he suspects the defender is located or from which the defender could inflict losses on him if they were occupied. Thus, the defender must use every wrinkle in the terrain to provide cover from frontal suppressive fire by direct fire weapons. This means that defending direct fire weapons will normally fire at an angle across the front of the defended locale from behind natural cover. If natural cover cannot be found then cover may be constructed but the use of natural cover is vastly preferred as it is instantly ready and needs no artificial camouflage from the outset. In addition to the obvious advantage of using natural cover against the suppressive fires of enemy elements directly to the front, there is another equally important advantage to be gained by firing at angles across the front from behind cover. Enemy elements, armored vehicles or individuals moving forward against the defense must move into the field of view and the field of fire of the defensive weapon before they can see him or return fire. Although sometimes measured in split seconds, this advantage lies always with the defender who “gets the drop” on the attacker as he literally “comes around the corner.” Thus it is that a high degree of cunning should go into the selection of each defending position—each should be the equivalent of at least a mini-ambush.

18. If the enemy forces are heavily armed with tanks, the defense should be built around the anti-armor antitank weapons system. The first of these in terms of range and accuracy is the antitank guided missile. TOW, the ground launched antitank guided missile (ATGM), is soft compared with a tank and is susceptible to suppression by artillery or when the tank closes to 1500 meters or less by direct tank fire. Additionally, the heavy ATGM can be suppressed (that is the gunner driven off the sight) by automatic cannon or machine gun fire at various ranges of 2000 meters or less. Furthermore, the single shot hit capability of the ATGM does not vary significantly between short and longer ranges whereas the accuracy of the tank guns, the

automatic cannons and machine guns fall off very sharply at increased ranges. Therefore, the heavy ATGM has a great relative advantage at ranges beyond 2000 meters—its effectiveness is high, its vulnerability is low except to accurate artillery fire. For all of these reasons, the heavy ATGM should be emplaced wherever possible so that targets will appear between 2000 or 3000 meters from the launcher. The use of antitank mines to canalize the enemy or stop him in exposed and preselected target areas should be synchronized with the employment of the ATGM. Additionally, some of these weapons should be placed to cover likely enemy tank overwatch positions from which some enemy tanks will be delivering suppressive fires or from which they plan to engage defending tanks or other weapons positions. Our own tanks will always constitute a prime element in our antitank defensive system particularly when the enemy begins to close to within 2000 meters of the defenses and when he uses very heavy volume of artillery or direct suppressive fire against our ATGM's. The defending tank remains vulnerable to the enemy's overwatching ATGM's and tanks and it must take full advantage of cover. Like the infantry position, the tank can be especially deadly when firing diagonally across the front from behind cover. The tank which fires first has a \_\_\_ % advantage over the tank which fires second. Positions behind frontal cover afford this advantage to the defender. If the enemy tank force manages to penetrate the forward defenses, the defender must react in such a manner that he retains as many of his automatic advantages as possible. Counterattacks which expose the defending force to the attackers overwatching positions — which surrender the advantages of cover — and which cause weapons effectiveness to fall off because of movement may well fail. On the other hand, carefully selected blocking positions which retain the innate advantages of the defense may be much more effective. Limited counterattacks conducted on reverse slopes fully covered from the attackers' overwatching weapons may also be more effective.

19. Counter suppression by artillery fire or obscuration of the enemies' overwatch positions with smoke must play a central role in the defensive action. The effectiveness of attacking tanks is reduced by at least 33% when buttoned up. Thus a certain amount of artillery should be devoted to keeping all enemy tanks buttoned up at least during the critical phases of the action.

Artillery suppression of enemy forward air defense may well be a necessary pre-condition for the effective use of close air support by the defender. Cooperative ECM operations involving both USAF and Army elements may also be required.

