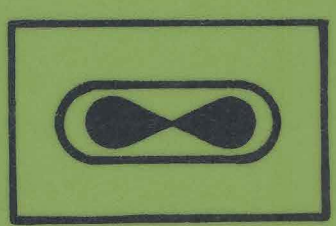
Attack Helicopter Operations



FM 17-50

Field Manual
No. 17-50

FM 17-50

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 1 July 1977

Attack Helicopter Operations

PREFACE

THIS MANUAL describes how attack helicopter battalions and companies fight.

Attack helicopter units are organized primarily to destroy tanks and other armored vehicles. They will normally be supported by field artillery and sometimes by USAF tactical fighter bombers. In describing how attack helicopter battalions and companies fight, this manual will discuss employment of air cavalry squadrons and troops. For additional details about how air cavalry fights, the reader should use FM 17-95, *Cavalry.*

Attack helicopter units may fight as part of an air cavalry combat brigade (ACCB), or may be attached or placed under operational control of a division, a ground combat brigade, or an armored cavalry regiment. How an ACCB fights is described in FM 17-47, *The ACCB;* how a division fights is described in FM 17-100; *The Division;* how a ground combat brigade fights is described in FM 71-3, *The Brigade;* and how an Armored Cavalry Regiment fights is described in FM 17-95, *Cavalry.*

Users of this manual should remember that all Army units are organized under modified tables of organization and equipment (MTOE). Therefore, in order to know manpower and equipment authorizations for a specific unit, it is necessary to consult the authorization document (MTOE) for that unit. Because organization and equipment will vary from time to time and place to place, this manual will discuss these factors in general terms only, relying on the reader to understand his own equipment and organization well enough to apply principles set forth in this manual.

This manual was written by the US Army Armor School to introduce doctrine on the employment of attack helicopter units.

TABLE OF CONTENTS

CHAPTER 1

FACTS ABOUT THE MODERN BATTLEFIELD

Warfare has changed since World War II. The range, accuracy, and lethality of the modern tank gun makes it about ten times as effective as the tank gun of World War II. The antitank guided missile (ATGM) has appeared on the battlefield in significant numbers; it is accurate and deadly up to a range of 3,000m. Even against rapidly moving crossing targets, it can achieve a high percentage of first-round hits. Today's artillery ammunition is five to ten times more lethal than that of World War II. Helicopters armed with ATGM are common, and the US Army will soon have helicopter-launched precision missiles. Highly accurate, long-range mobile air defense gun and missile systems have also appeared in great numbers to dominate the space above the battlefield. They are many times as effective as their predecessors of the 1940s.

Long-range, high-velocity tank cannon and long-range antiarmor missile systems dominate the modern battlefield. Anything that can be seen can be hit and killed if within range.

Unless suppressed, long-range air defense cannon and missile systems limit effective close air support for forward fighting elements; they force air cavalry and attack helicopter units to operate in the ground environment in forward areas.

To fight and win outnumbered, forces must move rapidly to concentrate at critical times and places so that a reasonable force ratio exists at the beginning of the battle. Then it is necessary to fight using terrain, overwatch, and suppression in such a way that exchange ratios of six to one or better are achieved. The history of armored battles tells us that this can be done. But, to do it, the commander must maximize his own weapons capabilities while minimizing their vulnerability to the enemy.

CONTENTS

Range, accuracy, and lethality of modern weapons tell us that any vehicle, aircraft, or unit that exposes itself on the battlefield will be destroyed unless enemy weapons have been:

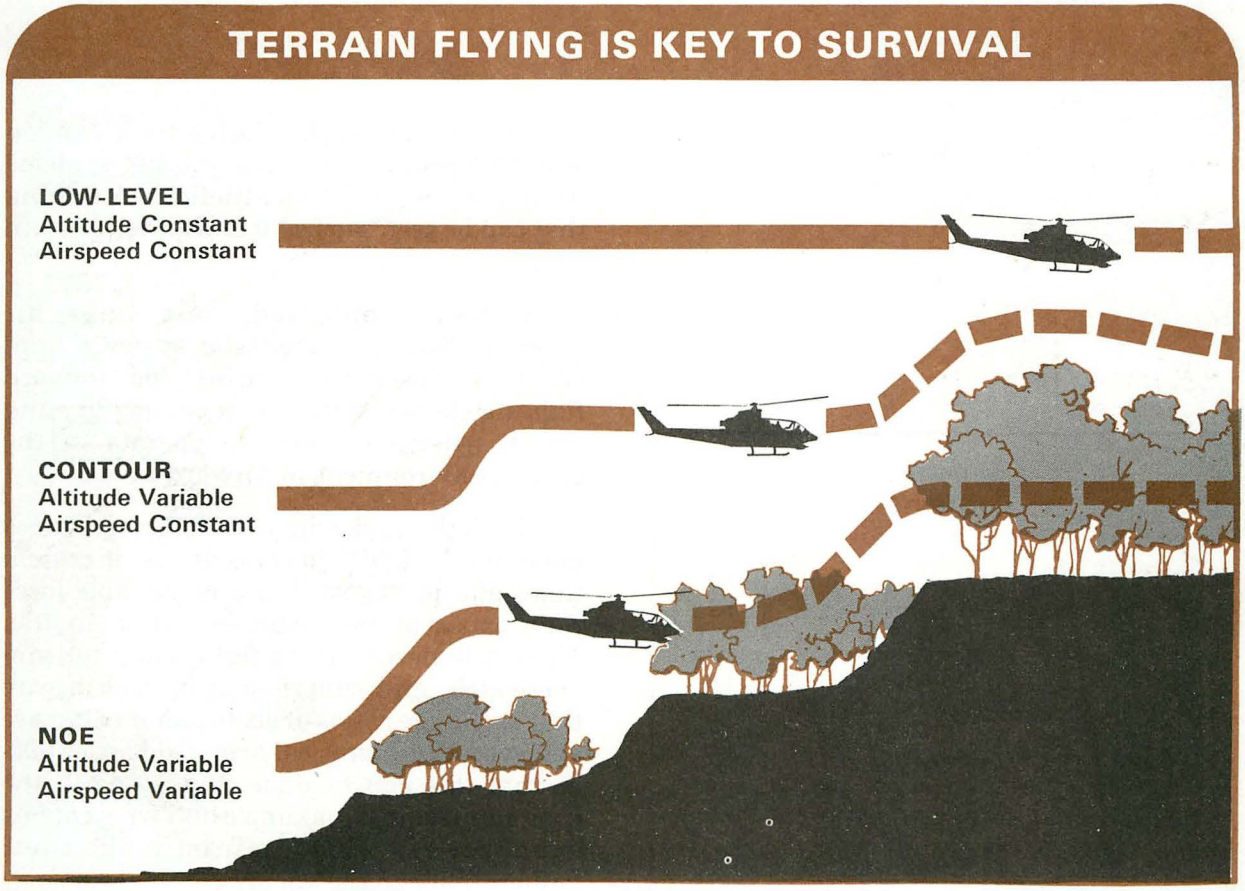
- **Destroyed,**
- **Suppressed, or**
- **Prevented from detecting and identifying the exposed element by effective use of smoke, night, bad weather, electronic countermeasures, or a combination of these and other target-obscuring methods.**

Any element moving on the battlefield **must** make maximum use of all available cover and concealment, moving on covered or concealed routes from one covered or concealed position to the next.

Attack helicopter units can fight and survive on the modern battlefield in spite of the increased range and lethality of modern weapons by using similar techniques that permit armor and mechanized units to survive:

- **See the battlefield.**
- **Use the terrain.**
- **Use overwatch techniques.**
- **Obscure, suppress, or destroy enemy air defense systems with smoke, high explosive ammunition, and electronic countermeasures.**

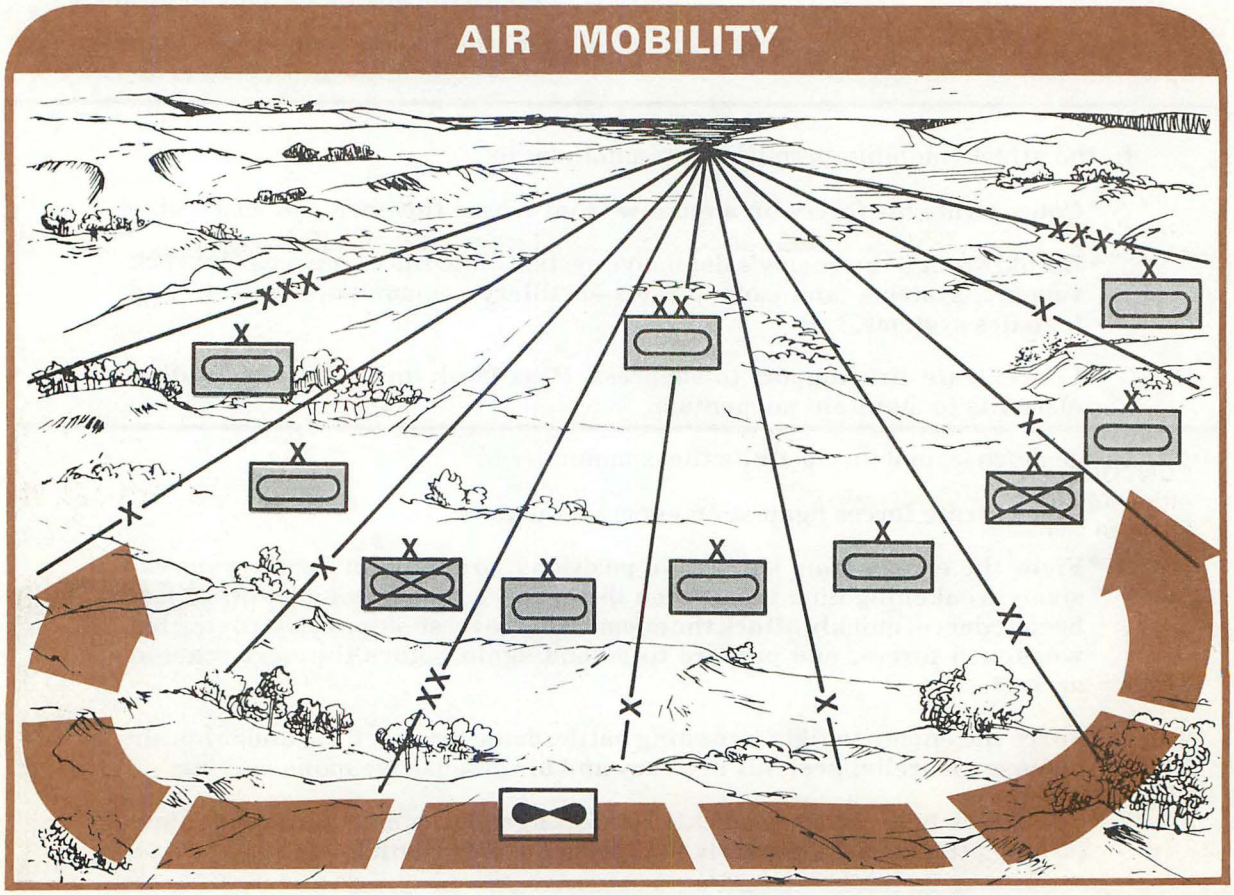
TERRAIN FLYING IS KEY TO SURVIVAL



MOBILITY

Modern armies are almost completely mechanized. Mobility allows the commander to sweep the flanks and penetrate the supporting elements of the enemy, to rapidly reinforce, and to employ reconnaissance elements to locate the enemy's weak points. Once the enemy's weak points are located, the commander can use his mobile forces to concentrate superior combat power.

The helicopter has added a new dimension to battlefield mobility. Coupled with improved, faster ground vehicles, helicopters enable the commander TO CONCENTRATE HIS COMBAT POWER anywhere on the battlefield at the decisive place and time.



Mobility does not mean freedom of movement. If improperly employed, the tank is vulnerable to the ATGM. If the artillery does not conceal its location from the enemy or frequently move, it is vulnerable to counterfire. **If not masked by terrain, the helicopter is vulnerable to air defense weapons and small arms.**

Commanders who use mobility to achieve surprise, to repeatedly concentrate superior combat power at the decisive point and time, to carefully **attack the enemy's flanks and rear**—even while defending—will defeat the force that does not.

Mobility enables the commander to:

Conduct active intelligence operations to see the battlefield, to find enemy weak points in the defense, or to discover where the enemy intends to attack.

Adjust the force ratio in his favor so that his unit has the best chance for success.

In the attack, mobility permits the commander to:

- **Concentrate his forces on a narrow front where the enemy is weakest.**
- **Breakthrough the enemy's defensive systems into his rear areas to attack support systems and soft targets—artillery, command, control, and logistics systems.**
- **Concentrate fire support to suppress. Pass fresh units through leading elements to maintain momentum.**

In the defense, mobility permits the commander to:

- **Concentrate forces against an enemy attack.**
- **Fight the enemy from successive positions, prepared in depth, progressively weakening him; then, when the enemy's numerical advantage has been reduced, quickly attack the enemy from reverse slopes, destroying his weakened forces, and prepare to defend again before the next echelon arrives.**
- **Force the enemy to fight a running battle; draw him out from under his air defense umbrella; keep his artillery and air defense weapons moving.**
- **Use attack helicopters to quickly reinforce ground combat units or to slow or stop attacks, pending arrival of ground combat units.**

FIGHTING AT NIGHT

Modern armies must fight at night as in the day. This can be done using sophisticated sighting and sensing equipment. A new range of tactical possibilities is opened up by new:

- **Tank sights**
- **Night vision goggles**
- **ATGM sights**
- **Thermal imagery devices**

Even with new night observation devices, most weapons are still somewhat less effective at night than in day.

Threat forces are skilled in night fighting. They take advantage of concealment offered by darkness to:

- **Achieve surprise.**
- **Bypass defensive positions.**
- **Destroy and disrupt command, control, and support systems.**

Therefore defending against Threat forces requires that the defender make maximum use of his night fighting equipment, especially his passive night viewing equipment. If he does, he can retain the tactical advantages that normally lie with the defender.

With modern night vision equipment, it is possible to attack at night with more freedom of movement and fewer restrictive control measures than in the past. But, night offensive operations still require more preparation and carefully designed control measures than in daytime. These include:

Careful preparation during daylight hours to reduce confusion.

Carefully planned primary and alternate means of communications that INSURE command control.

Carefully planned and coordinated suppressive fires to achieve superiority at the decisive place and time.

The fighting capability of attack helicopter units is limited by conditions of reduced visibility, occasioned by weather or night, which inhibits the ability of aircraft to fly and of men and machines to acquire targets. When night vision devices are fully developed, attack helicopter units' night fighting capabilities will increase significantly. This means that the unit must train to fight at night as in the day—that is, make full use of cover, concealment, and suppressive fires to defeat the force that does not.

AIR

The US Army can no longer operate on the battlefield without fear of air attack. Threat forces are capable of controlling at least portions of the air over the battlefield and may subject forward elements to intense air attack. Commanders will have to include in their battle plans a scheme for countering Threat aircraft including tactical fighter-bombers and armed helicopters. Active and passive measures must be used.

COMMAND CONTROL

Reliable, flexible, and responsive command control systems are essential to successful employment of attack helicopters. They provide for:

Control of highly mobile, fast-moving forces which must be massed to bring superior force to bear at the proper time and place.

Direction and coordination of fires of many weapons, sited at different ranges and locations and firing in support of attack helicopter operations.

ELECTRONIC WARFARE

The enemy has a significant electronic warfare capability. He can block out radio transmissions during critical periods in the fight. He can listen to transmissions to gain information. He can give false instructions through imitative transmissions.

The commander must be able to command and control the company or battalion throughout the battle, in spite of enemy efforts to disrupt the system. To do this, members of the unit must effectively counter enemy electronic warfare efforts against command and control systems by:

- **Communicating by radio only when necessary.**
- **Planning and training for operating under conditions of radio silence.**
- **Switching to alternate means of communication when required.**
- **Using electronic support measures and electronic countermesures as another combat resource.**

Some confusion in battle will always occur; however, if the commander has positive control and issues clear, concise orders, confusion and misunderstanding can be minimized.

NUCLEAR WARFARE

With the advance of nuclear technology, many armies will soon be able to employ nuclear weapons. So our Army must be prepared to fight and win on the nuclear battlefield. It is important to remember that:

- Combat forces must immediately exploit the effects of nuclear weapons.
- Forces should not concentrate.

CHEMICAL AND BIOLOGICAL WARFARE

The United States has renounced the use of biological agents and will not use chemical weapons first. However, other armies of the world possess these weapons and are prepared to use them. Introduction of these weapons could adversely affect combat operations unless soldiers understand the effects of chemical and biological weapons, and know how to fight in a chemical and biological environment. Training of helicopter crews should include wearing protective masks while performing training missions. The side that can live in this environment and still move, use terrain and overwatch, and concentrate superior force, will defeat the side that cannot.

PRIORITIES

The characteristics of modern battle described in this chapter are a formidable challenge to the attack helicopter. Members of an attack helicopter unit must understand the dynamics of modern battle. Priorities are:

- Detection and identification of the enemy at maximum possible distances from the friendly main body to prevent engagement of the main body under adverse conditions—unwarned, poorly deployed, not poised to fight.
- Battlefield movement only along covered and concealed avenues, making use of terrain to avoid or evade enemy long-range observation and fire.
- Suppressive fires delivered from overwatching elements to reduce the chance that maneuvering forces can be seen and engaged by the enemy.
- Attacking and counterattacking from reverse slopes to protect attacking forces from long-range observation and fire by the enemy.
- Operating in darkness or other conditions of reduced visibility to reduce range and accuracy of enemy observation and fire.
- Control and distribution of fires to kill targets rapidly and save ammunition to engage the next attacking echelon.
- Precision, discipline, speed, and security in the directing and reporting of the battle; winning the battle quickly, unimpeded by enemy countermeasures.
- Proper mix of ammunition and fuel, speed, responsiveness, and security of resupply systems to reduce the need to resupply but insure prompt resupply when needed.

CHAPTER 2

THE ENEMY IN MODERN BATTLE

The enemy—the "Threat"—has a vast amount of manpower and a great variety of powerful weapons. He will try to overwhelm his opponents by massing large forces at critical times and places. Generally, he will be willing to suffer great losses to accomplish his mission.

In most areas of the world, ***Threat forces*** are mainly armored, with many tanks, armored infantry fighting vehicles, self-propelled artillery, self-propelled and rapidly launched tactical bridging, and supporting mobile equipment. They are equipped with a full arsenal of modern air defense weapons. This arsenal includes tactical aircraft, missiles, antiaircraft (AA) artillery, and vehicle-mounted machineguns.

Threat forces train extensively for operations on a nuclear battlefield, and they carry a complete array of individual and vehicular nuclear, biological, and chemical (NBC) protective gear and decontamination equipment. Most of their armored vehicles provide positive pressure protection for their crews. Further, Threat forces conduct very effective electronic warfare (EW), including radio interception, direction-finding, jamming, and deception.

By reviewing Threat equipment capabilities and tactical concepts, the soldier will gain a clear idea of how the US Army must fight modern battles.

CONTENTS

THE THREAT SOLDIER

The "Threat soldier" is first a "field soldier." He spends most of each training day learning to live and fight in the field. For him, theory is no substitute for practice in field living and operations.

THREAT SOLDIERS ARE TOUGH, HIGHLY MOTIVATED AND WELL-TRAINED

Threat soldiers are often highly motivated, sometimes through fear of their leaders or political commanders, but often because of thorough and effective political indoctrination. The Threat soldier in battle is tough and callous—a good fighter. He is indifferent to hardship, especially when he believes he is righteously defending his country against aggression.

TANKS

The enemy's armored vehicles are formidable weapon systems with extremely lethal capabilities. However, like all other armored vehicles, they can be suppressed and destroyed. The use of smoke is an excellent obscuration technique, preventing Threat weapons systems from visually acquiring targets. The enemy's ability to acquire targets is also degraded by artillery and small arms fire which makes Threat armor operate with closed hatches.

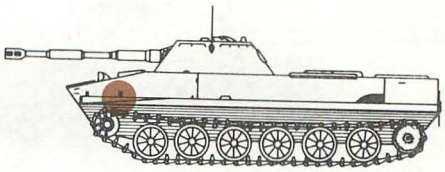
THE ENEMY'S ARMORED VEHICLES ARE FORMIDABLE WEAPON SYSTEMS WITH EXTREMELY LETHAL CAPABILITIES

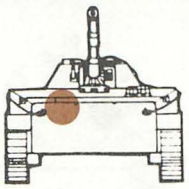
The enemy's armored vehicles—like ours—are more lightly armored on the sides, rear, and top than on the front. This difference in armor thickness plus the location of ammunition and fuel storage areas presents points of vulnerability. So to defeat Threat armor, attack these points. The most vulnerable points for each Threat armored vehicle are shown.

PT-76 SERIES

The PT-76 is a 14-ton amphibious reconnaissance tank with a twin water jet-propulsion system. Its chassis is used in over eight other vehicle series. The PT-76 is 7.6 meters (25 ft) long, including the gun tube; 3.1 meters (10 ft) wide; and 2.2 meters (7½ ft) high. The PT-76 is used for crossing water obstacles in the first wave of an attack and it is used for artillery support during the establishment of a beachhead.

Although the PT-76 is lightly armored and undergunned for a modern tank, its inherent amphibious capability outweighs these limitations. The cruising range is 250 kilometers.





Primary Weapon

76-mm, stabilized main gun firing kinetic energy (KE) armored personnel carrier (APC) and chemical energy high explosive antitank (HEAT) ammunition.

Its basic load is 40 rounds.

PT-76 Model 1 has a multi-slotted muzzle brake; Model 2 has a double baffle muzzle brake and a bore evacuator.

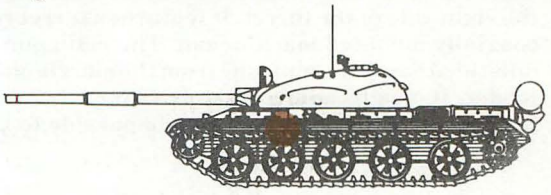
Secondary Armament

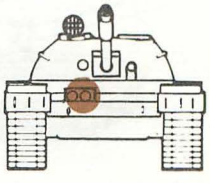
7.62-mm coaxially mounted machinegun. Its basic load is 1,000 rounds.

● = most vulnerable point

T-62 SERIES

The T-62 is replacing the T-55 tank in some Threat armies. It is an improved tank; very similar to the T-55, but without a bow machinegun. The bore evacuator is located about one-third the barrel length from the muzzle. The T-62 does not mount an AA machinegun, but the T-62A—a newer version—does. This tank has night vision devices and/or sights for the gunner, commander, and driver. The T-62 has a crew of four; weighs 36.5 tons; and is 9.8 meters (32 ft) long, 3.3 meters (11 ft) wide; and almost 2.6 meters (8 ft) high. It has five pairs of road wheels with irregular spacing between the third and fourth and the fourth and fifth wheels.





Primary Weapon

115-mm smoothbore stabilized main gun, firing both kinetic energy high velocity armor-piercing, fin-stabilized discarding sabot (HVAPFSDS) and chemical energy HEAT ammunition. Elevation, +17°; depression, -4°.

Secondary Armament

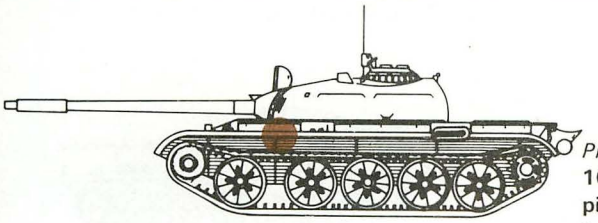
7.62-mm machinegun mounted coaxially with the main gun. Basic load 3,500 rounds.

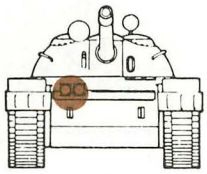
The T-62A also mounts a 12.7-mm antiaircraft machinegun on top of the turret at the loader's station.

● = most vulnerable point

T-55 SERIES

The T-55 medium tank appears in all Threat forces. It has a low, rounded turret shaped like the larger end of an egg, with a bore evacuator on the end of the main gun tube. The T-55 does not mount an AA machinegun atop the turret, as does the T-54. It has infrared night sights for gunner and commander, a night vision device for the driver, and onboard snorkeling equipment. The T-55 has a crew of four; weighs 36 tons; is about 9 meters (30 ft) long; 3.3 meters (11 ft) wide; and 2.4 meters (7½ ft) high. It has five pairs of road wheels with a characteristic gap between the first and second wheels.





● = most vulnerable point

Primary Weapon

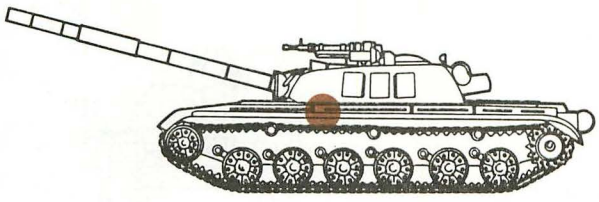
100-mm, stabilized main gun, firing kinetic energy armor-piercing capped APC chemical energy high explosive anti-tank and high explosive (HE) ammunition.
Elevation, +17°; depression, -4°.
Basic load, 43 rounds.

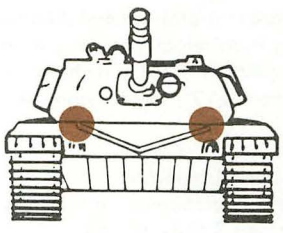
Secondary Armament

7.62-mm or 12.7-mm fixed machinegun mounted in the hull front (bow gun); 7.62-mm machinegun coaxially mounted with the main gun. (Not all T-55s have the fixed bow gun.)
Basic load, 3,500 rounds.

T-72 THREAT MAIN BATTLE TANK

The T-72 is replacing older tanks within some Threat forces. It is an improved tank featuring a live track, complete with support rollers, center guides, end connectors, and probably torsion bar suspension. The glacis plate is gently sloping and has a "V"-shaped splash guard directly in front of the driver's position. It has external fuel cells down the left side of the tank, as earlier tanks had. It has three equal-sized storage boxes on the left side of the turret and two unequal-sized storage boxes on the right side of the turret. It features a turret roof-mounted 12.7-mm AA machinegun and a 7.62-mm coaxially mounted machinegun. The main gun is probably 115-mm and has a bore evacuator about one-third down the gun tube from the muzzle end. It has a crew of three and probably has an automatic loader. It weighs approximately 40 tons; is 7.4 meters long; 3.3 meters wide; and 2.46 meters high. It has night observation devices comparable to those on the T-62 series tanks.

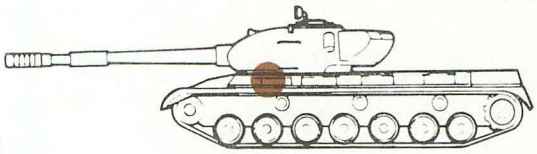


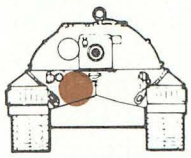


● = most vulnerable point

T-10 SERIES

The T-10 heavy tank is rarely seen in Threat force forward areas. This tank stays in the rear, and is used in counterattacks or with tank killer units. It has infrared sights or devices for gunner, commander, and driver; weighs 50 tons; has seven pairs of road wheels; and a snorkeling capability. Cruising range is 250 kilometers.





Primary Weapons

122-mm stabilized main gun, firing kinetic energy APC and chemical energy HEAT ammunition.
Elevation, +17°; depression, -3°.
Basic load, 30 rounds.

Secondary Armament

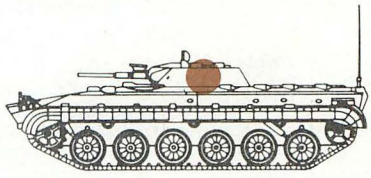
Two 12.7-mm machineguns, one for antiaircraft and another mounted coaxially with the main gun. T-10M, a new version, mounts 14.5-mm heavy machineguns in both positions.

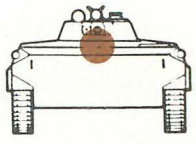
● = most vulnerable point

INFANTRY COMBAT VEHICLES

BMP SERIES

Threat forces have mounted their mechanized infantry in an armored fighting vehicle called a BMP. Its primary mission is to kill tanks. Although a light armored vehicle, the BMP combines the features of a light tank, antitank missile carrier, and armored personnel carrier. Like the PT-76, the BMP is amphibious; its chassis is similar to the PT-76; but it has a different water propulsion system. The power plant is mounted in the right front; troop access doors are in the rear. It has four firing ports on each side and one in the left rear door so the infantry can fire while moving. The BMP weighs 12.5 tons and is 6.6 meters (22 ft) long; 3 meters (10 ft) wide; and 2 meters (6½ ft) high. It has a crew of three and carries eight infantrymen who can fight effectively while mounted. A smaller, lighter version called the BMD is used by airborne units.





Primary Weapons

AT-3 SAGGER (wire-guided, antitank-guided missile). Maximum range, 3,000 meters.
Basic interior load, four missiles (an extra missile can be carried on the launch rail).
Has a 73-mm smoothbore main gun which fires a HEAT projectile capable of successfully attacking medium tanks up to 1,000 meters.
Elevation, +20°; depression, -5°.
Basic load, 40 rounds.
The 73-mm gun covers 500 to 800 meters dead space for SAGGERs.

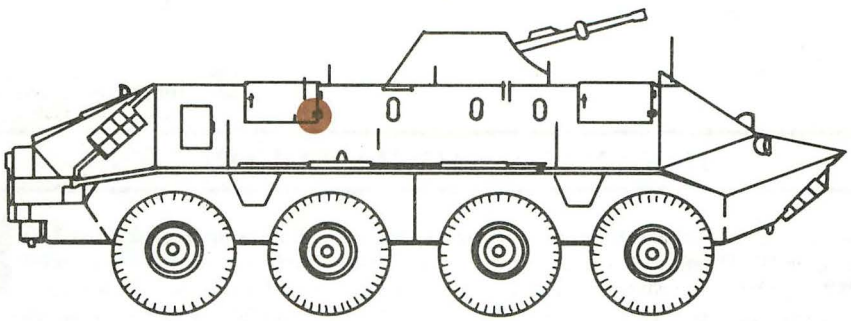
Secondary Armament

7.62-mm coaxially mounted machinegun.
Basic load, 1,000 rounds.

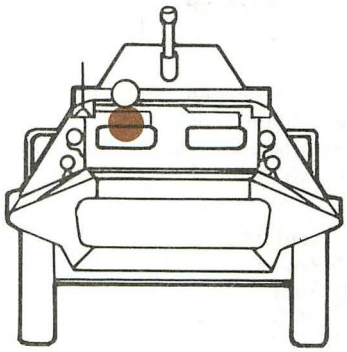
● = most vulnerable point

BTR SERIES

The standard threat wheeled armored personnel carrier is the eight-wheeled BTR-60P series, which has several variations. The open-topped BTR-60P is being replaced by the BTR-60PB shown below. It has a small covered turret with machineguns. The BTR-60PB weighs 10 tons; is amphibious; has a crew of two; and carries 14 infantrymen.



Primary Weapons
14.5-mm machinegun.
7.62-mm machinegun.



● = most vulnerable point

AMPHIBIOUS SCOUT VEHICLES

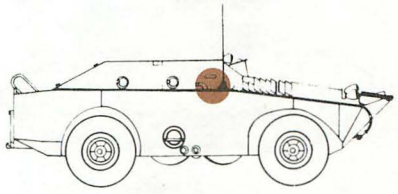
BRDM SERIES

BRDM and BRDM-2 are used for reconnaissance, radiological/chemical monitoring, command, and as an antitank-guided missile launcher. The BRDM is a four-wheel drive, amphibious armored vehicle with two sets of belly wheels to help flotation and cross-country mobility. A small turret with a larger machinegun has been added to the BRDM-2. The BRDM has a crew of five; the BRDM-2, a crew of four. The BRDM weighs 5.5 tons; the BRDM-2 weighs 7 tons. Each model is designed for its specific mission.

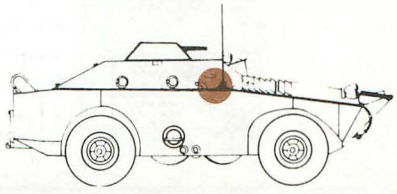
BRDM

Primary Weapons
7.62-mm machineguns.
Elevation, +23.5°; depression, -6°.
Basic load, 1,250 rounds.
Antitank-guided missile launcher—basic load, 14 rounds.

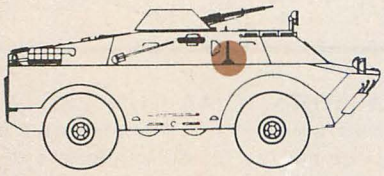
Secondary Armament
None.

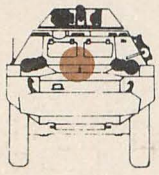


Reconnaissance



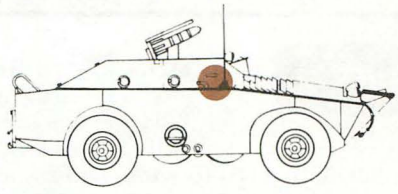
Antitank-Guided Missile Launcher



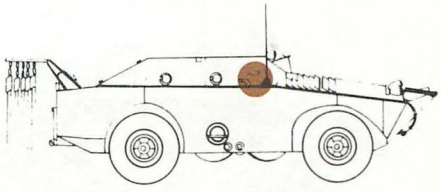


Primary Weapons
4.5-mm heavy machinegun.
Elevation, +30°; depression, -50°.
Basic load, 500 rounds.
Antitank-guided missile launcher—basic load, 14 rounds.

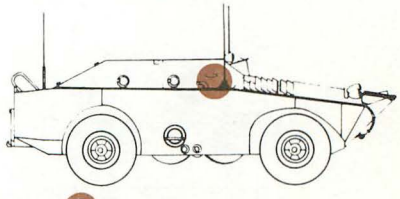
Secondary Armament
7.62-mm machinegun.
Basic load, 2,000 rounds.



Radiological/Chemical



Command

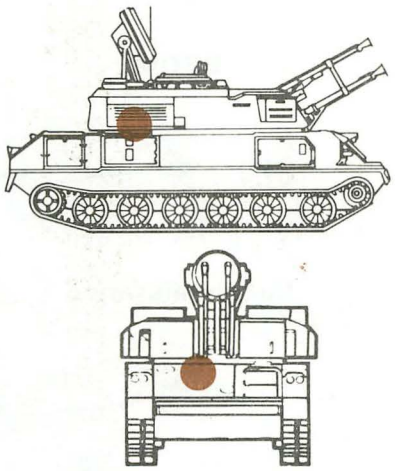


● = most vulnerable point

THREAT AIR DEFENSE ARTILLERY

ZSU-23-4

QUAD 23-MM, SELF-PROPELLED, AUTOMATIC AA GUN (ZSU-23-4). The ZSU-23-4 is one of the finest air defense weapons in the world; it can also be used in a ground-support role. Mounted on a modified PT-76 chassis, it has an on-carriage radar system. The vehicle weighs 14 tons; is 6.3 meters (20½ ft) long; 2.5 meters (9½ ft) wide; and 2.3 meters (7½ ft) high. The ZSU-23-4 has a crew of four and cruising range of 260 kilometers.



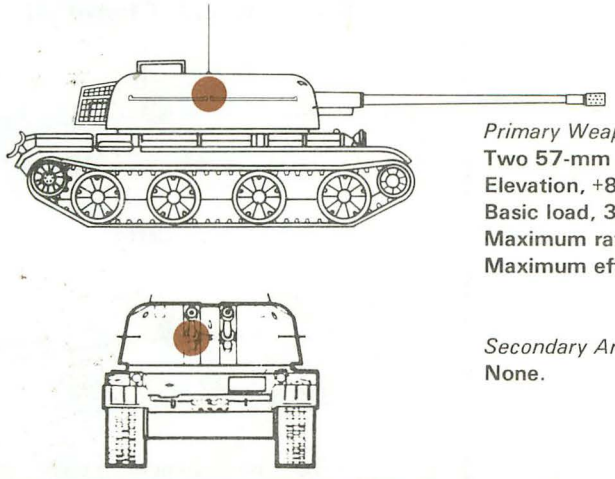
Primary Weapon
Four 23-mm automatic AA guns.
Elevation, +80°; depression, -7°.
Maximum sustained rate of fire, 600 rounds per minute per barrel.
Maximum effective range:
2,500 meters, without radar; 3,000 meters, with radar.

Secondary Armament
None.

● = most vulnerable point

ZSU-57-2

TWIN 57-MM SELF-PROPELLED AUTOMATIC AA GUN (ZSU-57-2). The ZSU-57-2 is a track-mounted, antiaircraft gun system mounted on a modified T-54 medium tank chassis. It may also appear in a ground-support role against light armored vehicles. It has a crew of six; weighs 28 tons; is 8.5 meters (28 ft) long, 3.3 meters (10 ft) wide, and 2.8 meters (9 ft) high. Cruising range is 400 kilometers.



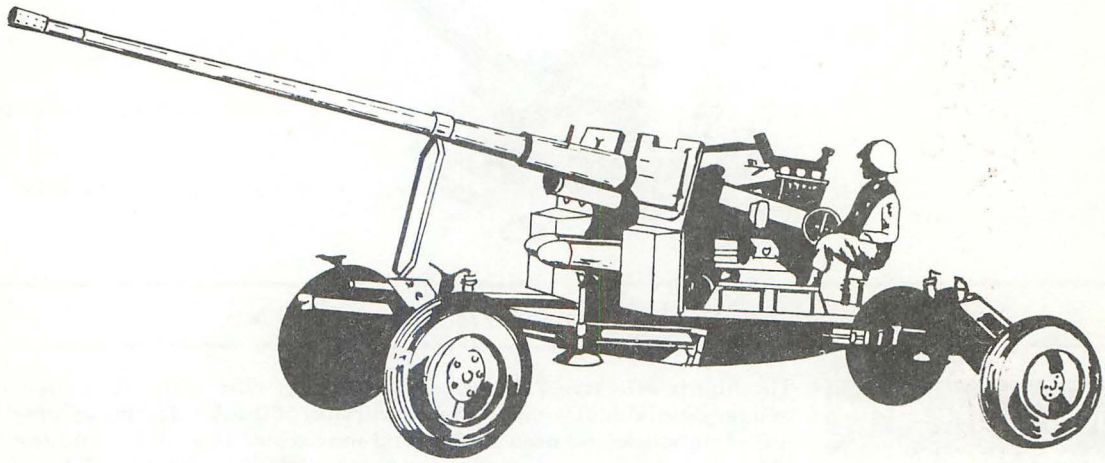
Primary Weapon
Two 57-mm AA guns.
Elevation, +85°; depression, -5°.
Basic load, 316 rounds.
Maximum rate of fire, 70 rounds per minute per barrel.
Maximum effective AA range, 4,000 meters.

Secondary Armament
None.

● = most vulnerable point

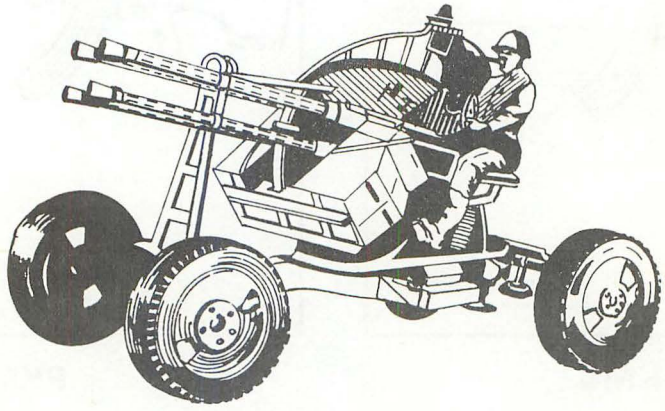
S-60

S-60, 57-MM ANTIAIRCRAFT GUN. This gun can be used against armored vehicles as well as low-flying aircraft. It has a maximum horizontal range of 12,000 meters and a tactical antiaircraft range of 6,000 meters with off-carriage and 4,000 meters with on-carriage fire control. It can be elevated from -72 mils to +1,500 mils; traversed 6,400 mils; and has a cyclic rate of fire of 105 to 120 rounds per minute. A twin version is mounted on the self-propelled ZSU-57-2.



ZPU-4

ZPU-4, 14.5-MM MACHINEGUN. The ZPU-4 is a towed, four-barrel, 14.5-mm machinegun that uses a four-wheeled carriage that must be lowered onto stabilizing jacks for firing. It has a range of 1.4 kilometers against aircraft and 2.5 kilometers against ground targets. This optically directed weapon has a rate of fire of 2,200 to 2,400 rounds per minute.



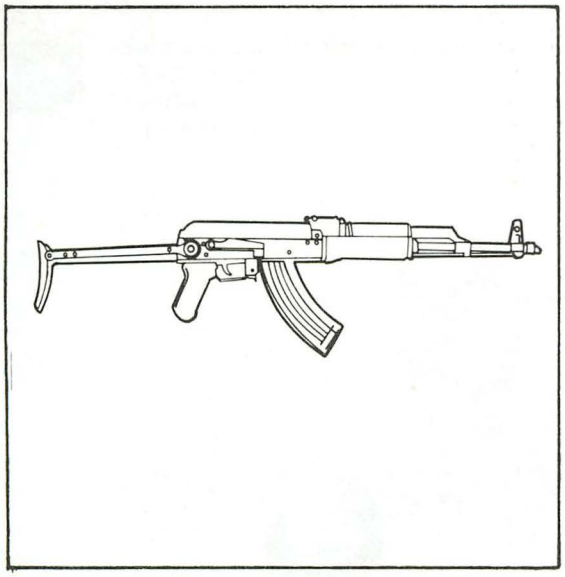
ZU-23

The ZU-23, 23-mm automatic antiaircraft gun is a light towed, automatic antiaircraft gun which is replacing the quad 14.5-mm ZPU-4. It is a fully automatic, gas-operated weapon with a maximum effective range against aerial targets of 2.5 kilometers. Maximum horizontal range is approximately 7 kilometers and the rate of fire is 2,000 rounds per minute.

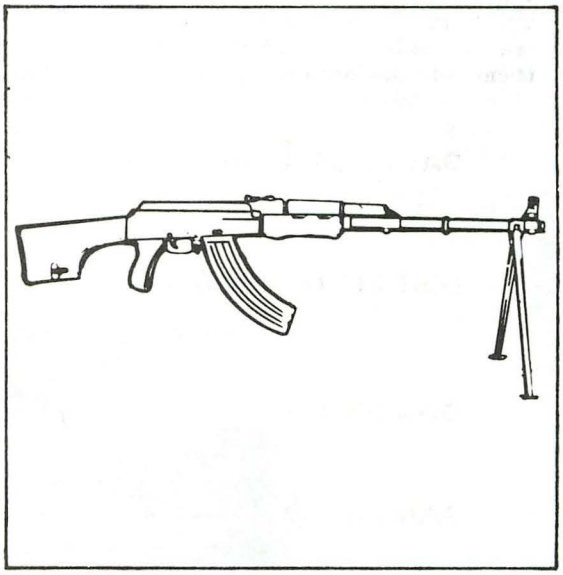
THREAT INDIVIDUAL WEAPONS

AKMS AND PKM

The highly effective 7.62-mm AKMS assault rifle is the Threat soldier's primary individual weapon. A new version of the AKM, it is equipped with a folding stock and uses a 30-round magazine. The AKMS and the PKM below are the firing port weapons for the BMP. The 7.62-mm PK family is the Threat primary light machinegun. (It does not fire the same 7.62-mm round as the AKMS.) Belt-fed, its maximum effective range is 1,000 meters.



AKMS



PKM

ANTIAIRCRAFT MISSILES

Threat forces have developed a family of semi-mobile to mobile, crew-served, air defense missiles for tactical air defense of field armies.

SA-2 GUIDELINE

Each battalion (fire unit) contains six single SA-2 mobile missile launchers, a *FAN SONG* fire control radar, and loader vehicles. It is designed for a medium-to-high altitude coverage out to approximately 45 kilometers to a maximum ceiling of about 80,000 feet. GUIDELINE's mobility and low-to-medium altitude capabilities are limited.

SA-6 GAINFUL

The SA-6 is a low-to-medium altitude, surface-to-air guided missile with a ceiling of 40,000 feet and a range of approximately 35 kilometers. The missile is deployed as part of a battery containing one STRAIGHT FLUSH fire control radar vehicle, one loader vehicle, and several triple launcher vehicles. The launcher vehicles are tracked like all the vehicles in the battery, but use components of the ZSU-23-4 chassis. The launcher rails can be traversed 360 degrees.

SA-4 GANEF

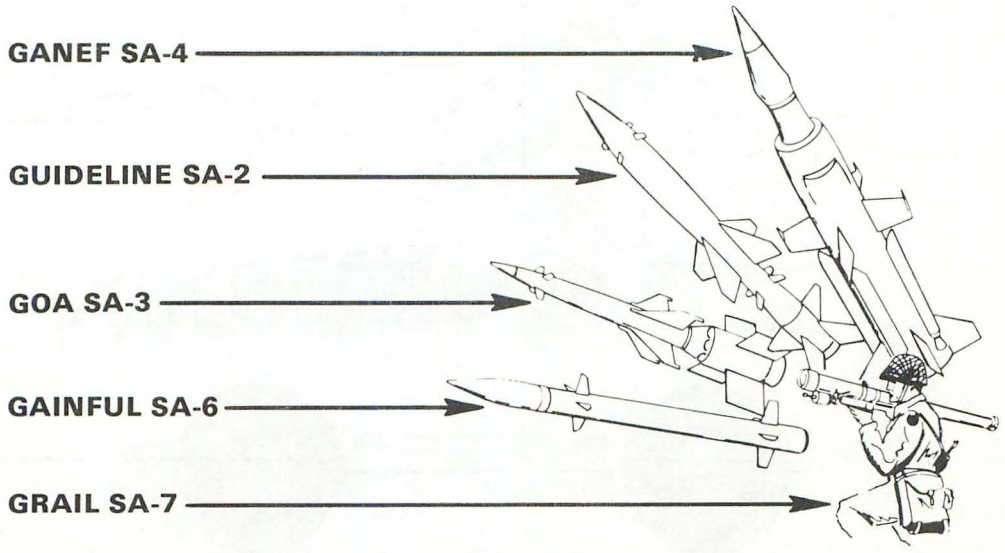
Each SA-4 battery has one *PAT HAND* fire control radar; loader vehicle; and three transporter, erector, launcher vehicles, capable of a 360-degree traverse. All vehicles are tracked. The missiles, which have a range of 70 kilometers and a ceiling of approximately 60,000 feet, are used against medium-to-high altitude targets.

SA-7 GRAIL

The SA-7 GRAIL is a man-portable, low-altitude, surface-to-air missile introduced in the late 1960's. It is a heat-seeking missile similar to the US Redeye. The SA-7 has a maximum range of approximately 3.5 kilometers and a maximum altitude of 10,000 feet. At least two versions of the SA-7 GRAIL exist.

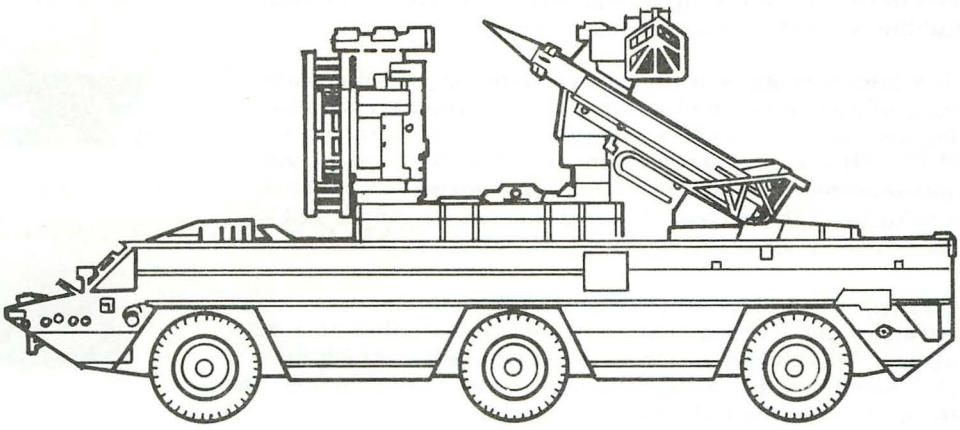
SA-3 GOA

The SA-3 is a two-stage, solid-fuel, medium-to-low altitude, surface-to-air guided missile with a slant range of 6 to 22 kilometers. The ready missiles are transported in tandem on a modified truck, which is also used to assist in loading them onto the launchers.