20. In modern industrialized countries such as those in Europe, the landscape is rapidly being transfigured by the spread of cities and the growth of villages. Much fighting in any future war would perforce take place in built-up areas. By and large, man-made structures favor the defense. Tank forces can be ambushed or stopped in cities or towns and house-to-house fighting is slow and expensive. Built-up areas infested with well trained infantry equipped with ATGM and hand held antitank rockets must be by-passed or cleaned out by the attacker. While field positions may often be suppressed by automatic weapons or artillery, it is much more difficult to suppress defending forces in around buildings which provide "instant" cover and concealment. In any event defending forces should take full advantage of built-up areas. Attacking forces must either by-pass those it can isolate and afford to leave behind or reduce those it cannot by-pass or afford to leave behind. House-to-house fighting by infantry supported tanks, artillery and engineers is slow, costly and difficult. However, the defender has substantial difficulties in that extensive built-up areas require very large numbers of infantry to cover every house or avenue of penetration. In order to exploit this weakness, there are two modes of attack which avoid costly and demoralizing house-to-house fighting. The first is a demolition attack. By using heavy assault firepower each enemy defended building in a selected narrow sector can be turned into a trap for the defender. This is not always possible with public buildings or other structures with very thick walls but is possible with medium or light family or commercial structures. The most effective direct fire demolition weapon is the gun on the Combat Engineer Vehicle (CEV). It fires a charge of 30 lbs of plastic explosive with enough accuracy to fire at or through windows, corners and structural weak points. It is a concussion weapon as well which stuns as well as kills.

Self-propelled artillery and tanks may be added to the CEV's and employed in mass at a selected time and place to punch through enemy defenses. Following infantry assigned to specific buildings can keep the hole open and reserves can be moved through to deeper targets thus disintegrating the defense.

The second alternative to the house-to-house attack is a sudden surprise assault at night. In such an attack each assault infantry team is targeted against a single building or part of a building. Many of the targets are deep in the third or fourth row of buildings. The concept of attack is that the capture of 1/2 or more of the targets in the initial assault will collapse the defense and make reconstitution impossible. This discussion of the attack of built up areas is included at this point to round out the picture of measures and countermeasures involved.

Add

Delay

Reconnaissance & Surveillance

Attack helicopter in offense and defense and delay.

Raids and offensive airmobile

Airmobile in pursuit as nearly impossible for enemy to handle -

22. The tank killing helicopter—the TOW/COBRA—adds a new capability for attack, counterattack, defense and delay. It will be a long time before the full range of capabilities and limitations of the attack helicopter are fully understood and a part of the consciousness of the Army. However, we do know enough from operations in Vietnam and from extensive testing and experimentation to describe the considerations which should govern its initial commitment to combat. The attack helicopter with the TOW has a range advantage over the T-62 tank, (BMP's, BTR's), the Infantry Combat vehicles, and the ZSU 23-4 radar controlled air defense weapon. This advantage is retained at ranges beyond 2000 meters and is rapidly reversed at lesser ranges. The attack helicopter is outranged by the Twin 57, the SA-7's and SA-6 surface to air missile.

Because of the forward employment of the ZSU 23-4, the Twin 57, the SA-7's and SA-6's, the attack helicopter will not survive on the battlefield if he exposes himself more than momentarily to weapons which are range effective which have not been destroyed, suppressed or obscured.

Thus there is no essential difference between the problems faced by the attack helicopter and any other combat element. Operating as a part of the combined arms team — engaging at ranges which minimize its own vulnerability — taking maximum advantage of terrain cover and concealment — and coordinating suppression with its movements — the attack helicopter can contribute to the favorable outcome of the battle.

If the enemy comes out from under his SAM envelope or outdistances these air defense elements and his ZSU-23-4's can be suppressed (by ECM or artillery fire), the attack helicopter should have the clear advantage.

Because the attack helicopter is an expensive and valuable weapon, it should not be employed haphazardly and exposed under disadvantageous circumstances through carelessness or poor techniques. The Army is providing one scout helicopter for every two attack helicopters in attack companies and battalions for just this reason. The scouts are expected to take greater risks and losses than the attack helicopters by preceding and aiding them in the selection of routes into and out of engagement and the selection of firing positions and the provision of target information. Both the scouts and the attack helicopter pilots will be expected to practice terrain flying and precision navigation with minimum mechanical aids. Nap-of-the-earth flying is only one technique of minimizing vulnerability. NOE flying down forward slopes will not necessarily afford protection against radars sensitive to moving targets or whirling rotors as in the case of the ZSU-23-4 radar. Terrain flying, route selection and position fixing are essential and require skills far beyond those required for simple NOE flying.

Helicopters should be employed in large numbers at critical points. This means they will normally be committed by platoons in series and recycled back into action as rapidly as they can be rearmed and refueled as long as the battle lasts.

Attack helicopter unit commanders must be experts on the scope and nature of air defense suppression operations.

Battalion, brigade and division commanders must plan and coordinate air defense suppression operations using all available assets or they will not receive effective support either from attack helicopters or USAF fighters.