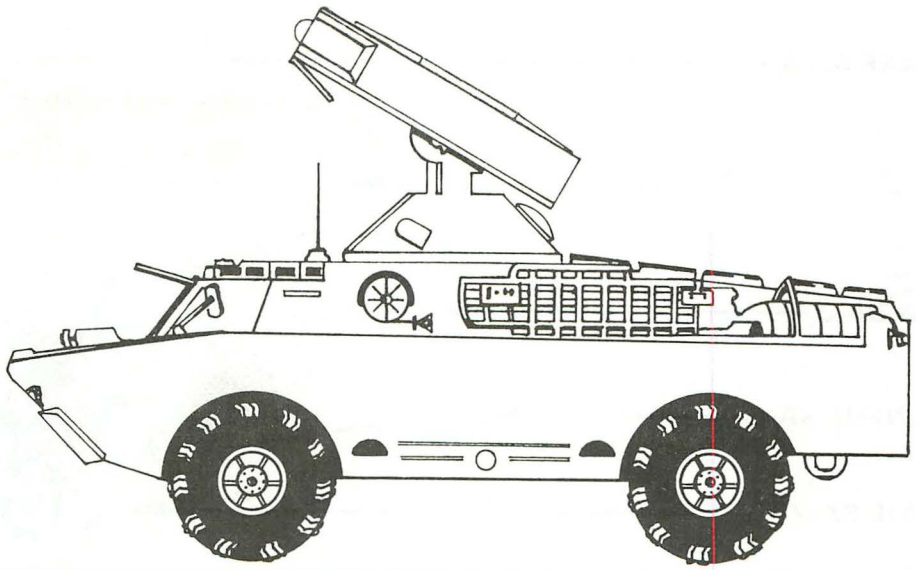
SA-8 GECKO

The SA-8 GECKO is a highly mobile, amphibious SAM system capable of rapid movement with ground forces. This three-axial amphibious vehicle carries four missiles. Each vehicle is equipped with an acquisition and tracking radar, plus two guidance radars. It also contains an electro-optical tracker—probably television. One carrier can launch two missiles at the same target, with each guided on a different frequency. The missile has a minimum effective altitude of 150 feet and a maximum altitude of about 20,000 feet. With a slant range of approximately 10 to 15 kilometers, the SA-8 can provide close support to armored and mechanized forces.



SA-9 GASKIN

The SA-9 GASKIN is also a heat-seeking missile system similar to the SA-7, but is longer and heavier with a larger warhead and greater range. The missile is carried and launched from quadruple canister launchers mounted on a modified BRDM-2 armored reconnaissance car. Its slant range is approximately 7 kilometers.

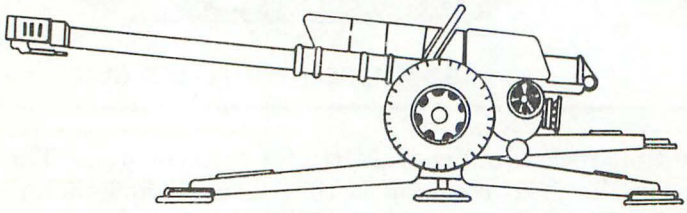


THREAT ARTILLERY

Employment of massive artillery fire has always characterized Threat force doctrine. In line with Threat emphasis on offensive striking power as the primary battlefield tactic, artillery is used to annihilate defensive positions to open the way for their rapid-moving armored and motorized units. Threat leaders require that their artillery pieces function as direct antiarmor; therefore, the Threat artillery pieces have a lower trajectory than ours. As a result, it is more difficult for enemy artillery to hit terrain-masked positions than it is for our artillery. Threat artillery often will be positioned to place direct antitank fires on possible armor approaches as well as to provide indirect fires.

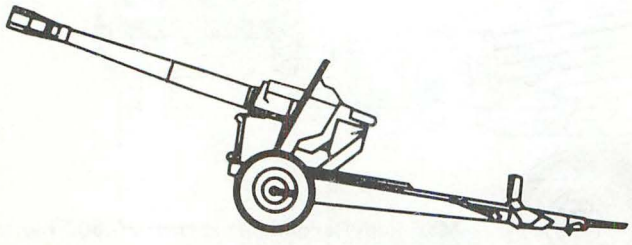
The most common field pieces are the 122-mm and 152-mm towed howitzers. The range of their largest towed howitzer, the 180-mm M1955 (S-23), is more than 29,000 meters.

122-MM TOWED HOWITZER



122-mm Howitzer D-30
Maximum Range: 15,300 meters
Rate of Fire: 7 to 8 rounds per minute

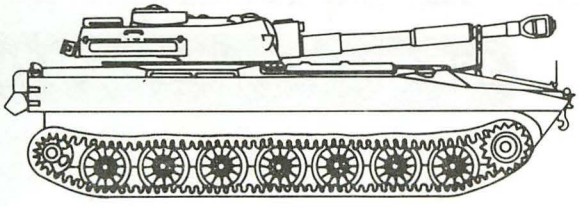
152-MM TOWED HOWITZER



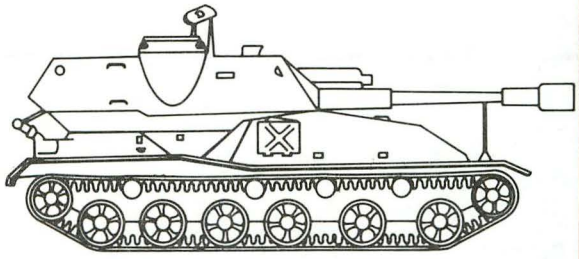
152-mm Gun Howitzer D-20
Maximum Range: 17,000 meters
Rate of Fire: 4 rounds per minute

Threat forces have recently been equipped with two new mobile field artillery pieces—the 122-mm and 152-mm, self-propelled (SP) guns. Not too much is known about the 152-mm SP. The 122-mm SP is mounted on a tracked carriage which resembles the hull of the BMP personnel carrier and resembles the suspension system of the PT-76 tank. The gun is mounted in a turret which has compartments and hatches for both gunner and commander.

122-MM AND 152-MM SP GUNS



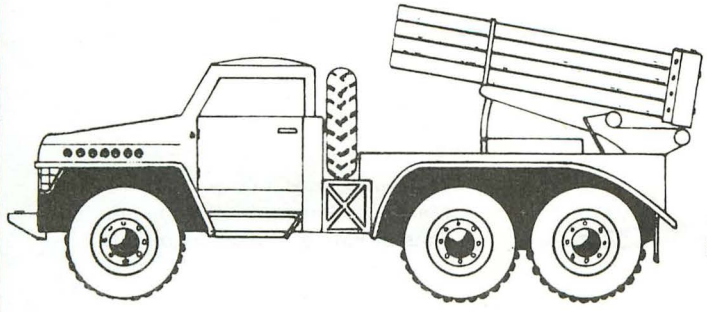
122-MM SELF-PROPELLED GUN



152-MM, SELF-PROPELLED GUN

Threat forces commonly use the multiple rocket launcher (MRL) for area coverage. These weapons are available in many sizes, but the most common is the 122-mm truck-mounted launcher BM-21 which can fire 40 rounds in 10 minutes to a range of 20,500 meters. This system requires approximately 10 minutes to reload.

122-MM ROCKET LAUNCHER BM-21



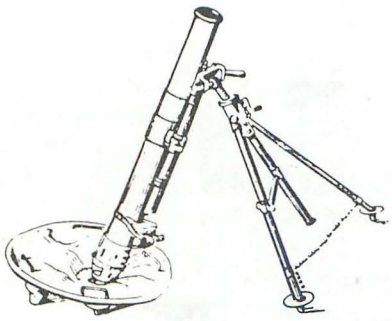
Maximum Range: Long rocket: 20,500 meters
Short rocket: 11,000 meters

Rate of Fire: 40 rounds per minute

THREAT MORTARS

Threat force mortars have the same employment capabilities as ours and are designed similar to ours. However, it is hard to rapidly turn most of them over a wide traverse; yet they can manage small angle shifts (up to 6°) without moving the bipod. One of their most common mortars, the 120-mm, is used as the standard mortar for the motorized rifle battalion. It has a range of over 5,000 meters and is capable of firing 15 rounds per minute.

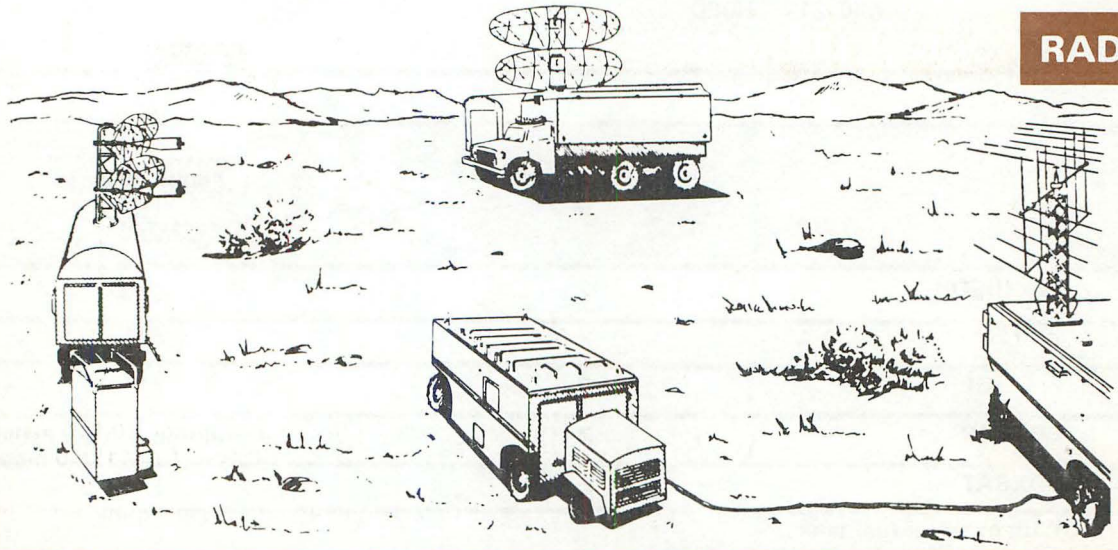
120-MM MORTAR M-43



THREAT RADAR

Threat armies are equipped with various types of radar. Threat radar systems cover combat surveillance, countermortar/counterbattery fire direction, early warning, height finding, acquisition, fire control, missile guidance, and meteorology.

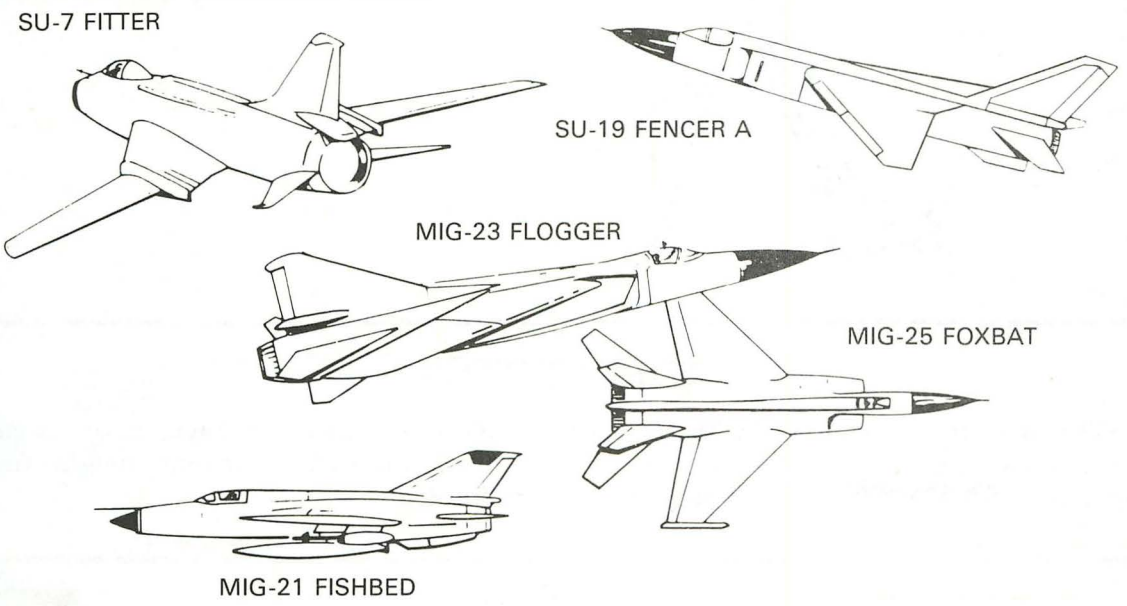
RADAR



THREAT AIRCRAFT

Unlike the USAF, Threat tactical air support is controlled by ground force commanders. First, Threat tactical air tries to gain air superiority. It then engages targets beyond artillery range, reinforces artillery fires, and attacks targets of opportunity. Usually Threat artillery preparation includes coordinated tactical air sorties. Threat air support provides the ground force commander with a long-range extension of his artillery near the enemy's rear area.

TACTICAL AIR SUPPORT



	Speed Mach	Combat Radius NM*
FISHBED	2 (+)	540
FITTER	2 (-)	290
FLOGGER	2.3	710
FENCER	2 (+)	Information not available.
FOXBAT	2.8	325

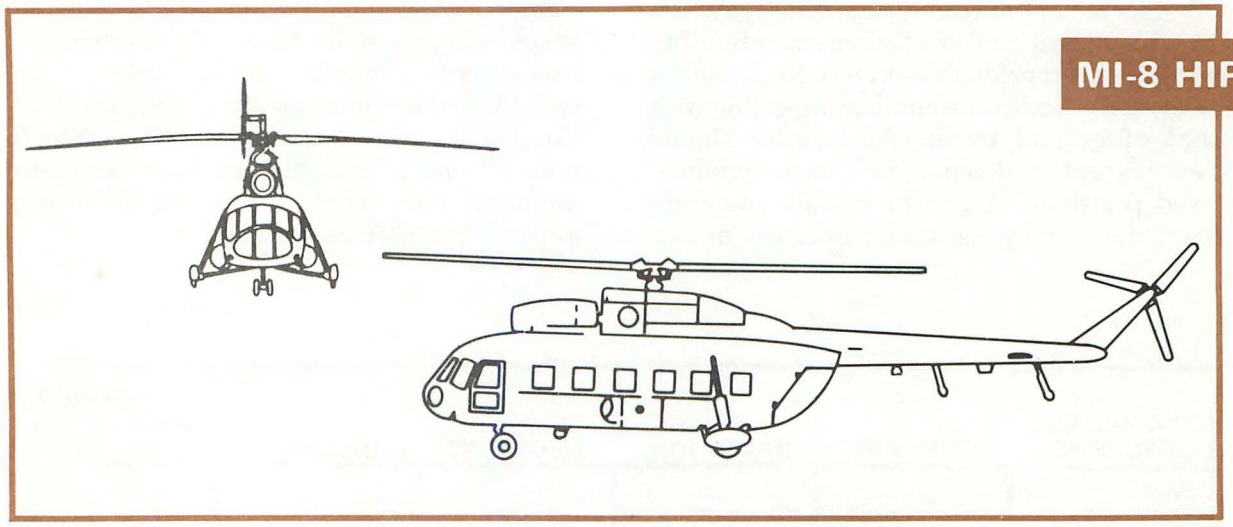
*With external fuel tanks.

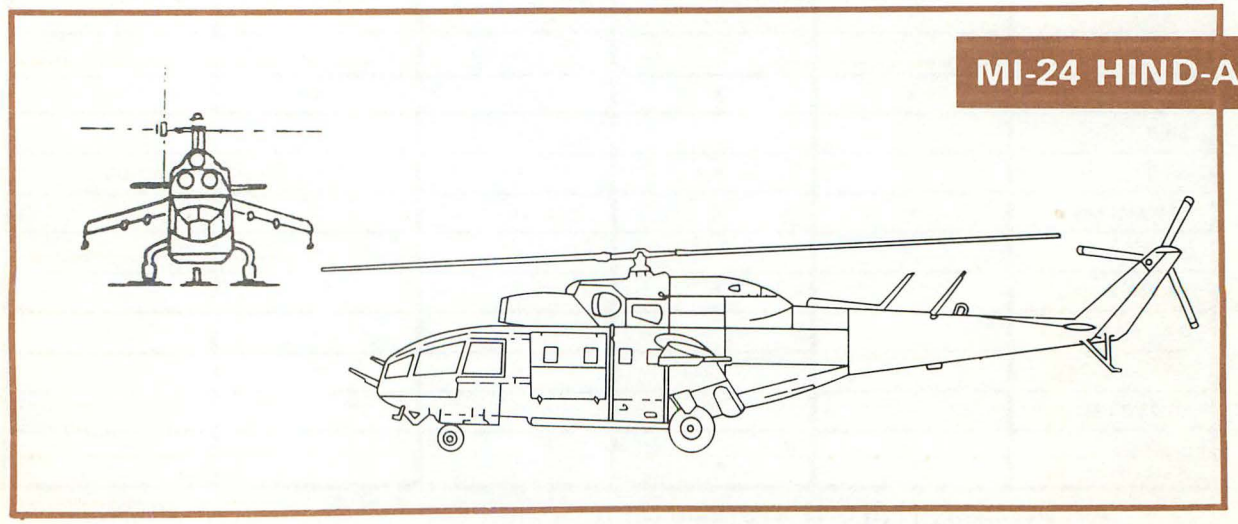
THREAT HELICOPTERS

Threat force doctrine concerning the use of helicopters is currently expanding. It is anticipated that in the future, Threat forces will employ cargo, lift, and attack helicopters in greater number and for a wide variety of missions.

They have large heavy-lift helicopters for moving supplies and some troop-carrying aircraft for airmobile operations.

Threat forces are now deploying attack helicopters. The *HIND-A* mounts 57-mm rocket pods, a cannon in the nose, and four SWATTER radio-guided AT missiles on outboard rails on the wing stores. The *HIND-A* can carry between 8 and 12 troops in addition to its weapon load, and it has an automatic weapon in the chin turret (believed to be a 23-mm weapon). The *HIND-A* has an estimated cruising speed of 122 knots and a range of approximately 260 nautical miles.





THREAT WEAPONS SYSTEMS

Threat forces can be expected to use the basic principles of *mobility* and *mix*.

Except for individual infantry weapons, all other Threat weapons are mounted on wheels or tracks. Anything that is too heavy to handle easily has been placed on a prime mover to provide mobility. Forward area gun/missile units are able to keep up with and maintain air defense coverage for the maneuver force. Highly mobile air defense systems follow directly behind the battle line of tanks ready to fire at helicopters. These are capable of firing at low-flying aircraft either while moving or during brief halts. Mobility of modern tactical radars is compatible with that of ground forces. An aviator should never expect air defense systems to remain in fixed positions. A gun or missile site, once located either by reconnaissance or engagement, will move. Any attempt to destroy the weapon must be made as soon as it is located.

Various types of weapons are integrated to complement the air defense weapons system. These Threat weapons overlap to provide complete coverage of the battlefield. The capabilities of one system offset the limitations of another so that aircraft cannot defeat in detail any particular weapon system. Forward area guns are employed in combination with short-range air defense missiles to protect critical assets. The long-range and medium-range, radar-directed systems complement forward area systems. Equipment diversity and redundancy are emphasized in radar design and deployment. Combined radar-optical modes are used to minimize radar exposure, counter chaff, and jamming. Observers are used to fill in any gaps in radar surveillance.

WEAPONS SYSTEMS	COMPANY	BATTALION	REGIMENT	DIVISION	COMBINED ARMS ARMY TANK ARMY
SA-2					x
SA-3					x
SA-4					x
SA-6				x	x
SA-7	x	x	x	x	x
SA-8			x	x	x
SA-9		x	x	x	
12.7-MM MG	x	x	x	x	
ZSU-23-4		x	x	x	
ZSU-57-2		x	x	x	
S-60 57-MM			x	x	x
ZPU 4 14.5-MM		x	x	x	
ZU-23 23-MM		x	x	x	
Individual Weapons	x	x	x	x	x

AIR DEFENSE WEAPONS SYSTEMS DISTRIBUTION IN A TYPICAL THREAT ARMY.

THREAT WEAPONS DENSITY

■ A typical Threat tank battalion, reinforced by one motorized rifle company, may have the following weapons available:

- TANK - 31
- SAGGER MISSILE - 50***
- RPG-7 - 9
- BMP -10
- 120MM MORTAR - NONE
- RIFLES AKM 7.62MM - 212
- LMG PK 7.62MM (BMP) - 20
- COAX MG 7.62MM (BMP & T62A) - 41
- HMG 12.7MM (T62A) - 31
- SA-7 - 12

WITH THIS POSSIBLE SUPPORT FROM REGIMENT:

- 1 OR MORE ZSU-23-4s
- 3 OR MORE BRDMs WITH SAGGER
- 6 122MM HOWITZERS***
- 1 OR MORE ROCKET LAUNCHER BATTERIES* (120MM, 40 ROUNDS)

■ A typical Threat motorized rifle battalion, reinforced by one tank company, may have the following weapons available:

- BMP - 32
- SAGGER MISSILE - 164***
- SPG-9 - 2
- RPG-7 - 27
- TANK - 13
- 120MM MORTAR - 6
- RIFLES AKM 7.62MM - 356
- LMG PK 7.62MM (BMP) - 64
- COAX MG 7.62MM (BMP & T62A) - 45
- HMG 12.7MM (T62A) - 13
- SNIPER RIFLE SVD-7.62MM - 9
- SA-7 - 12

WITH THIS POSSIBLE SUPPORT FROM REGIMENT:

- 2 OR MORE ZSU-23-4s, LOW-LEVEL, SURFACE-TO-AIR MISSILES OR
- ZSU-57-2s
- 1 OR MORE BRDMs WITH SAGGER
- 6 122MM HOWITZERS**
- 1 OR MORE ROCKET LAUNCHER BATTERIES*

*Division support.
**Divisional or regimental support.
***One SAGGER Launcher and one 73mm Smooth Bore Gun with automatic loader mounted on each BMP. Each BMP carries five SAGGERs, one mounted and four in the basic load. There are also two man-pack launchers in the battalion, each with two missiles.

THREAT TACTICS

■ Threat military has emphasized attainment and retention of tactical air supremacy over the battlefield. Threat army air defense artillery (ADA) units are organic to regiment and division. Motorized rifle and tank division air defense regiments may be equipped with towed 57-mm S-60 and ZSU-57-2 air defense guns, respectively. These regiments are highly mobile and have excellent communication nets with fire control and radar equipment.

• The ZSU-23-4 and SA-9 organic to tank and motorized rifle regiments may be found as far forward as leading tank elements, integrated into combined arms formations. Forward combat elements—especially tanks and BMPs—can be expected to use their machineguns for air defense. Also, the man-portable, surface-to-air missile, SA-7, is employed well forward, to platoon level, in motorized rifle, tank, and reconnaissance units.

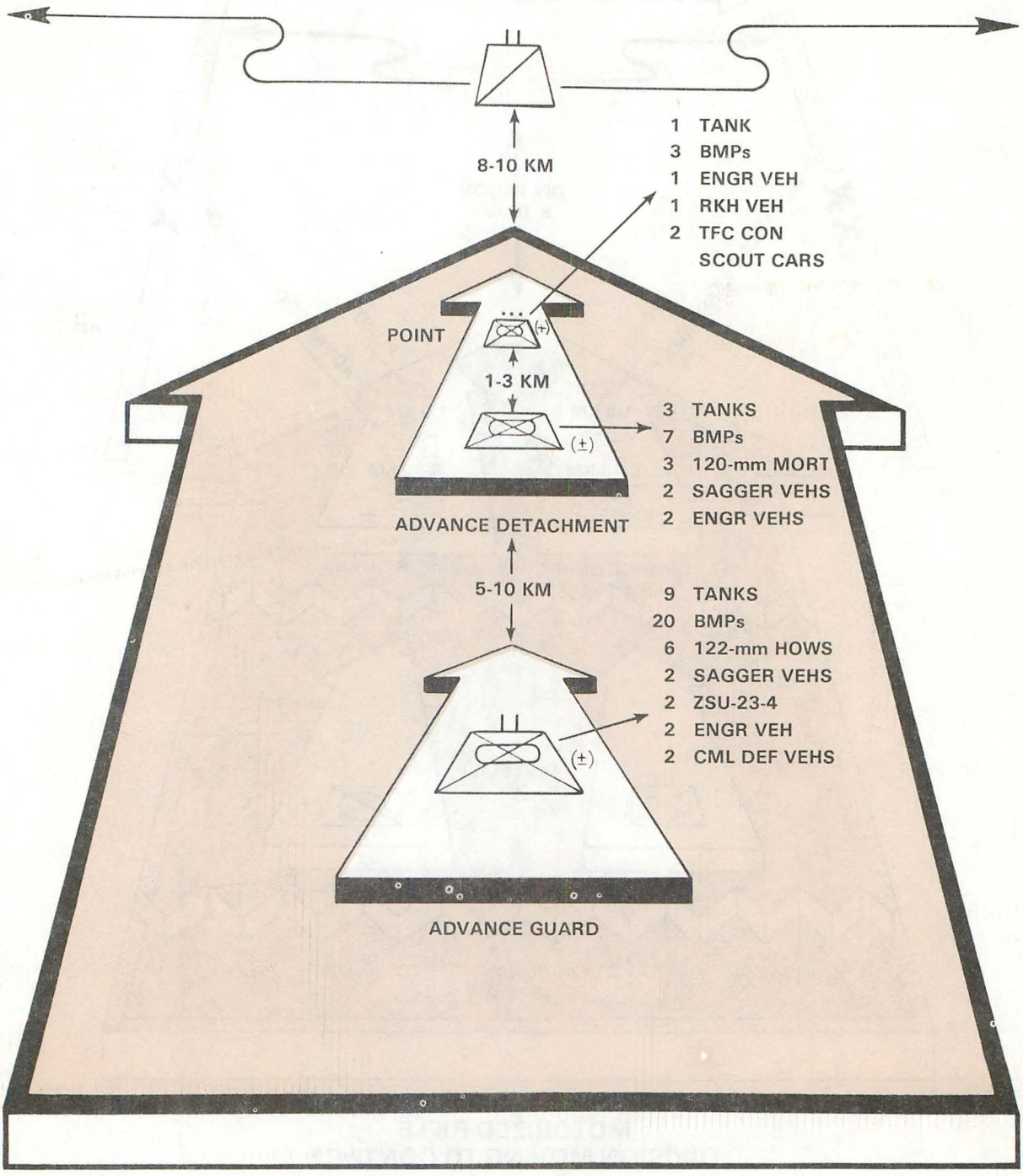
• In addition to weapons primarily designed for air defense, all combat units are trained to engage both high-performance aircraft and low-flying helicopters with small arms and machineguns.

■ Threat forces are organized as combined arms teams as low as regimental level. For example, motorized rifle regiments are organized with a tank battalion, three motorized rifle battalions, and an artillery battery. They also have an engineer company, a signal company, a reconnaissance company, a chemical section, an air defense battery, an antitank company, and a mortar company. Also found in the regiment are medical and transportation companies, traffic control, and service platoons.

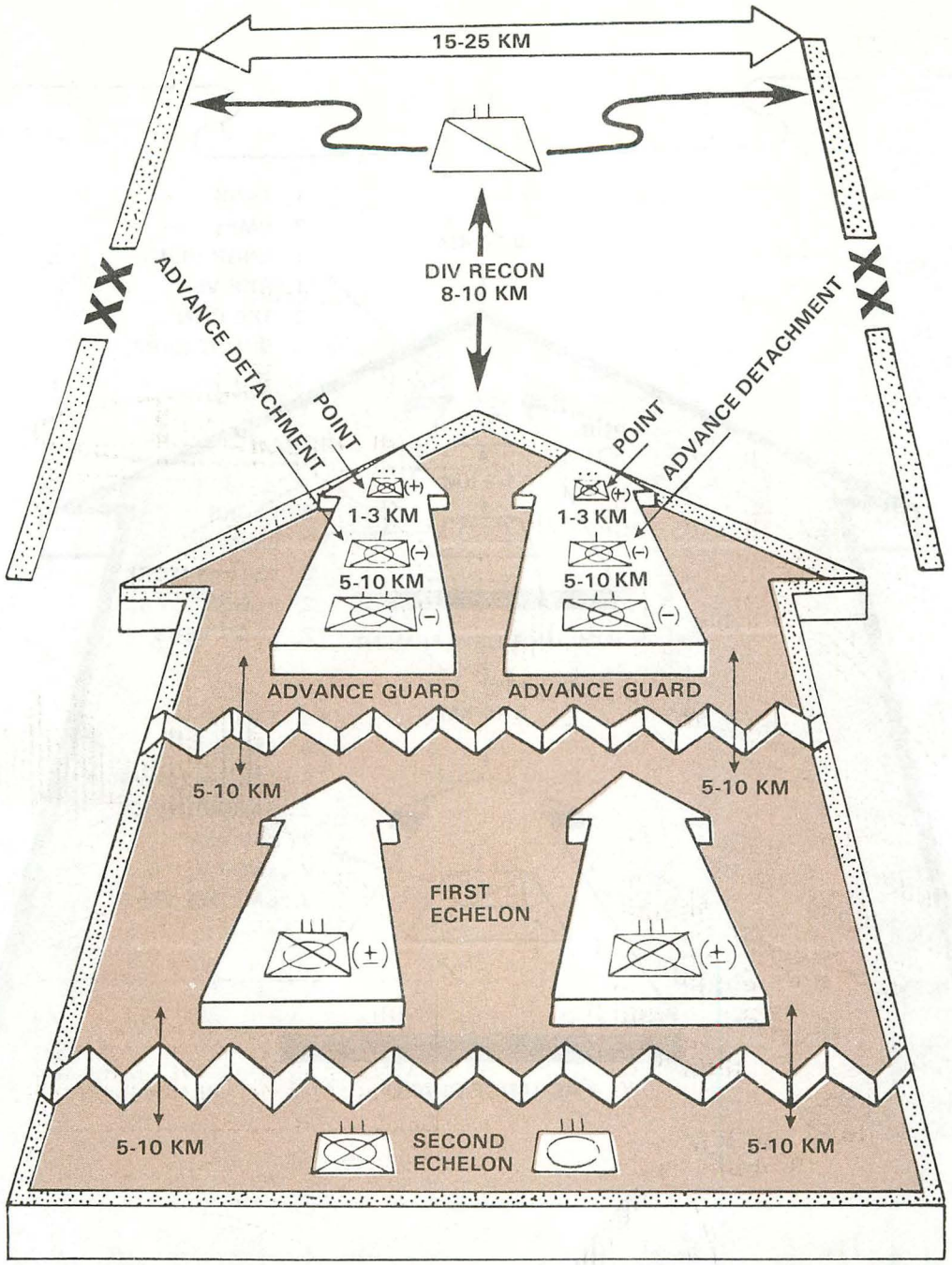
■ A typical battle disposition for a Threat motorized rifle regiment is shown on the following pages. Reconnaissance units are used to find the limits of enemy defensive positions. Knowing these limits, the main body will bypass defensive positions and attack them from the flanks and rear. The regimental attack is organized in two echelons. In the first echelon are combat units responsible for accomplishing the primary mission. Second echelon forces follow the route of advance of first echelon forces, but have secondary or follow-up missions which may change as the tactical situation develops. Emphasis is on the combined arms team. Even motorized units depend on the maximum use of tanks. Threat forces use massive field artillery fires to support maneuver elements. Airbursts from Threat field artillery fires can inhibit helicopter operations in forward areas. Within the regiment, ADA priority is assigned to defense of command posts and tank units.

• Threat forces employ air defense artillery to protect combat formations, installations, and troop movements from air attack. ADA weapons occupy carefully selected positions in order to ambush helicopters flying nap-of-the-earth (NOE). ADA weapons are used against ground targets only in self-defense. Fire support from adjacent ADA units is provided whenever practicable.

• Threat forces are trained to fight at night and during periods of reduced visibility. Basic tactics are the same under these conditions; however, objectives will not be as deep as when fighting in daylight hours and good weather.

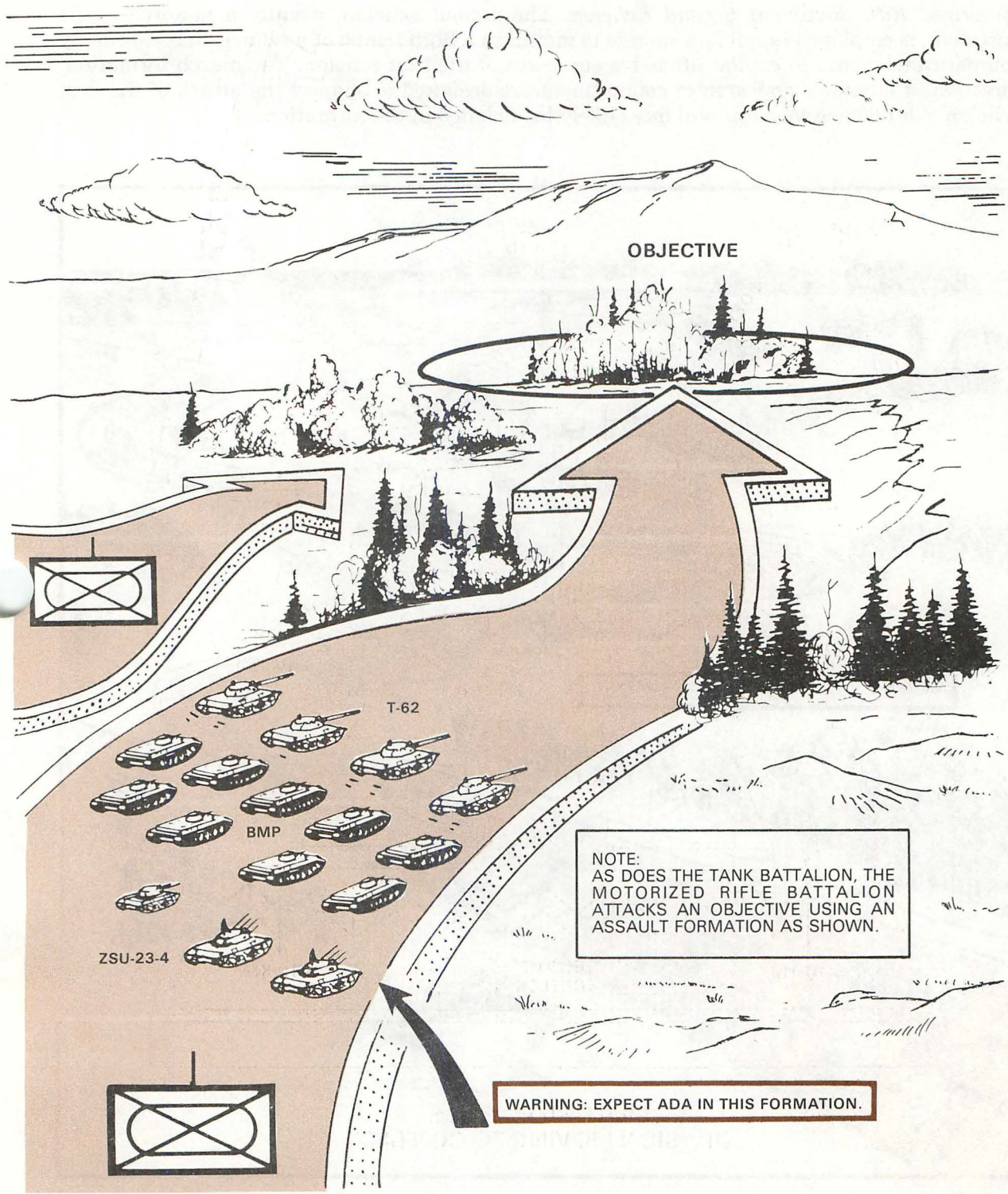


WEAPONS AND VEHICLES IN AN ADVANCE GUARD OF A MOTORIZED RIFLE DIVISION.



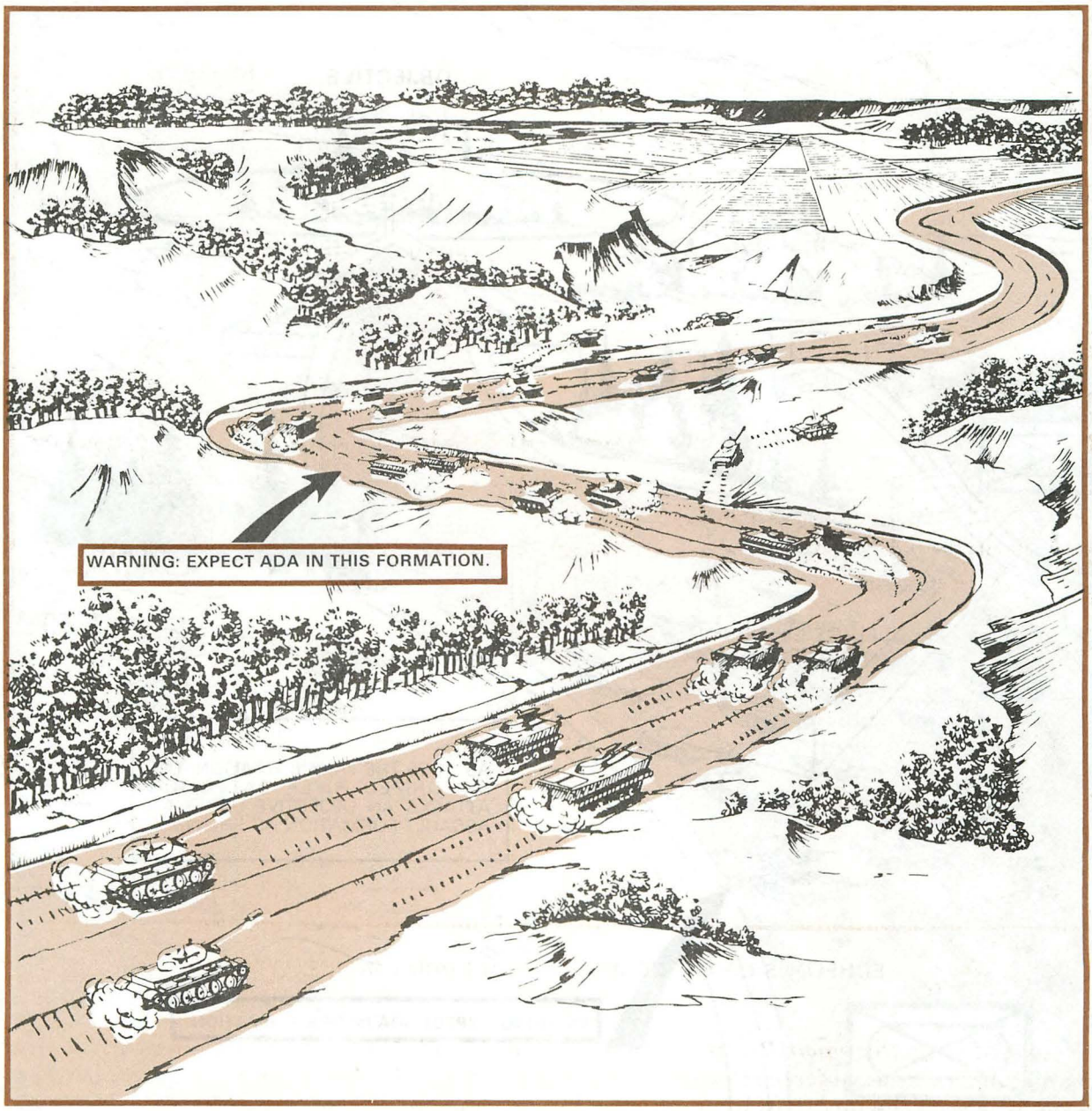
MOTORIZED RIFLE DIVISION MOVING TO CONTACT

WHEN A MOTORIZED RIFLE DIVISION MOVES OVER MORE THAN ONE ROUTE, EACH FORWARD REGIMENT SENDS OUT ITS OWN ADVANCE GUARD.



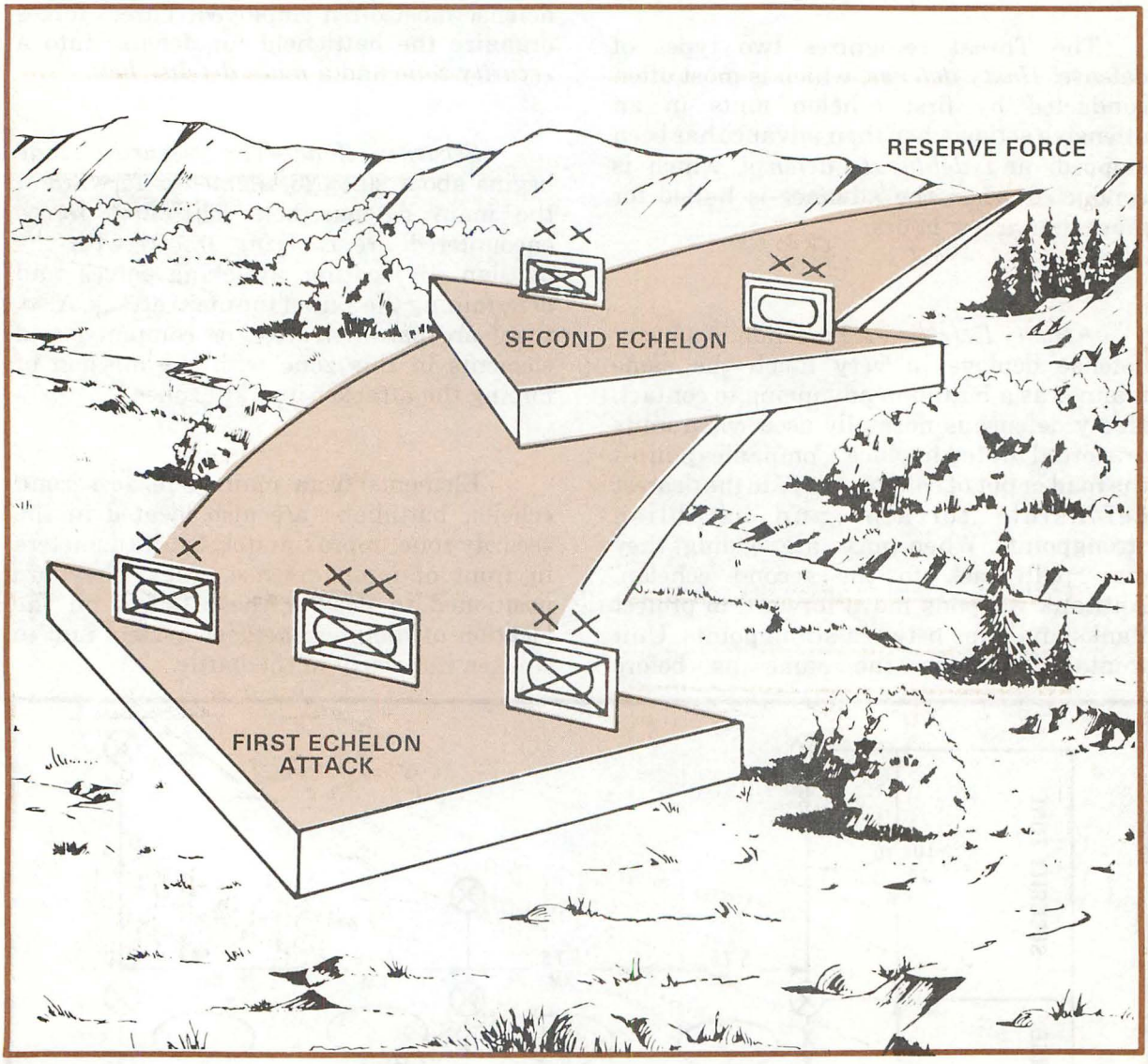
MOTORIZED RIFLE BATTALION ATTACKS.

Motorized Rifle Regiment Second Echelon. The second echelon, usually a motorized rifle battalion, is employed in a follow-up role to maintain a high tempo of advance, to repel enemy counterattacks, and to exploit offensive successes of the first echelon. The march formation, direction of advance, and area of commitment are designed to support the attack of the first echelon. Air defense weapons will most likely be included in the formation.



SECOND ECHELON OF A MOTORIZED RIFLE REGIMENT.

The tactic of using a second echelon is consistent throughout Threat doctrine; therefore, even when talking of combined arms armies, there will still be a second echelon, as depicted below. The distance between first and second echelons depends on the tactical situation.



ECHELONS OF THE COMBINED ARMS ARMY IN THE ATTACK.

Motorized Rifle Regiment Reserve. The motorized rifle regiment normally maintains a tank battalion as a reserve force to exploit penetrations. It may be the organic tank battalion, but usually will be the tank battalion attached to the motorized rifle regiment from the motorized rifle division's tank regiment. The reserve will travel in the vicinity of the regimental command group.

■ Defense is only a temporary measure conducted while forces consolidate to continue an attack. It is conducted in depth from a series of strongpoints.

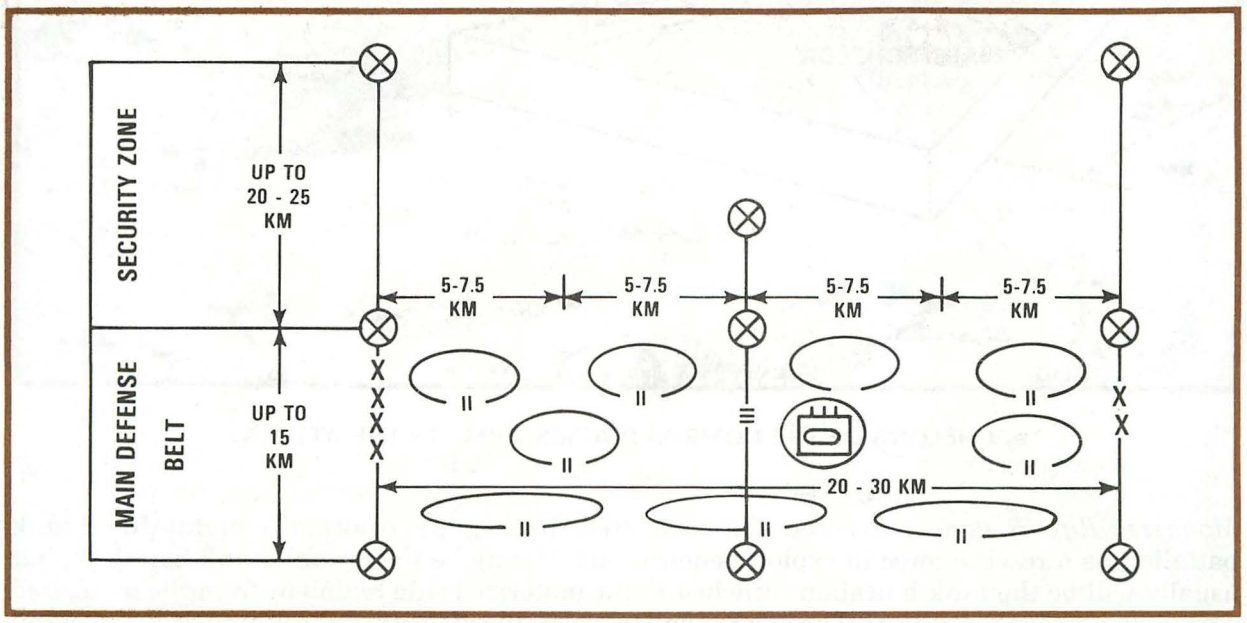
The Threat recognizes two types of defense: *Hasty defense,* which is most often conducted by first echelon units in an offensive action when their advance has been stopped; and *deliberate defense,* which is conducted when the advance is halted for more than a few hours.

• *Hasty Defense*—A battalion in a hasty defense deploys in very much the same manner as a battalion advancing to contact. Hasty defense is normally used when units are forced to stop in place. Companies pull off the road or out of column, move to the nearest defensible terrain, and establish strongpoints. When tanks are leading, they may pull back to the second echelon. Antitank weapons move forward to protect flanks and gaps between strongpoints. Unit frontage remains the same as before halting—a battalion usually covers up to 3 kilometers.

• *Deliberate Defense*—This is the defense most often employed. Threat forces organize the battlefield for defense into a *security zone* and a *main defense belt.*

• *Security Zone*—The *security zone* begins about 20 to 25 kilometers forward of the main defense belt. The first forces encountered are *covering troops* with the mission of locating attacking forces and determining the axis of the main attack. Also, there are battalion-sized or company-sized elements in this zone with the mission of forcing the attacker into kill zones.

Elements from main defense second echelon battalions are also located in the security zone, approximately 3 to 5 kilometers in front of main defense units. They are positioned to deceive the attacker on the location of the main defense system and to weaken him early in the battle.



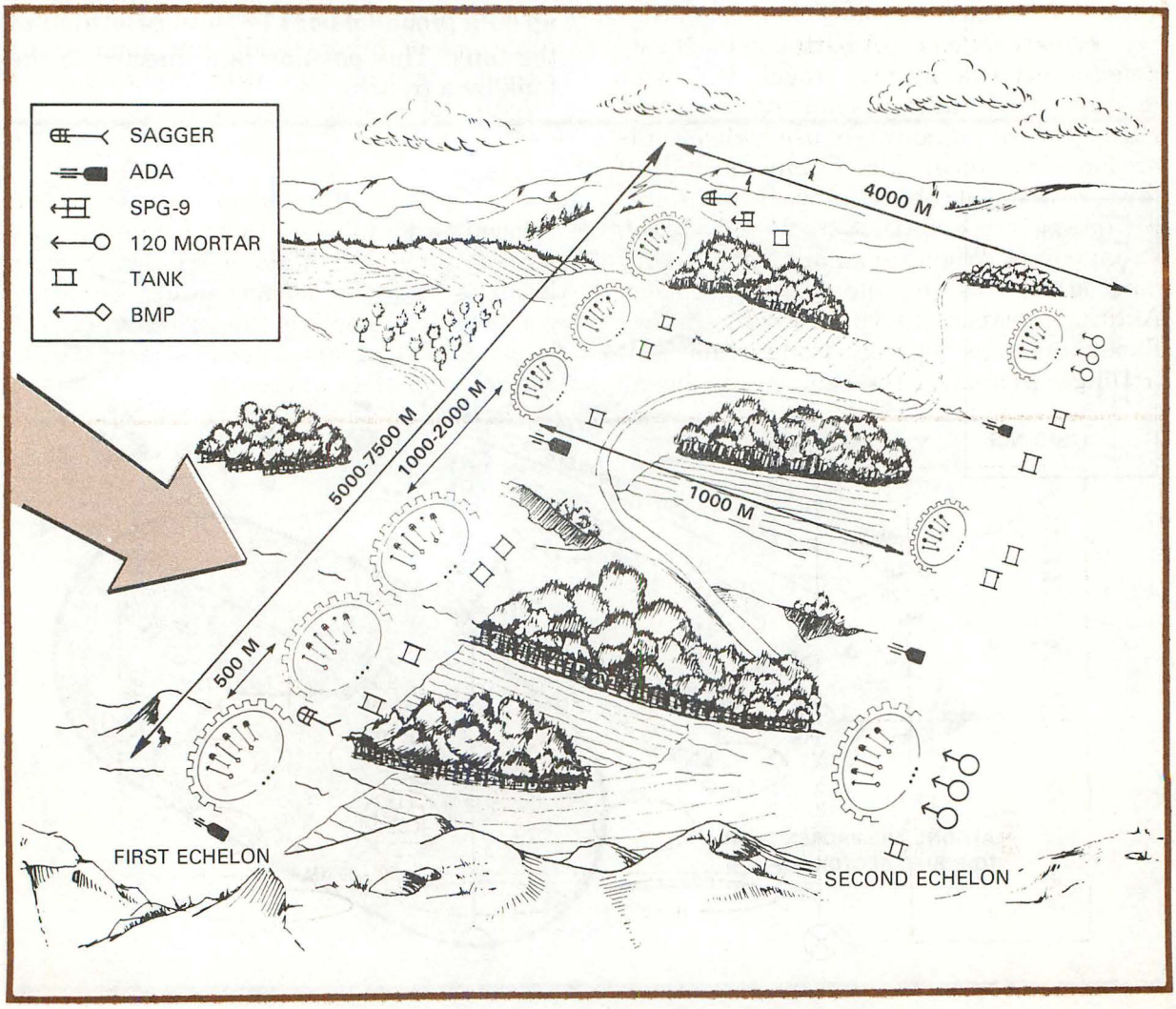
THREAT DEFENSE IN DEPTH.

• *Main Defense Belt*—The *main defense belt* consists of battalion strongpoints on likely avenues of approach. Time permitting, engineers reinforce terrain with minefields and barriers. Fires are planned on avenues of approach, flanks, on and to the rear of all defensive positions. Defensive fires are provided by artillery, mortars, ATGMs, and by tanks used in an antitank role. There are two lines of defense within a battalion defensive position. A typical battalion defensive sector looks like this:

■ The first echelon of the battalion consists of two reinforced companies. These companies are deployed in platoon strongpoints as shown.

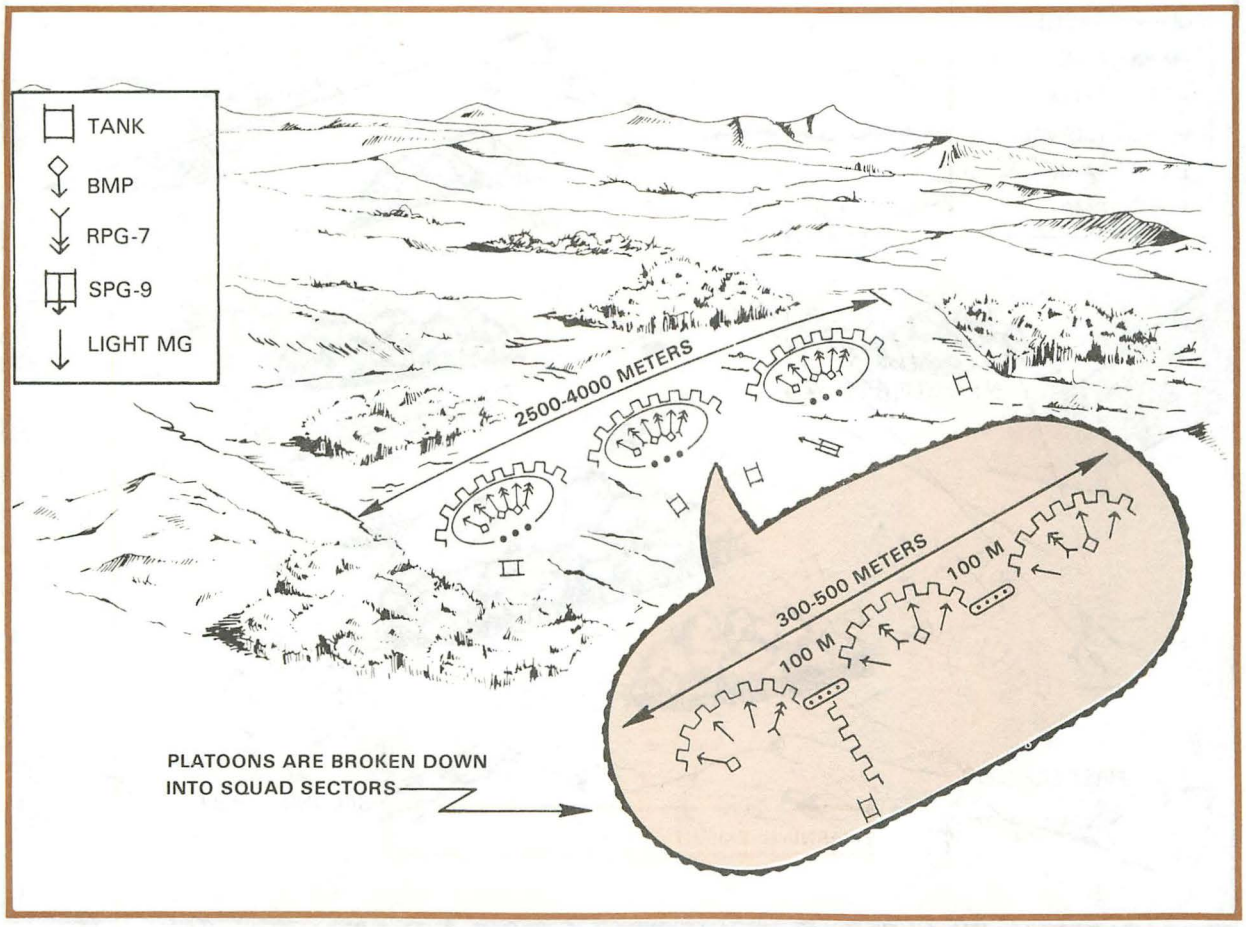
■ The second echelon is formed by the third company, spread across the battalion sector approximately 1 kilometer behind the first echelon companies.

■ If the sector is very wide or terrain is not suitable for organizing strongpoints in depth, the battalion will not use a second echelon.



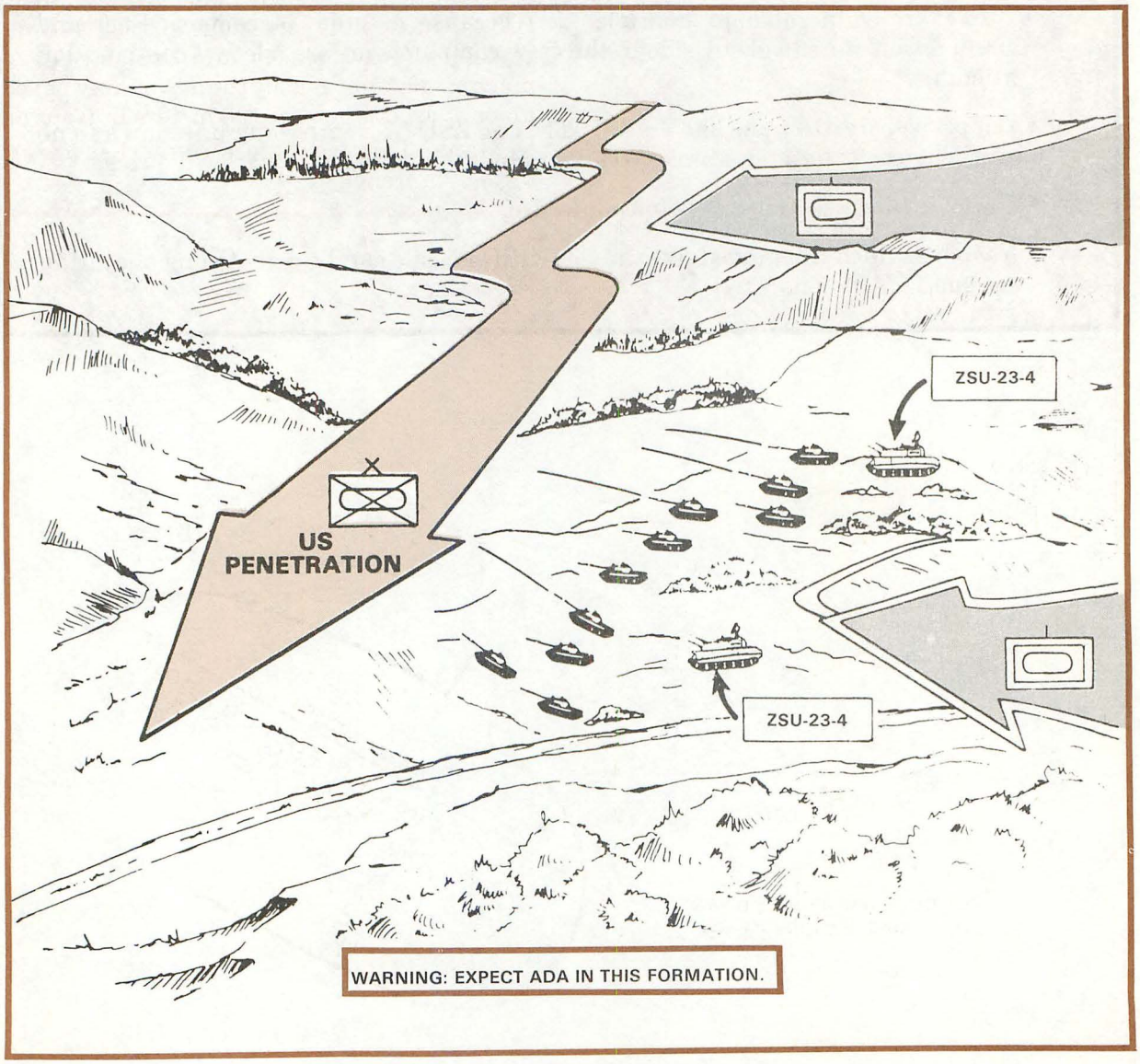
BATTALION MAIN DEFENSIVE BELT ORGANIZATION.

A company defensive position in a Threat battalion strongpoint may be organized as shown below. In some instances, BMPs of forward platoons will be positioned with the rear platoon, providing overwatching fires. The infantry prepares two- and three-man defensive positions as quickly as possible. Communication trenches are dug between platoons and company headquarters. Alternate positions are prepared; BMPs and tanks are dug in, using unit resources (dozer blades and explosives). A machinegun manned by the driver may be set up on a ground mount 100 meters in front of the tank. This position is connected to the tank by a trench.



PENETRATION OF THE THREAT MAIN DEFENSIVE BELT.

Any penetration into the main defensive belt will be counterattacked by elements of the regimental tank battalion held in reserve for that purpose. The objective of the counterattack by the reserve is destruction of the enemy force. Priority for air defense may be assigned to the reserve. ADA will normally accompany the tank battalion in the counterattack.



COMPANY DEFENSIVE ORGANIZATION.

THREAT VULNERABILITIES

Although Threat forces have one of the best-equipped and well-trained armies in the world, they can be defeated.

Every weapon and weapons system has weaknesses and vulnerabilities which can be exploited.

■ Vulnerabilities:

- Light armor is vulnerable to most weapons found on the modern battlefield.
- Tanks are vulnerable to multiple kills because of crew placement. Fuel and ammunition stored side-by-side in the crew compartment are a lethal combination when hit.
- Self-propelled ADA guns like the ZSU-23-4 and ZSU-57-2 with radar antenna and no overhead cover for crews are especially vulnerable to artillery with VT fuzes.
- Towed artillery is vulnerable to counterfire.
- Weapons which are guided like the SAGGER missile can be defeated by obscuring the gunner's vision.

CHAPTER 3

ORGANIZATION AND ORGANIZATION FOR COMBAT

CONCEPT OF OPERATIONS

Attack helicopter units are aerial maneuver units employed as integral parts of a combined arms force. They are maneuverable firepower, ideally suited for situations in which rapid reaction time is important, ground forces are inadequate or ground forces are restricted by terrain.

Using their speed, mobility, flexibility, and armor-defeating firepower, attack helicopter units can quickly respond to a threat, rapidly mass firepower, and exploit enemy weakness. They attack by fire, defend by fire, or delay by fire because they cannot hold terrain like ground maneuver forces. Attack helicopter units are, therefore, integrated into the tactical plan of the ground force commander, complementing his scheme of maneuver and enhancing the capabilities of both attack helicopter and ground combat forces. Because of the large quantities of Class III *(fuel)* and Class V *(ammo)* that attack helicopter units will expend, the ground commander must consider combat service support for attack helicopters when integrating these units into his operational planning.

Because attack helicopter units normally have a considerable mobility differential over ground combat units, they can be moved rapidly to a critical point at a critical time and be employed there in mass, striking the enemy where and when he is most vulnerable.

CONTENTS

An attack helicopter battalion can be assigned more than one mission during a single operation. For example, when employed in reserve, it can simultaneously reinforce ground units with some or all of its companies in one or more locations for a limited time or for specific missions. Because of its mobility, an attack helicopter battalion can be quickly reconstituted to execute a

contingency mission elsewhere on the battlefield. This concept is called **MULTIPLE EMPLOYMENT.**

Commanders must establish acceptable loss rates to insure the availability of sufficient attack helicopter combat power for contingency missions.

Attack helicopter battalions can, in certain instances, be reinforced with ground combat forces to form a combined arms team.

ATTACK HELICOPTERS CAN PROVIDE CONTINUOUS FIRE BY CYCLING PLATOONS IN COMPANIES OR COMPANIES IN BATTALIONS

By cycling platoons within companies, or companies within battalions, attack helicopter units can provide continuous antitank fires on Threat forces. Given adequate terrain and lucrative targets, attack helicopter units can concentrate their firepower to provide devastating antitank fire for a short period of time.

ATTACK HELICOPTER UNITS CAN DOMINATE TERRAIN FOR LIMITED PERIODS OF TIME

Attack helicopter units are not assigned to secure terrain. However, an attack helicopter unit can ***dominate*** terrain, denying the enemy its use by direct aerial fires for limited periods of time. As a general rule, attack helicopter units are not ***attached*** below division. When it is necessary to give an attack helicopter unit to a brigade it should be placed under ***operational control*** of the brigade rather than attached to the brigade. The **ACCB** support battalion, **DISCOM,** or **COSCOM,** as appropriate, retains logistic support responsibility.

Attack helicopters are normally employed in mass—preferably in battalion strength but not less than company strength. The smallest unit that should be placed OPCON to a brigade is a company. This allows the attack helicopter company commander to cycle platoons into the fight until the mission is completed. While one platoon may do the job, the attack helicopter company commander must have the option of cycling additional platoons into the fight should it become necessary. Normally an attack helicopter unit, either company or battalion, placed OPCON to a brigade is

tactically employed directly under brigade control.

Occasionally, a battalion task force in heavy contact may receive an attack helicopter company which has been given the mission of ***reinforcing by fire.*** When reinforcing by fire, attack helicopter units attack targets within a battalion task force's area of operations as directed by the ground commander. His responsibility is for target designation only. The AH unit commander maneuvers the unit to attack the targets.

It is inappropriate to place attack helicopter units under the operational control of ground maneuver companies or troops. When it is necessary for an attack helicopter unit to coordinate with ground maneuver companies or troops, aeroscouts do this, normally by radio, as described in Chapter 4.

Attack helicopter units take operational control of ground maneuver units only in severe cases where the ground unit is disintegrating under enemy pressure and then, only long enough to extricate the remaining ground elements or until effective command control by the ground maneuver unit can be reestablished.

ORGANIZATION AND FACTORS OF METT

Tables of Organization and Equipment 17-385H and 17-111H detail manpower and equipment authorizations for attack helicopter battalions and companies. The reader should recall, however, that all Army units are organized under modified tables of organization and equipment. Therefore, in order to determine manpower and equipment authorization for a specific unit, it is necessary to consult the authorization document *(MTOE)* for that unit. Generally, however, the force will include separate attack helicopter companies and/or battalions; one or more attack helicopter battalions will be found in the Air Cavalry Combat Brigade.

Organization for combat is the grouping or tailoring of a combination of combat and combat support units to accomplish a specific mission. Four fundamental considerations are essential to determining an appropriate task organization. They are Mission, Enemy, Troops available and Terrain and Weather **(METT).**

(1) Mission.

MISSIONS REQUIRING RAPID MOVEMENT TO MASS FORCES TO EXPLOIT A BREAK IN AN ENEMY DEFENSIVE SYSTEM OR **TO COUNTER THE ENEMY MAIN ATTACK** ARE IDEAL FOR THE ATTACK HELICOPTER UNIT.

- Attack helicopter units can reinforce ground combat units to form a combined arms team. They attack, defend, or delay by attacking the enemy with direct fire.

- In a deliberate attack of a well prepared enemy position, attack helicopters may be used, but only with the aid of considerable suppression and careful mission profile planning.

- Attack helicopter units are not suited for missions requiring the holding of terrain, but may deny terrain by fire for limited periods.

- In missions requiring operation at night, helicopters are currently limited by the capabilities of their night vision equipment. Generally, it is not feasible to fly nap-of-the-earth at night; it is, however, possible to fly contour or low level at night.

(2) Enemy. Deliberate attack of an enemy in prepared defensive positions requires tank and mechanized infantry forces with attack helicopter units in holding areas, prepared to reinforce ground fires and exploit a breakthrough. It is the least desirable employment for attack helicopters.

Pursuit of a retreating enemy, operations on enemy flanks and in the enemy rear all favor use of attack helicopters with tanks and mechanized infantry.

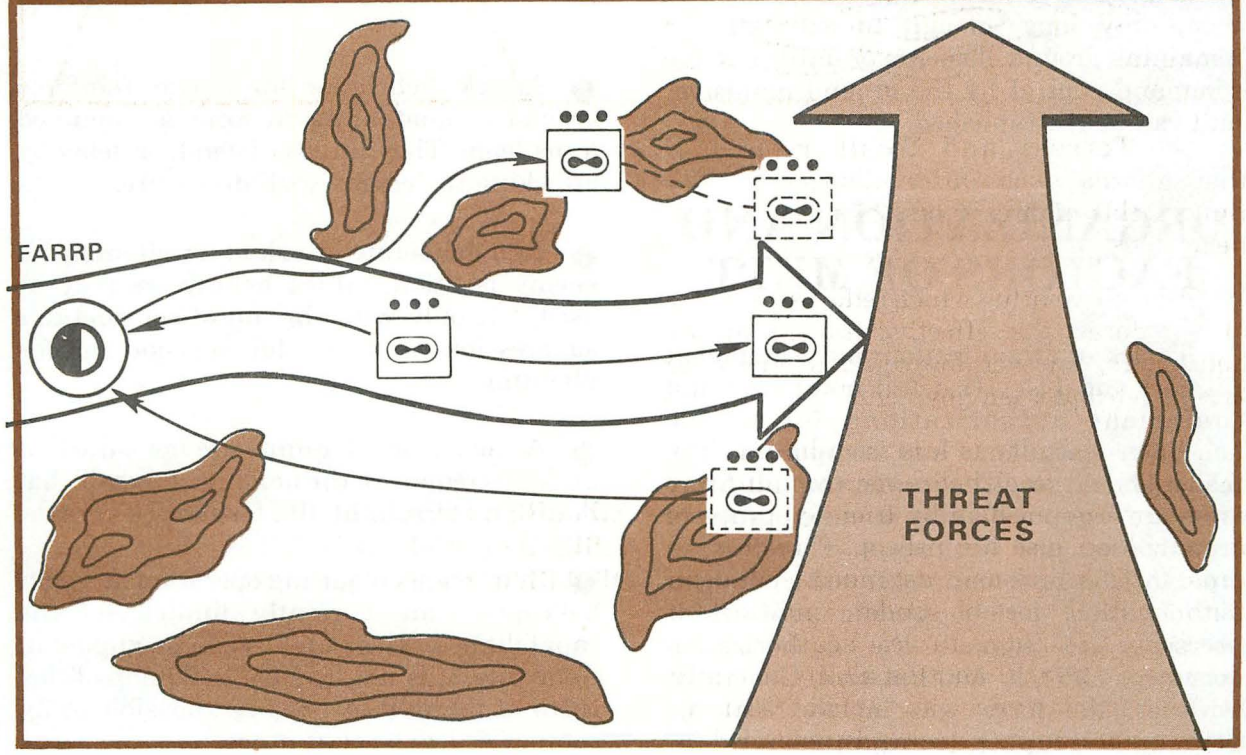
The strength and composition of enemy defenses, combined with terrain and suppressive means available, will determine how attack helicopters can be used.

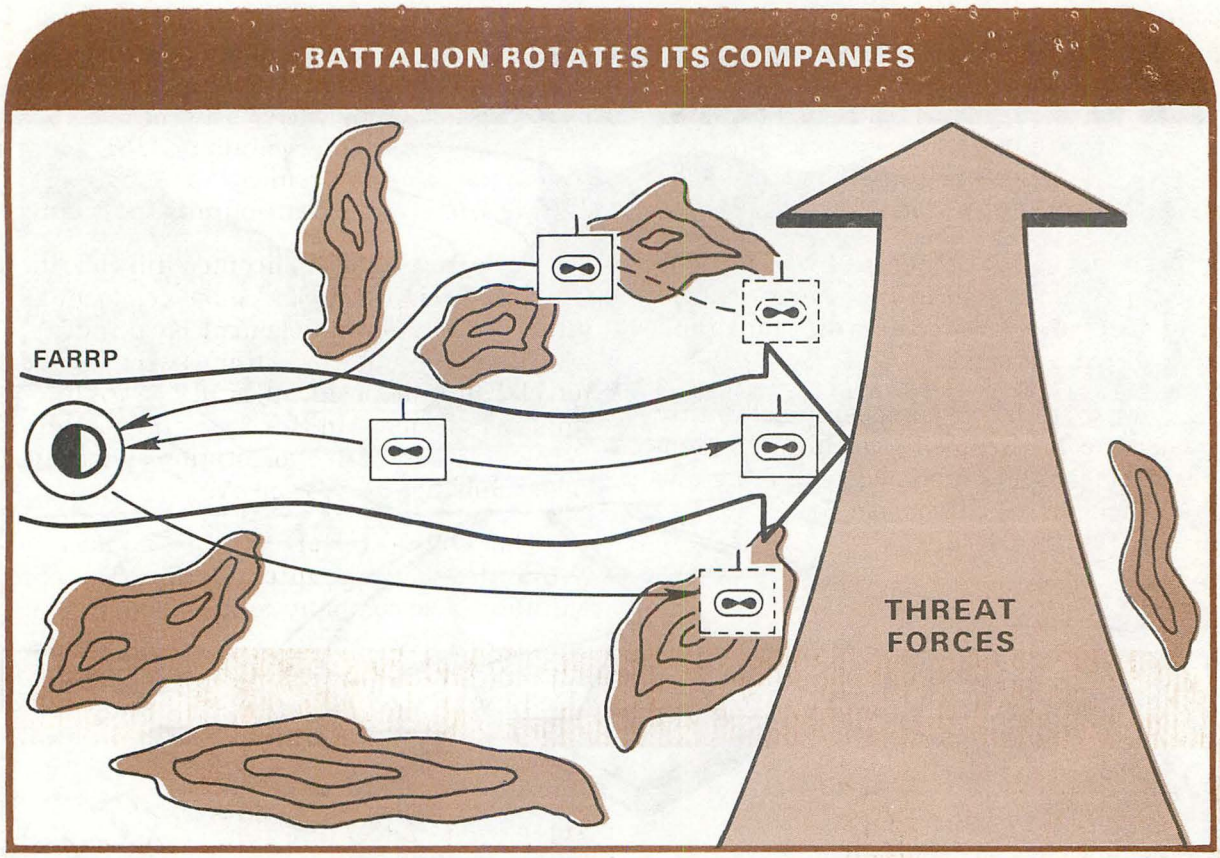
(3) Troops available. In order to employ his unit, the commander must give considerable attention to timing. That is, he must regulate movement between forward area rearm and refuel points *(FARRP)* and the battle, and movement of supplies to *FARRPs,* to keep sustained fire on the enemy.

To do this, attack helicopter units use the **ONE-THIRD RULE.** As one element is attacking, the second element is en route to attack or en route from attack to rearm and refuel. The third element is at the *FARRP.* Rotating elements in this fashion, one-third of the force can be kept on station delivering continuous fire on the enemy.

The **ONE-THIRD RULE** applies to both attack helicopter company and battalion. The company rotates its platoons:

COMPANY ROTATES ITS PLATOONS





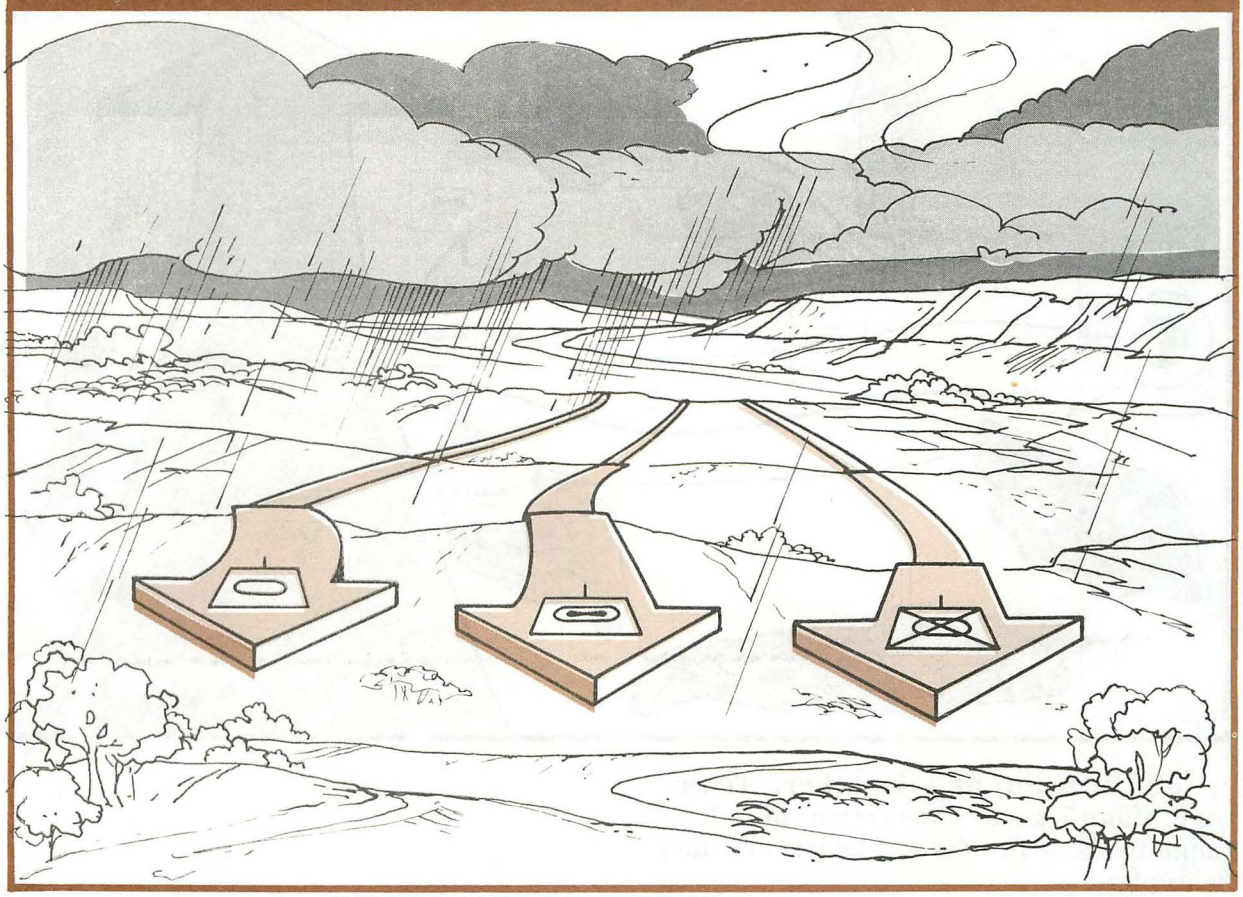
(4) Terrain and Weather. Terrain that affords good observation and long-range fields of fire favors the use of attack helicopters.

Adverse weather which reduces visibility also reduces the effectiveness of attack helicopters; however, low ceilings may favor attack helicopter employment.

When visibility is less than half a mile, the ability of attack helicopters to maneuver over territory not held by friendly troops is marginal because the helicopter's stand-off capability is seriously degraded. Although flight may be possible under conditions of near-zero visibility, target acquisition is extremely difficult, and the ability to fire at stand-off ranges, so important to survivability of the attack helicopter, is lost.

ADVERSE WEATHER REDUCES VISIBILITY AND EFFECTIVENESS OF ATTACK HELICOPTERS

EXTREME WEATHER CONDITIONS

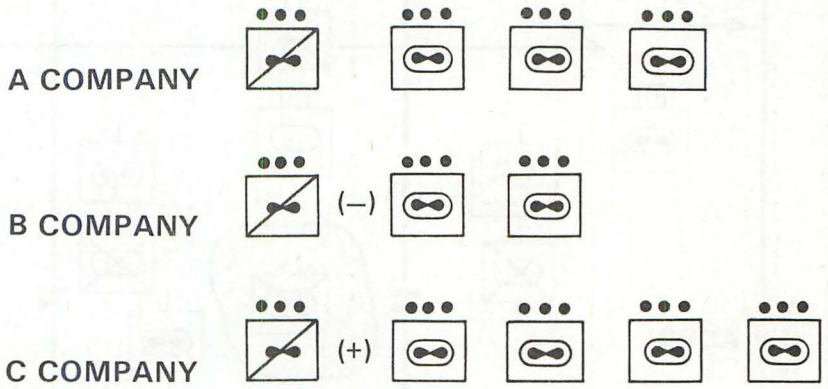


Extreme weather conditions may limit the use of attack helicopters; however, close air support, both enemy and friendly, will have been severely limited or terminated long before helicopters are forced to stop flying.

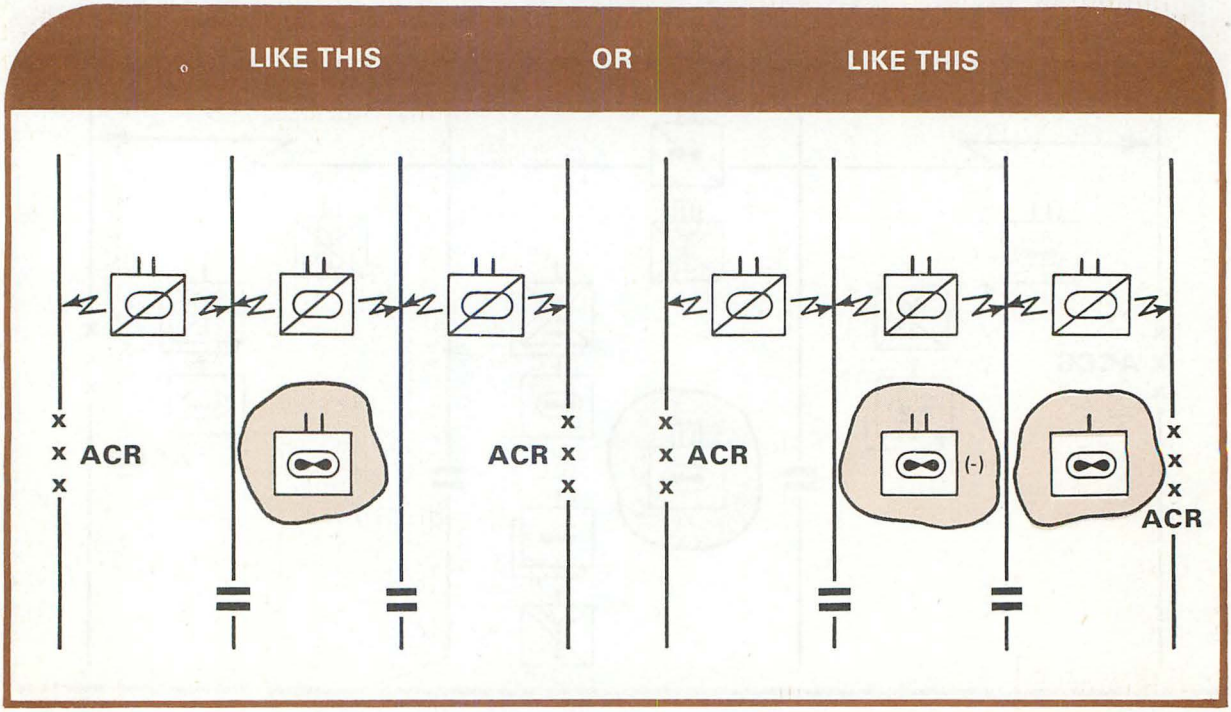
TASK ORGANIZATION FOR COMBAT

Task-Organizing the Battalion. The attack helicopter battalion, operating independently or as part of an **ACCB,** can be task-organized to accomplish a variety of missions.

The battalion commander may move platoons between companies when required by the mission. For example:

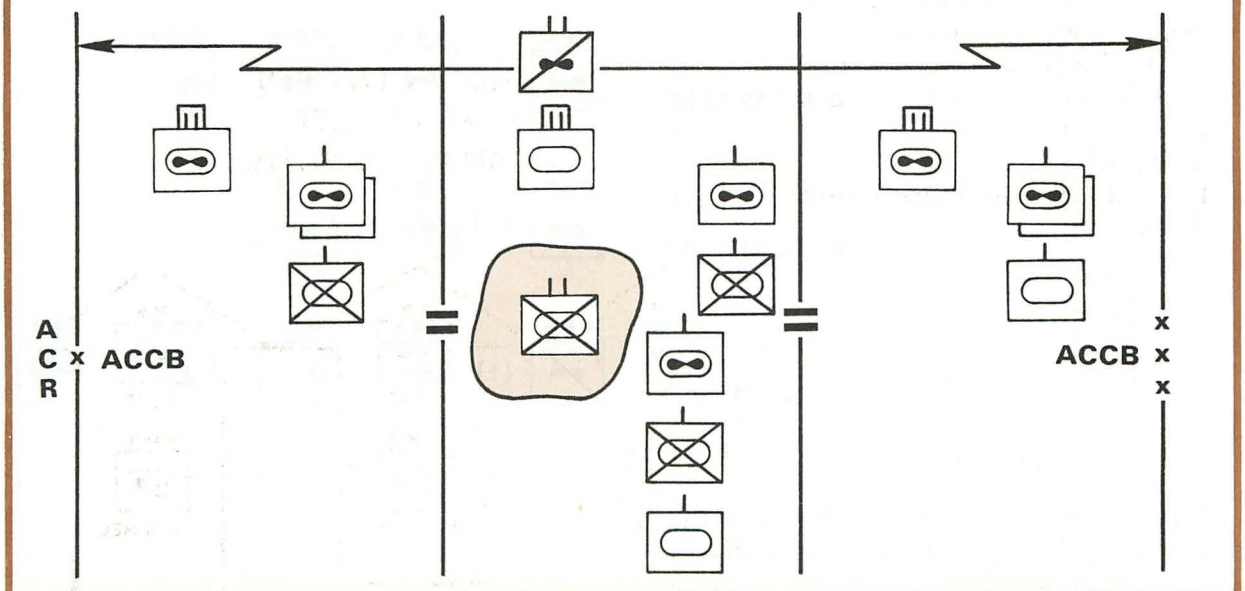


An attack helicopter battalion with an armored cavalry regiment could be employed ---

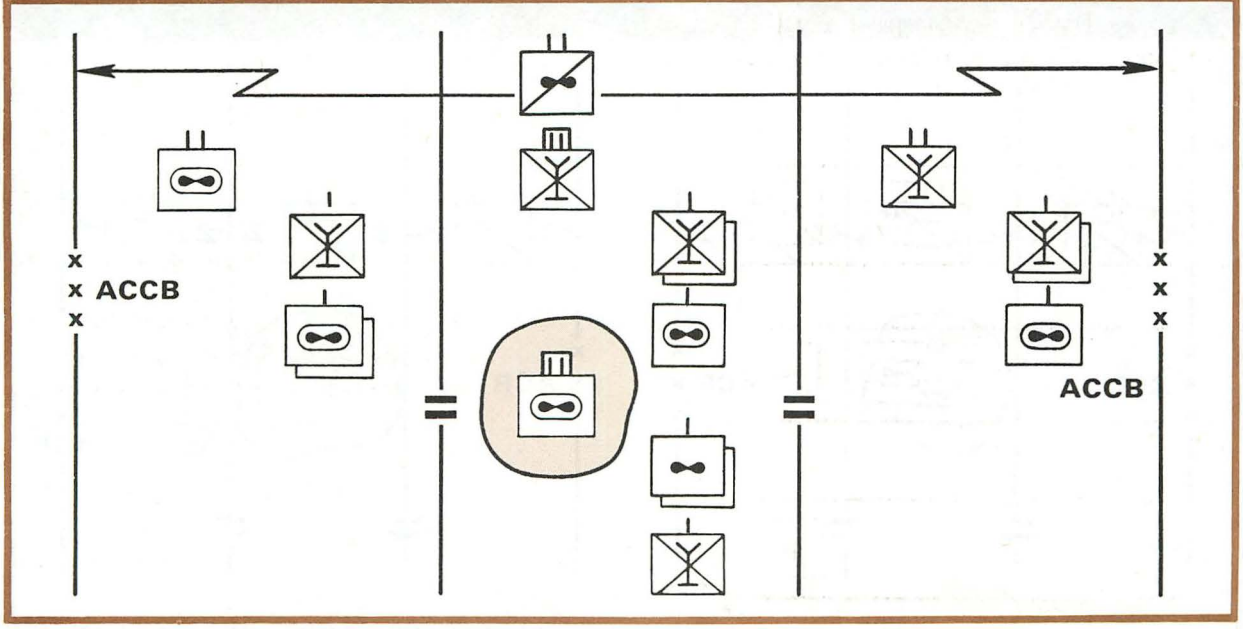


Attack helicopter battalions operating as part of an air cavalry combat brigade can be task-organized in a variety of ways. For example:

ACCB AS PART OF COVERING FORCE FOR A HEAVY CORPS



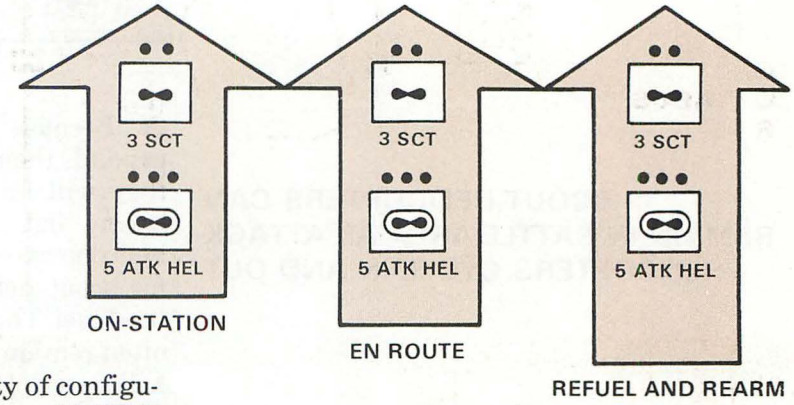
ACCB AS A COVERING FORCE FOR A LIGHT CORPS



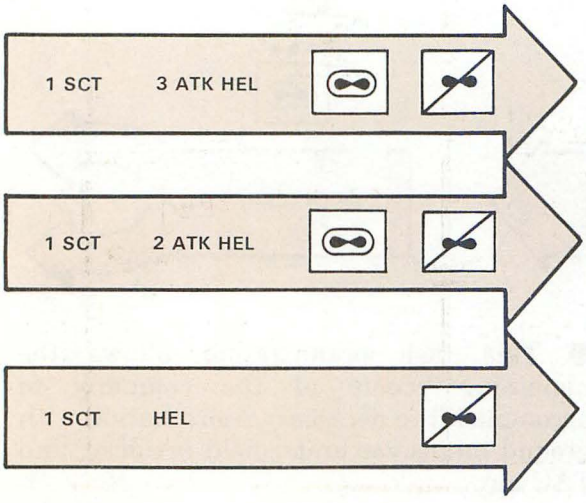
Task-Organizing the Company. Internally, attack helicopter companies are organized into pure platoons—one aeroscout and three attack helicopters. In organizing for combat, the company commander forms teams from aeroscout and attack helicopter platoons.

Teams formed from the attack helicopter company may be employed in a variety of ways. However, in order to maintain continuous fire on the enemy, rotation of attack helicopter teams is necessary. Generally the **ONE-THIRD** rule is followed: one-third on station, one-third en route, one-third in the *FARRP*.

ONE-THIRD ON STATION
ONE-THIRD EN ROUTE
ONE-THIRD IN THE FARRP

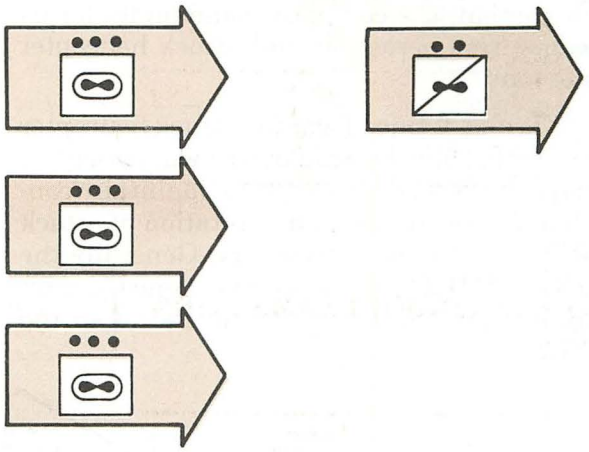


Teams may operate in a variety of configurations, depending on the factors of METT (Mission-Enemy-Troops-Terrain) and Weather. One way is to operate as depicted below.



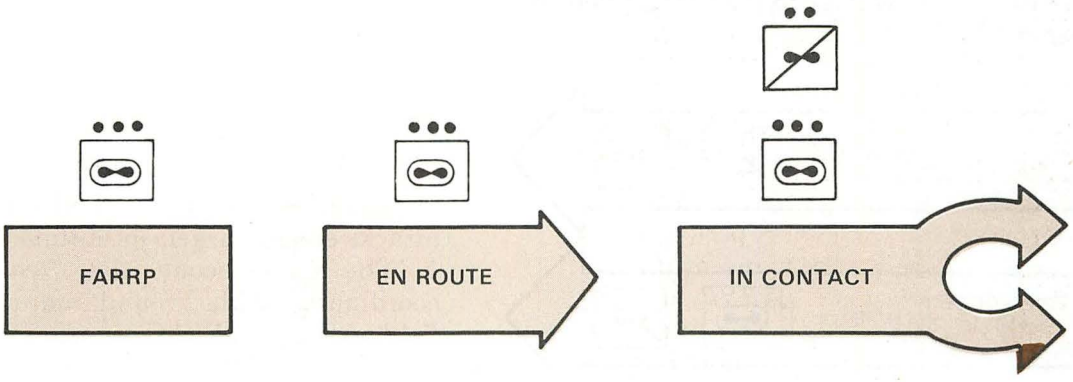
Each scout/attack helicopter section attacks enemy targets as outlined in Chapter 4. The third scout, the *"team leader,"* coordinates with ground maneuver units, field artillery and TAC air as appropriate. As necessary, other scouts assist with this coordination.

ANOTHER WAY TO ORGANIZE IS LIKE THIS:



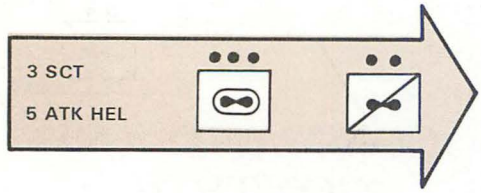
SCOUT HELICOPTERS CAN REMAIN IN BATTLE AREA AS ATTACK HELICOPTERS CYCLE IN AND OUT

- Because attack helicopters will often expand their ammunition rather quickly, they will have to return to the *FARRP* to rearm but not to refuel. When attack helicopters return to rearm, it is not necessary for scout helicopters to return unless they need fuel. Therefore, the scout helicopters can often remain in the battle area as the attack helicopter platoons cycle into and out of the fight.

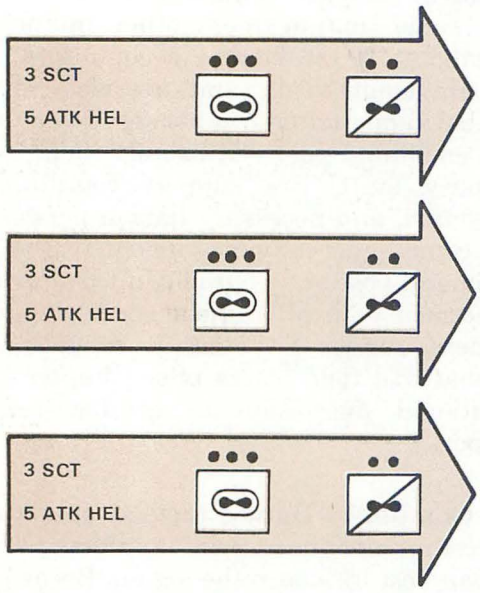


- This task organization allows the remaining scouts of the company to accomplish the necessary coordination with ground maneuver units, field artillery, and TAC air.

When massed firepower is critical, it is also possible to operate with **TWO TEAMS FORWARD,** like this:

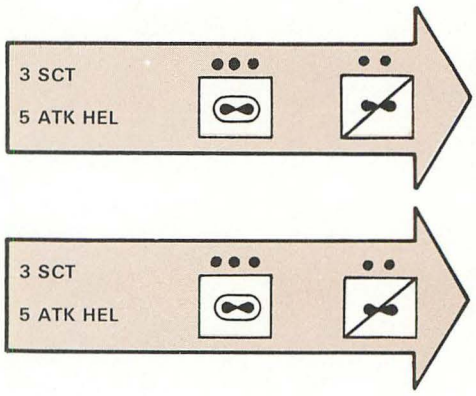


or with **THREE TEAMS FORWARD,** like this:



While operating with two or three teams forward can provide massed firepower over a wide area, insuring maximum destruction of enemy forces for a short period, this severely limits the capability to maintain continuous fire, depending on *FARRP* location, flight profile routing, and suppressive means available. The commander should expect a lag time of approximately 45-60 minutes before attack helicopters can be recycled on station.

Generally, the simplest organization is best, and cycling with three elements provides most flexibility, ease of *FARRP* operation, and sustained antiarmor fire.



TWO OR THREE TEAMS CAN PROVIDE MAXIMUM DESTRUCTION OF ENEMY FORCES BUT HAVE LIMITED CAPABILITY TO MAINTAIN CONTINUOUS FIRE

COMMAND AND CONTROL

Battalion. The attack helicopter battalion exercises command and control in the same manner as other maneuver battalions. It establishes a command post and unit trains to plan and supervise combat, combat support, and combat service support. The command post will usually include the primary staff, fire support coordination personnel, and necessary liaison personnel. The commander may operate either from the command post or airborne. Unit trains may be formed with all combat service support elements under S4 control, or split into combat and field trains. (See Chapter 5 for additional discussion of combat service support.)

Company. During tactical operations, the commander must position himself where he can best influence the action. Because he may not always be in a position to observe the combat situation directly, alternate lines of command and control are used.

Team leaders control the individual maneuver elements of the company. Scouts select routes of movement from the holding area to the battle position and select tentative firing positions for the attack helicopters.

The company usually will control its combat operations through its flight operations and platoon leaders. The executive officer and service platoon leader will control service support operations.

CHAPTER 4

HOW ATTACK HELICOPTER UNITS FIGHT

To fight successfully in modern battle, attack helicopter units must do several basic tasks. The first battlefield task attack helicopter units must perform is to see the enemy and the battlefield--see the battlefield better than the enemy does, so attack helicopter units have the advantage. And then attack helicopter units must use their mobility to concentrate sufficient force to accomplish their mission.

In order to see, concentrate and fight, enemy weapons that can interfere with an attack helicopter unit's ability to accomplish its mission must be suppressed. Field and air defense artillery and USAF tactical fighter bombers should be employed to provide sufficient suppression to enable attack helicopters to move about the battlefield. In order to accomplish their missions, attack helicopter units must destroy sufficient numbers of the enemy to convince him to break off his attack, to give up a defensive area, or to move away from an area vital to friendly forces.

Before describing how attack helicopter units conduct offensive and defensive operations, it is necessary to describe what aeroscouts do, what attack helicopters do, and how helicopters move about the battlefield.

CONTENTS

WHAT DO AEROSCOUTS DO?

- The primary mission of the aeroscout is to see the battlefield, acquire targets, and coordinate movement of attack helicopters.

Aeroscouts:

Coordinate the mission and assets available; and determine friendly and enemy situations.

Coordinate as necessary with the ground commander responsible for the operational area, most often the company team or battalion task force commander.

Acquire and identify targets; and render reports.

Confirm or select positions that provide concealment and stand-off range for attack helicopters.

Assist attack helicopter movement into battle positions.

Hand-off target to attack aircraft.

Provide local security to attack helicopters while they engage targets.

Request and adjust indirect fires and tactical air as directed.

HOW DO SCOUTS HAND OFF TARGETS?

ELEMENT	PURPOSE	DESCRIPTION	
ALERT; TARGET DESCRIPTION	Establishes priority of communication and identifies target clearly.	Identification of sender, type number, and activity of targets.	Alpha one Brave 36--this is 26. Three tanks on line; 40 dismounted infantry; 5 BMPs.
TARGET LOCATION	Locates the target accurately.	Direction to the target—either clock method, cardinal direction, or compass heading. Location of the target—either range and direction, reference from a known point or grid coordinates (coords are last resort).	310 degrees 2500 meters.
TECHNIQUE OF ATTACK	Coordinates the attack on the target.	May include flight mode, type fires, priority of targets, responsibility for engagement, and instructions for actions after the attack.	ATTACK FROM POSITION ONE—ALTERNATE IS AT CHECKPOINT 3.
METHOD OF CONTROL	Coordinates the initiation of the attack.	Tells when and how attack will be initiated.	AT MY COMMAND OR ATTACK AT WILL.
EXECUTION	Initiates the attack.	Tells elements to start the attack.	UNMASK OR ATTACK.

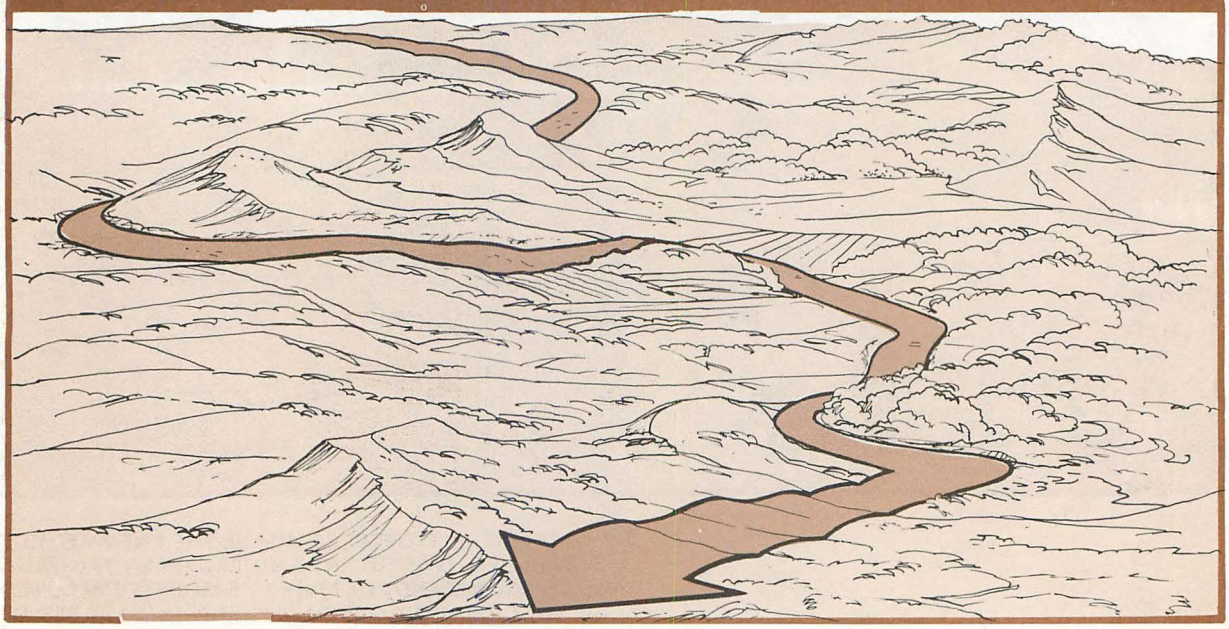
WHAT DO ATTACK HELICOPTERS DO?

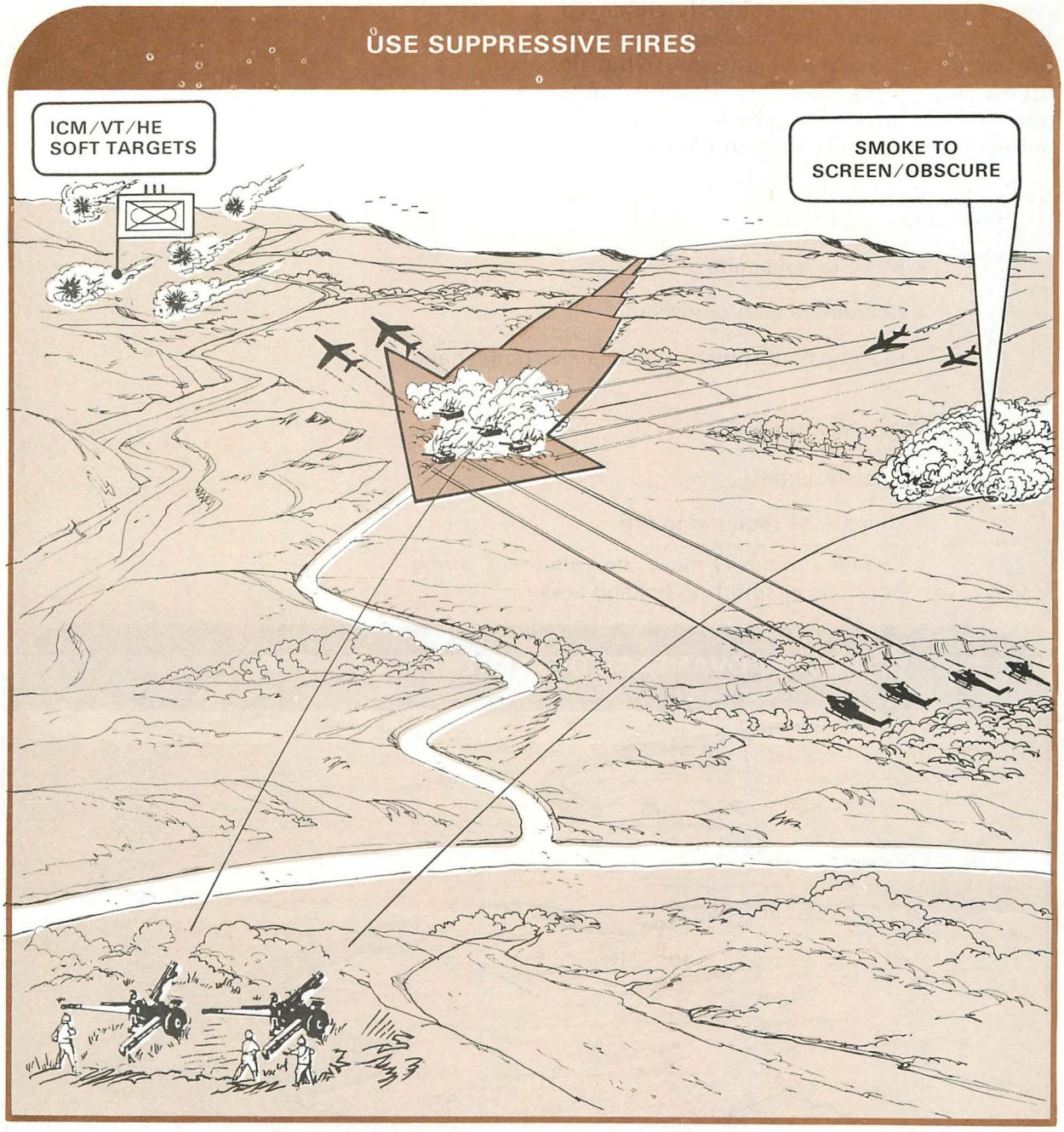
The combat power of an attack helicopter unit is in its attack helicopter platoons. Attack helicopters are habitually employed against armor and mechanized targets in offensive or defensive operations. What do attack helicopters do? They destroy tanks and other armored vehicles found by aeroscouts or friendly ground forces.

Sequence of Events:

- Move to holding area.
- Coordinate with aeroscout.
- Move to battle position and receive target hand off.
- Partially unmask.
- Acquire target.
- Unmask as required to fire.
- Engage—remask—move to alternate firing positions or return to holding area.

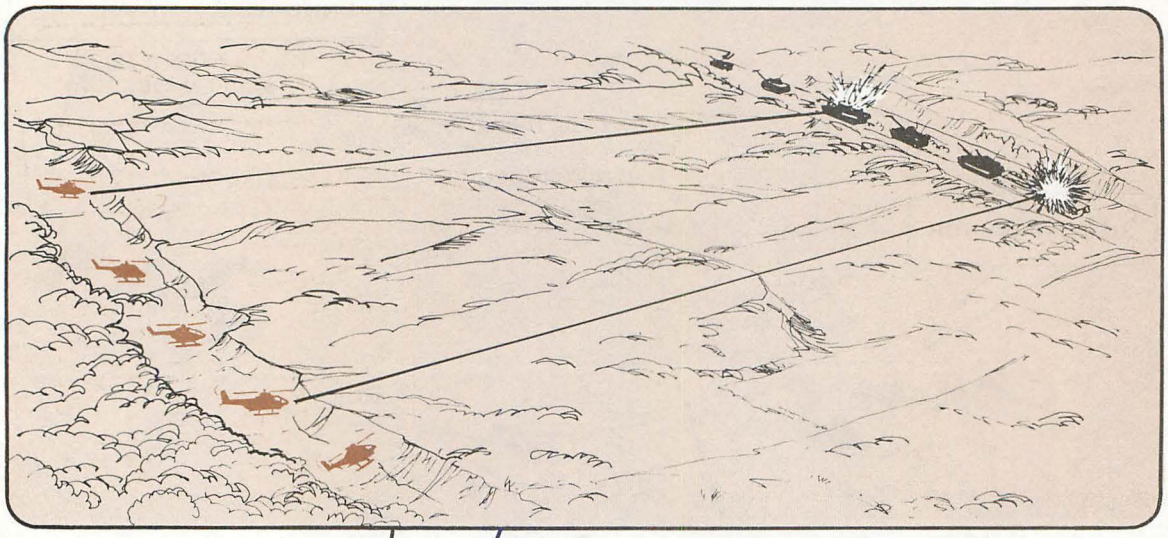
TAKE ADVANTAGE OF ALL TERRAIN FEATURES



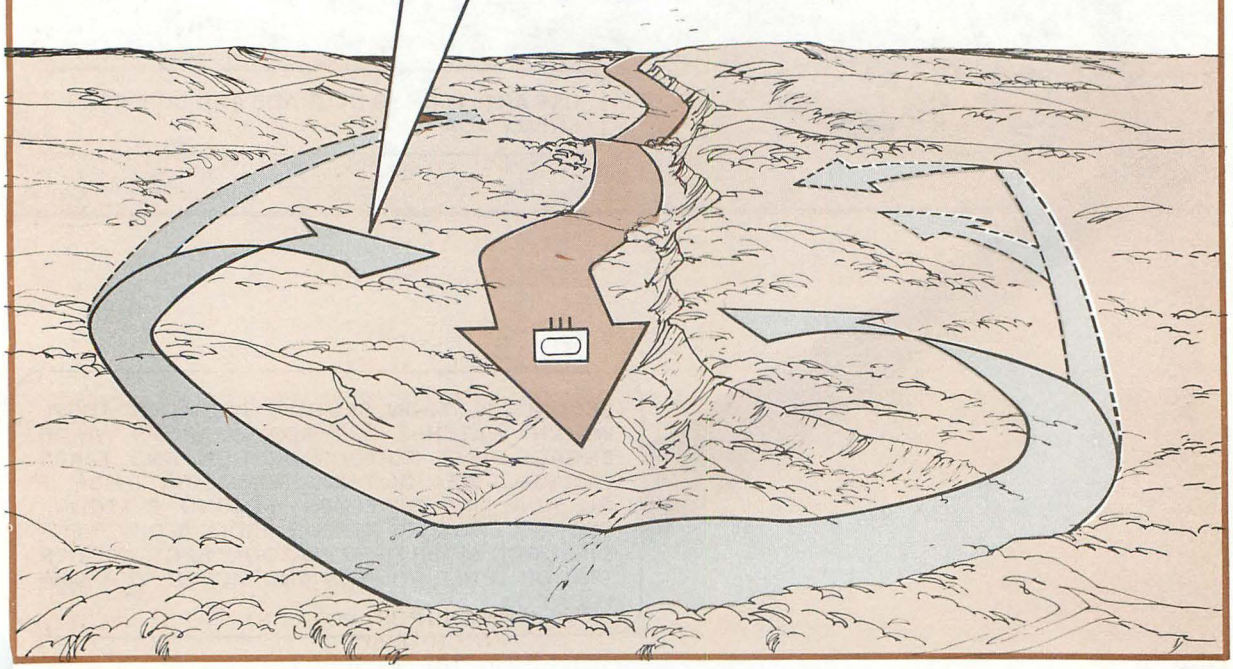


ATTACK HELICOPTERS ENGAGE THE ENEMY FORCE WHILE FIELD ARTILLERY AND TACAIR ENGAGE ADA AND COMMAND POST AREAS. SMOKE IS EMPLOYED TO SCREEN OR OBSCURE TARGETS CAPABLE OF HINDERING THE ATTACK HELICOPTER MISSION.

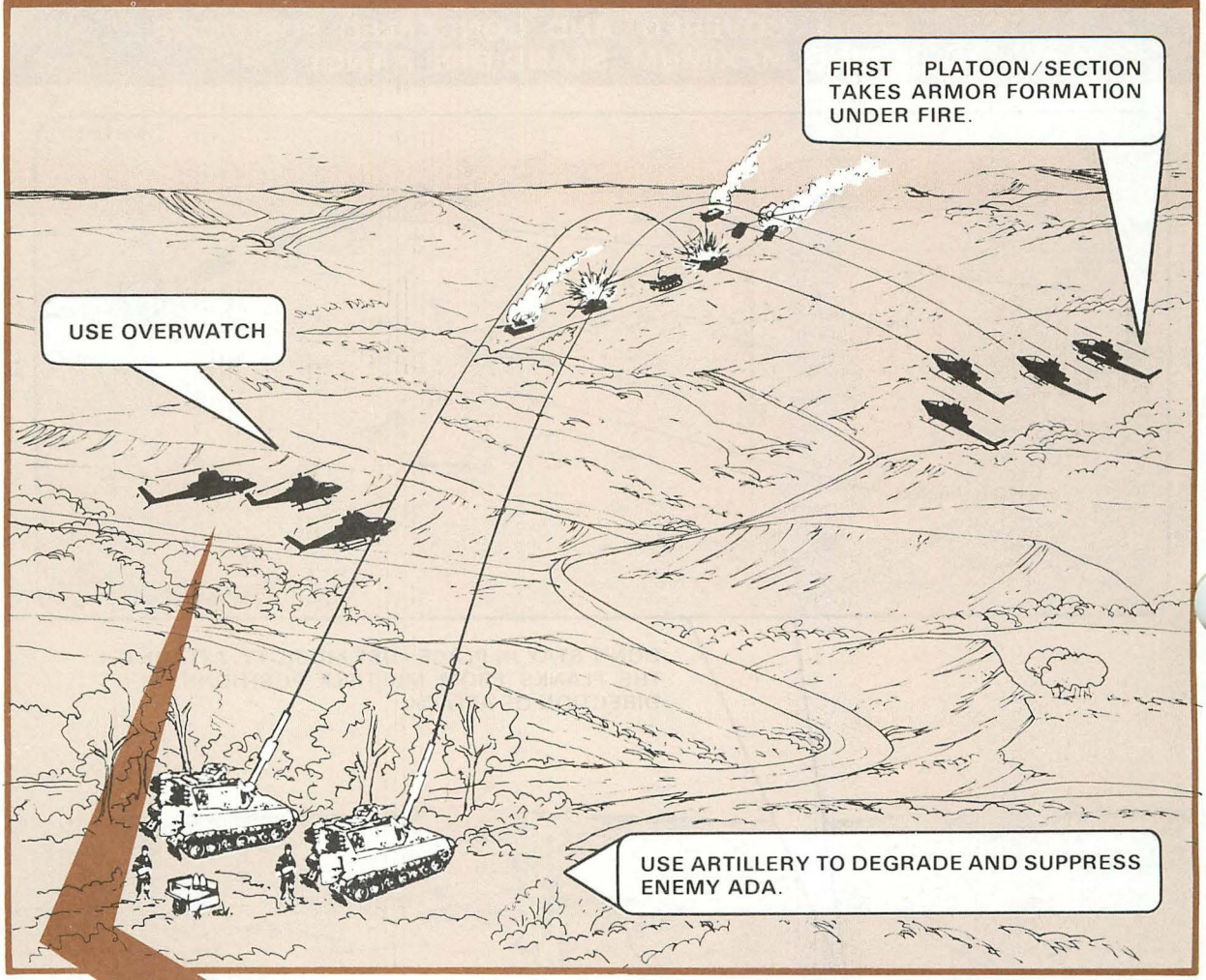
STRIKE FROM COVERED AND CONCEALED POSITIONS, USING MAXIMUM STAND-OFF RANGE.



DON'T STAY IN PLACE - USE MOBILITY. ATTACK ON THE FLANKS FROM MULTIPLE POSITIONS. SHIFT DIRECTION OF ATTACK.



WHEN ENGAGING THE ENEMY, USE ALL AVAILABLE SUPPORTING FIRES



SECOND PLATOON/SECTION PROVIDES OVERWATCH, WATCHES FOR ADA WEAPONS WHICH ENGAGE FIRST PLATOON/SECTION AND TAKES ENGAGING WEAPONS UNDER IMMEDIATE FIRE. IF NO ADA FIRE DEVELOPS, SECOND PLATOON/SECTION ENGAGES ARMOR FROM A DIFFERENT DIRECTION AFTER FIRST PLATOON/SECTION FIRES TWO OR THREE ROUNDS AND MOVES TO A NEW LOCATION.

TERRAIN FLIGHT

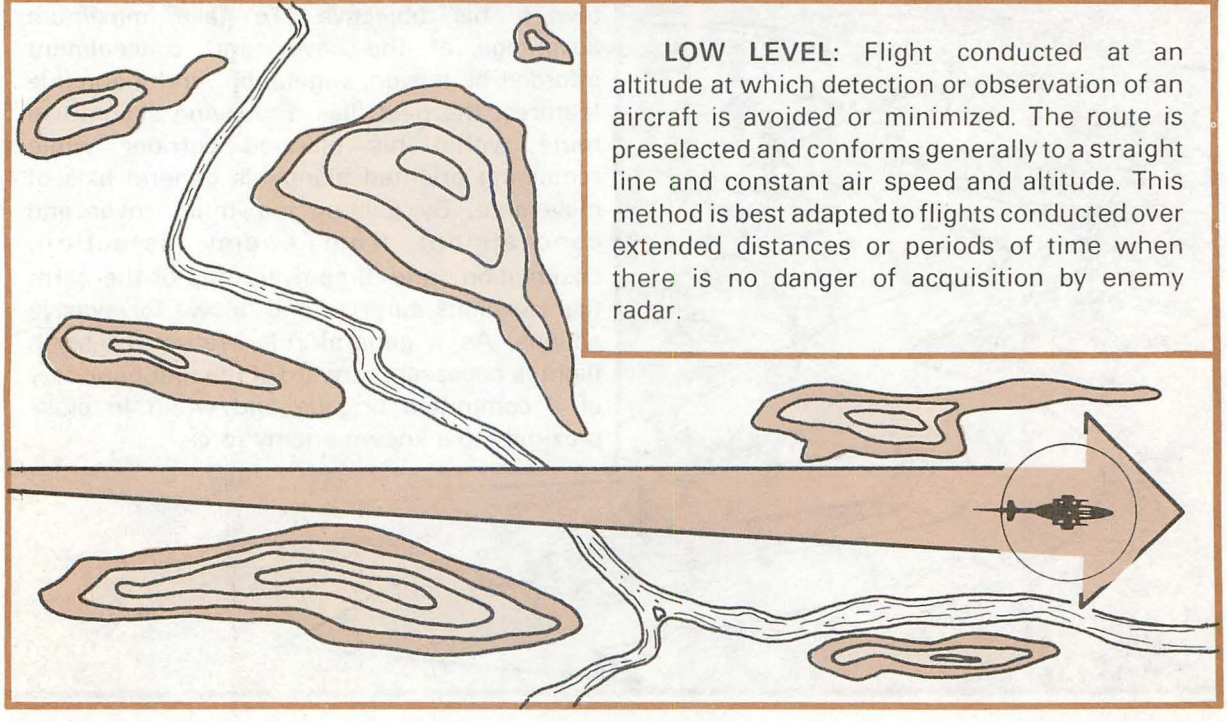
Sophisticated air defense weaponry enables enemy ground forces to detect, acquire, engage, and destroy airborne targets in daytime, at night, and under all conditions of visibility and weather. Except when engaging targets, helicopters must remain masked from these air defense weapons in order to survive. This requires that pilots use terrain to mask helicopter movements.

HELICOPTERS MUST REMAIN MASKED FROM AIR DEFENSE WEAPONS IN ORDER TO SURVIVE

Terrain flying is flight close to the earth's surface using terrain, vegetation, and manmade objects to degrade the enemy's ability to acquire aircraft. Air crews use a combination of three types of flight—low level, contour, and nap-of-the-earth—depending on terrain, mission and the enemy's ability to acquire targets. Air crews must develop the ability to analyze their mission and situation and use the mode of flight required to accomplish their mission.

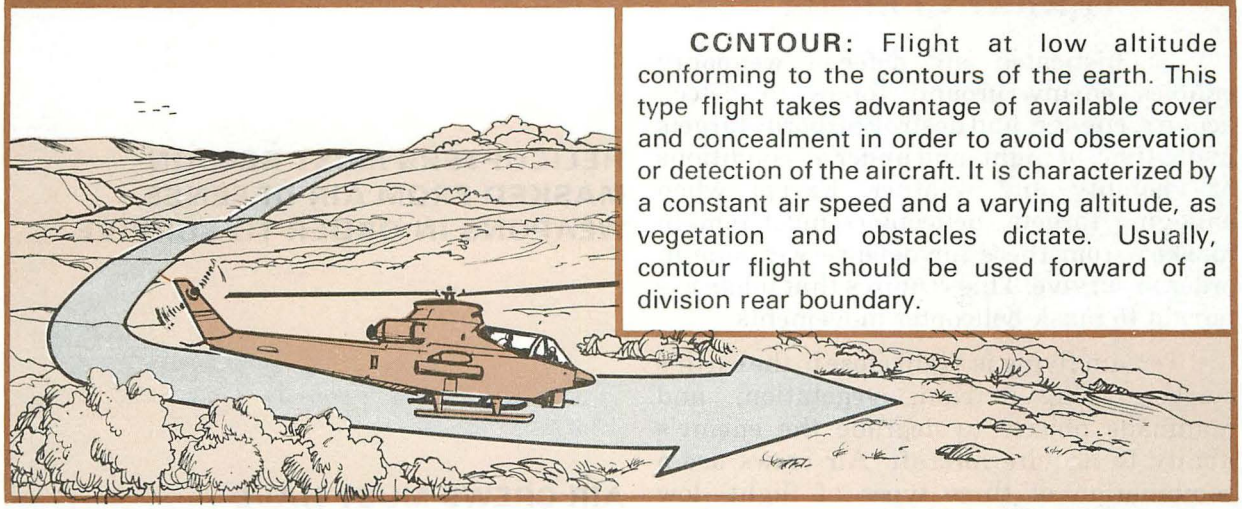
AIR CREWS MUST HAVE THE ABILITY TO ANALYZE THEIR MISSION AND MODE OF FLIGHT

LOW LEVEL FLIGHT



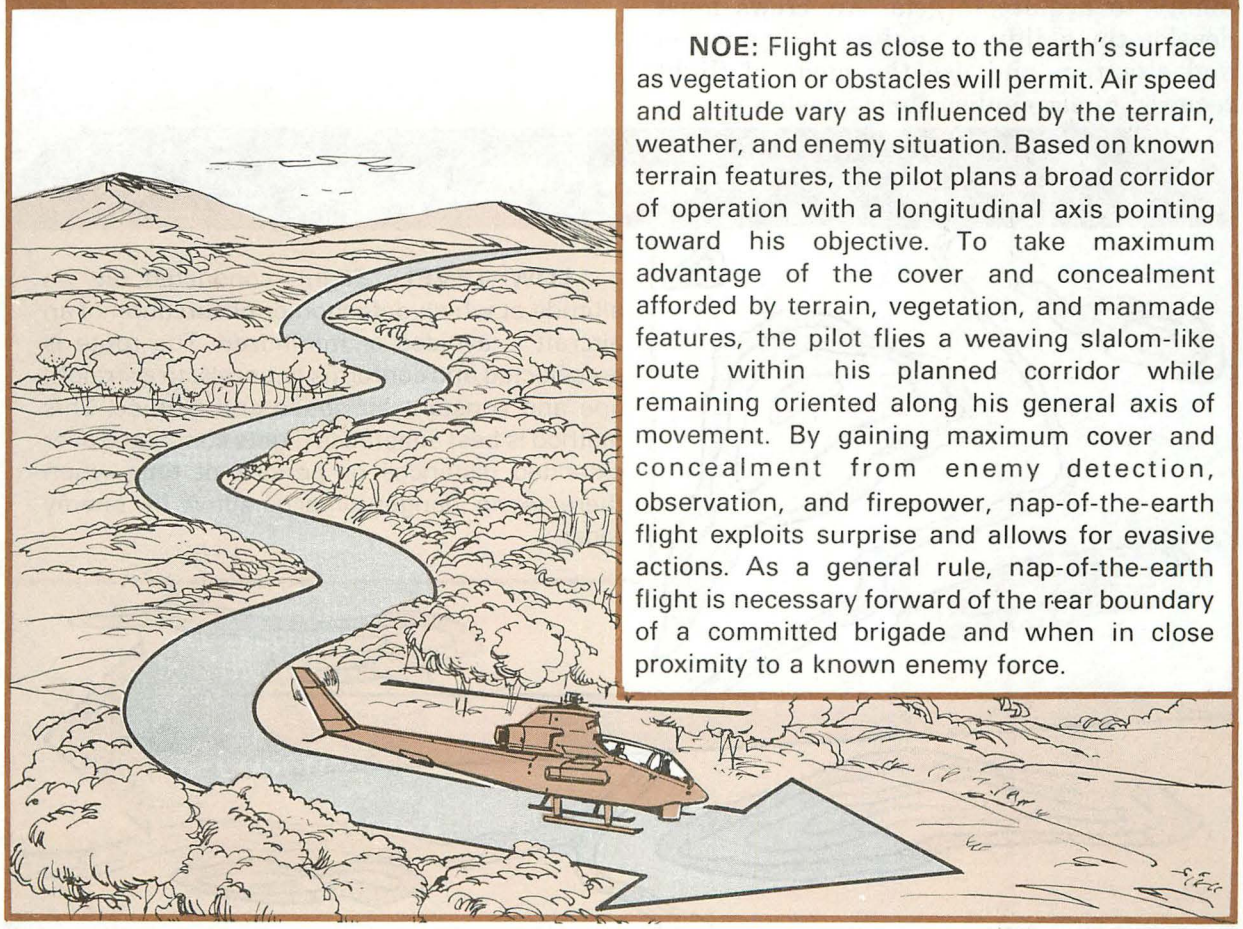
LOW LEVEL: Flight conducted at an altitude at which detection or observation of an aircraft is avoided or minimized. The route is preselected and conforms generally to a straight line and constant air speed and altitude. This method is best adapted to flights conducted over extended distances or periods of time when there is no danger of acquisition by enemy radar.

CONTOUR FLIGHT



CONTOUR: Flight at low altitude conforming to the contours of the earth. This type flight takes advantage of available cover and concealment in order to avoid observation or detection of the aircraft. It is characterized by a constant air speed and a varying altitude, as vegetation and obstacles dictate. Usually, contour flight should be used forward of a division rear boundary.

NOE FLIGHT



NOE: Flight as close to the earth's surface as vegetation or obstacles will permit. Air speed and altitude vary as influenced by the terrain, weather, and enemy situation. Based on known terrain features, the pilot plans a broad corridor of operation with a longitudinal axis pointing toward his objective. To take maximum advantage of the cover and concealment afforded by terrain, vegetation, and manmade features, the pilot flies a weaving slalom-like route within his planned corridor while remaining oriented along his general axis of movement. By gaining maximum cover and concealment from enemy detection, observation, and firepower, nap-of-the-earth flight exploits surprise and allows for evasive actions. As a general rule, nap-of-the-earth flight is necessary forward of the rear boundary of a committed brigade and when in close proximity to a known enemy force.

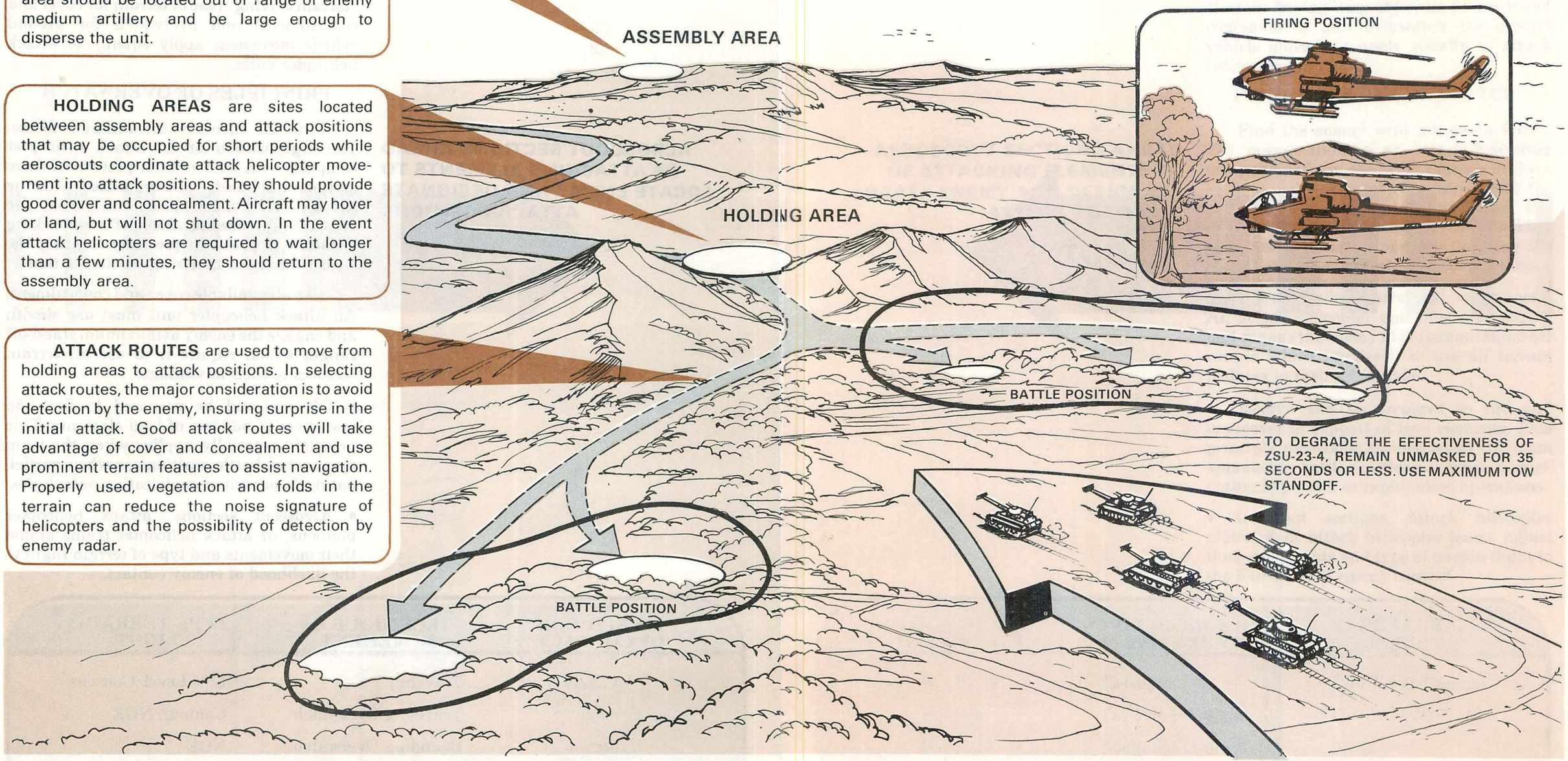
WHAT ABOUT AREAS - ROUTES - POSITIONS?

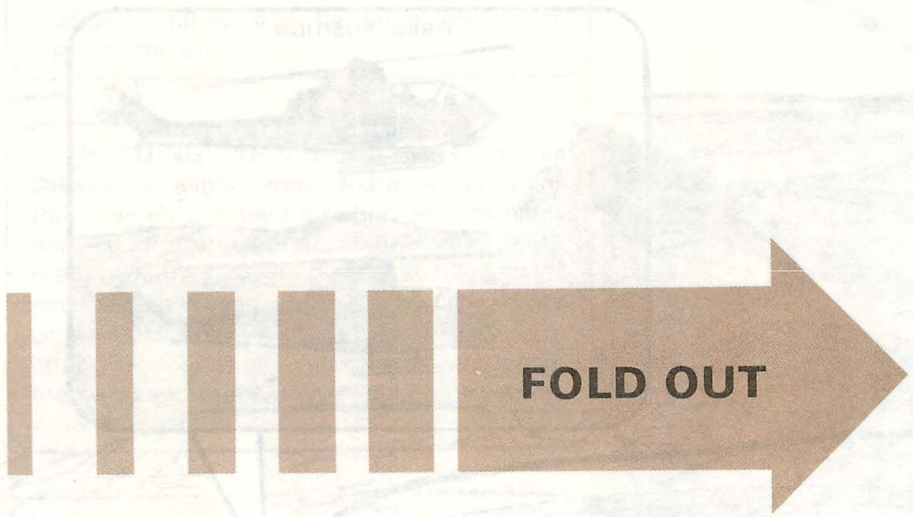
ASSEMBLY AREA is where the unit or element assembles in preparation for future actions, where orders are issued, maintenance can be accomplished and the unit can be re-supplied with Class I, III and V. The assembly area should be located out of range of enemy medium artillery and be large enough to disperse the unit.

HOLDING AREAS are sites located between assembly areas and attack positions that may be occupied for short periods while aeroscouts coordinate attack helicopter movement into attack positions. They should provide good cover and concealment. Aircraft may hover or land, but will not shut down. In the event attack helicopters are required to wait longer than a few minutes, they should return to the assembly area.

ATTACK ROUTES are used to move from holding areas to attack positions. In selecting attack routes, the major consideration is to avoid detection by the enemy, insuring surprise in the initial attack. Good attack routes will take advantage of cover and concealment and use prominent terrain features to assist navigation. Properly used, vegetation and folds in the terrain can reduce the noise signature of helicopters and the possibility of detection by enemy radar.

BATTLE POSITIONS are covered and concealed positions used by attack helicopters for target engagement. The team leader designates team battle positions and sectors of fire based on information from aeroscouts. Individual aircraft commanders select actual firing positions. When targets close within range, attack helicopters hover up from concealed positions to gain line-of-sight with the target and begin firing. Primary and alternate battle positions are identified by aeroscouts for continuing the attack as the battle progresses.





TECHNIQUES OF MOVEMENT

Because of the range and lethality of modern weapons, US forces must make maximum use of all cover and concealment afforded by terrain. Travel in the vertical plane causes aircraft to be exposed more often than ground vehicles. Because of this, the greater the threat the lower the flight and the more need for security. The principles of "terrain driving" (use of terrain for cover and concealment) and overwatch for ground vehicle movement apply equally to attack helicopter units.

PRINCIPLES OF OVERWATCH

AEROSCOUT SECTIONS AHEAD OF ATTACKING ELEMENTS TO LOCATE ENEMY AND DESIGNATE ATTACK POSITIONS

Find the enemy with minimum forces. The organization of an attack helicopter company with its aeroscout platoon of three sections habitually task-organized with the attack helicopter platoons, has the aeroscouts proceeding ahead of the attacking elements to assist in precisely locating the enemy and reconnoitering battle positions.

Use all available cover and concealment. An attack helicopter unit must use stealth and engage the enemy at maximum stand-off ranges which require it to use all terrain features to their advantage.

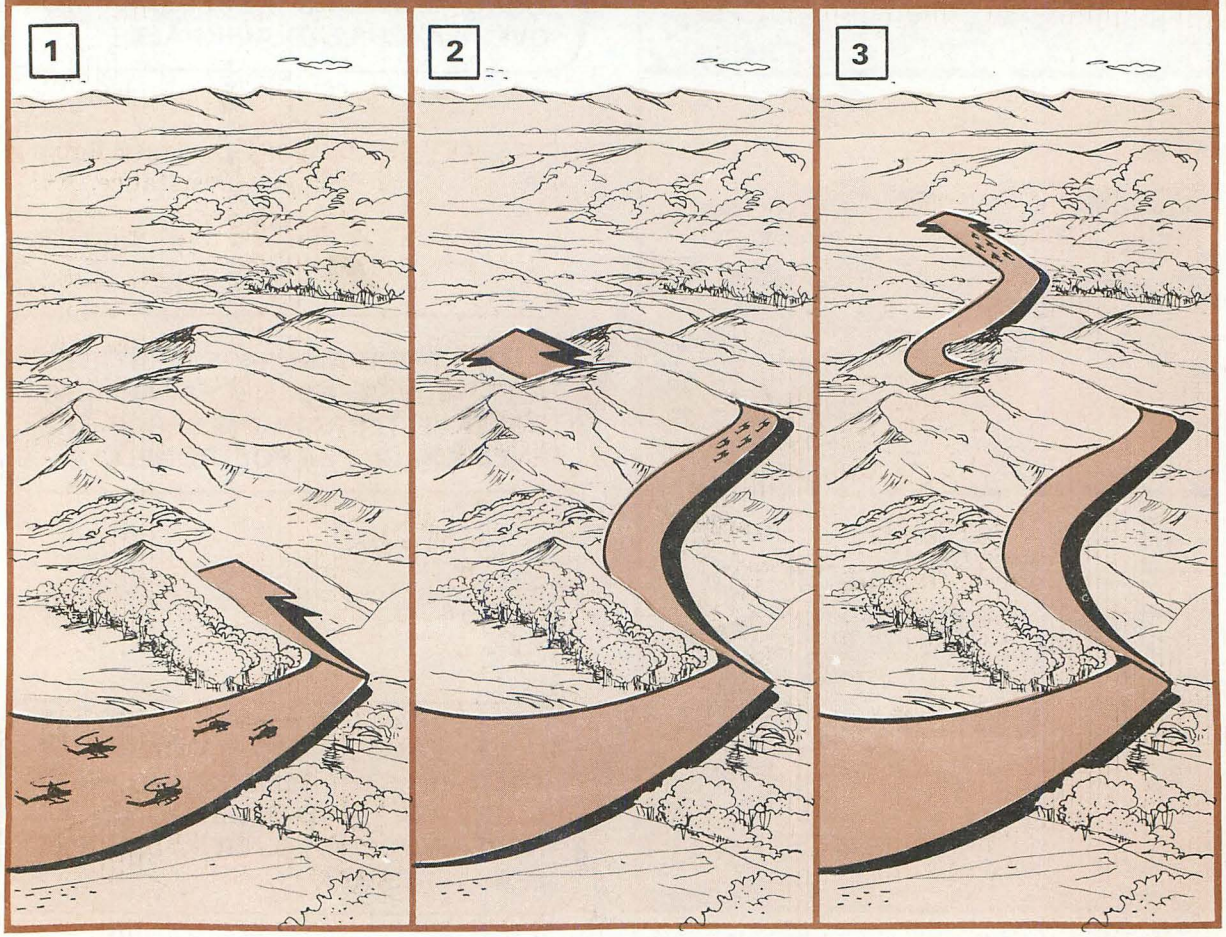
- Observe and be prepared to fire and maneuver in support of lead elements. This principle especially applies when the team approaches battle positions or when participating in pursuit or exploitation operations.
- Aeroscout sections, attack helicopter platoons, or attack helicopter teams adjust their movements and type of terrain flight to the likelihood of enemy contact.

LIKELIHOOD OF CONTACT	TECHNIQUE OF MOVEMENT	TYPE TERRAIN FLIGHT
Not likely	Traveling	Low Level/Contour
Possible	Traveling Overwatch	Contour/NOE
Expected	Bounding Overwatch	NOE

Traveling. Use traveling when speed is important and contact with the enemy is ***NOT LIKELY***. The attack helicopter team can use traveling as a team, with the aeroscout section either preceding or interspersed with the attack helicopter platoon. Separate elements move at a constant air speed using the appropriate type of terrain flight.

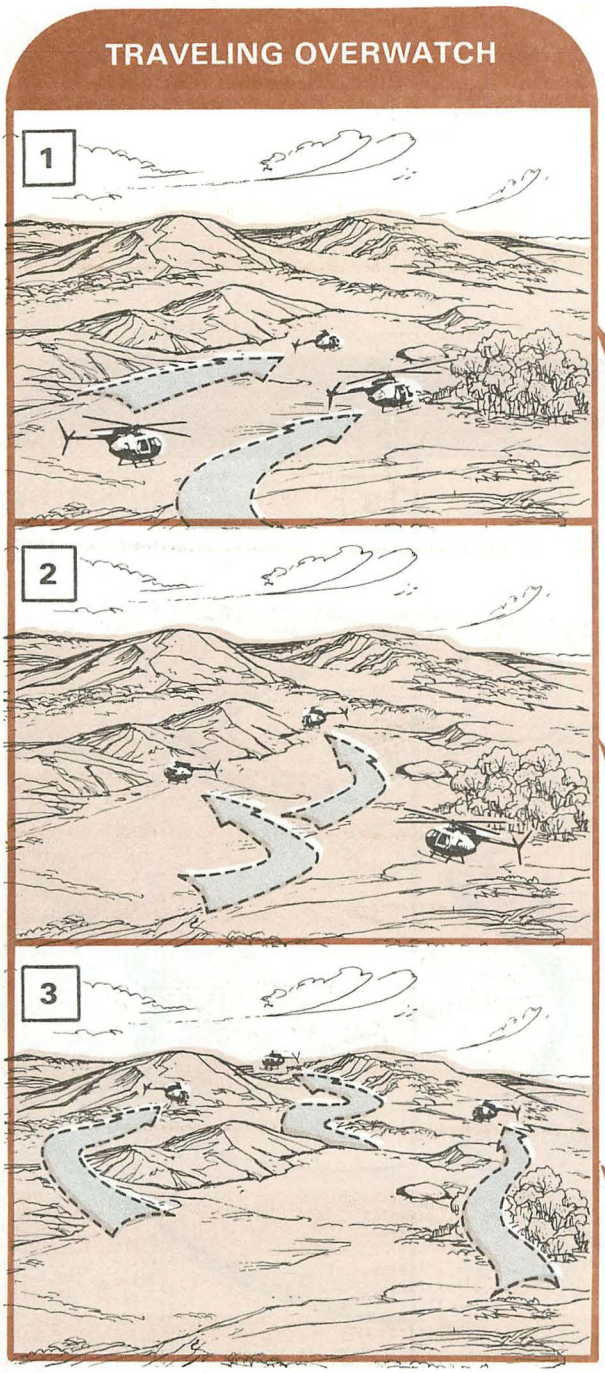
Use traveling to move rapidly in relatively secure areas, for example, from corps rear area to division or brigade, or from assembly area to holding positions.

TRAVELING TECHNIQUE



Traveling Overwatch. Use traveling overwatch when enemy contact is ***POSSIBLE,*** precautionary measures are justified, but speed is desirable. Lead elements of a team, or aeroscout section or attack helicopter platoon move at a constant rate. Trail elements move as necessary to (1) provide visual overwatch of the lead elements, and (2) observe terrain on which the enemy might be positioned to fire on lead elements.

In this sequence an aeroscout section uses traveling overwatch.



1. LEAD AIRCRAFT MOVES STEADILY FORWARD. SECOND AND THIRD MOVE AS NECESSARY TO OVERWATCH LEAD AIRCRAFT.

2. THIRD AIRCRAFT HESITATES AND MOVES AS NECESSARY TO OBSERVE TERRAIN ON WHICH THE ENEMY MIGHT BE POSITIONED.

3. LEAD AIRCRAFT CONTINUES TO MOVE AS THE SECOND AND THIRD AIRCRAFT FIND POSITIONS AS NECESSARY TO OVERWATCH THE LEAD AIRCRAFT.

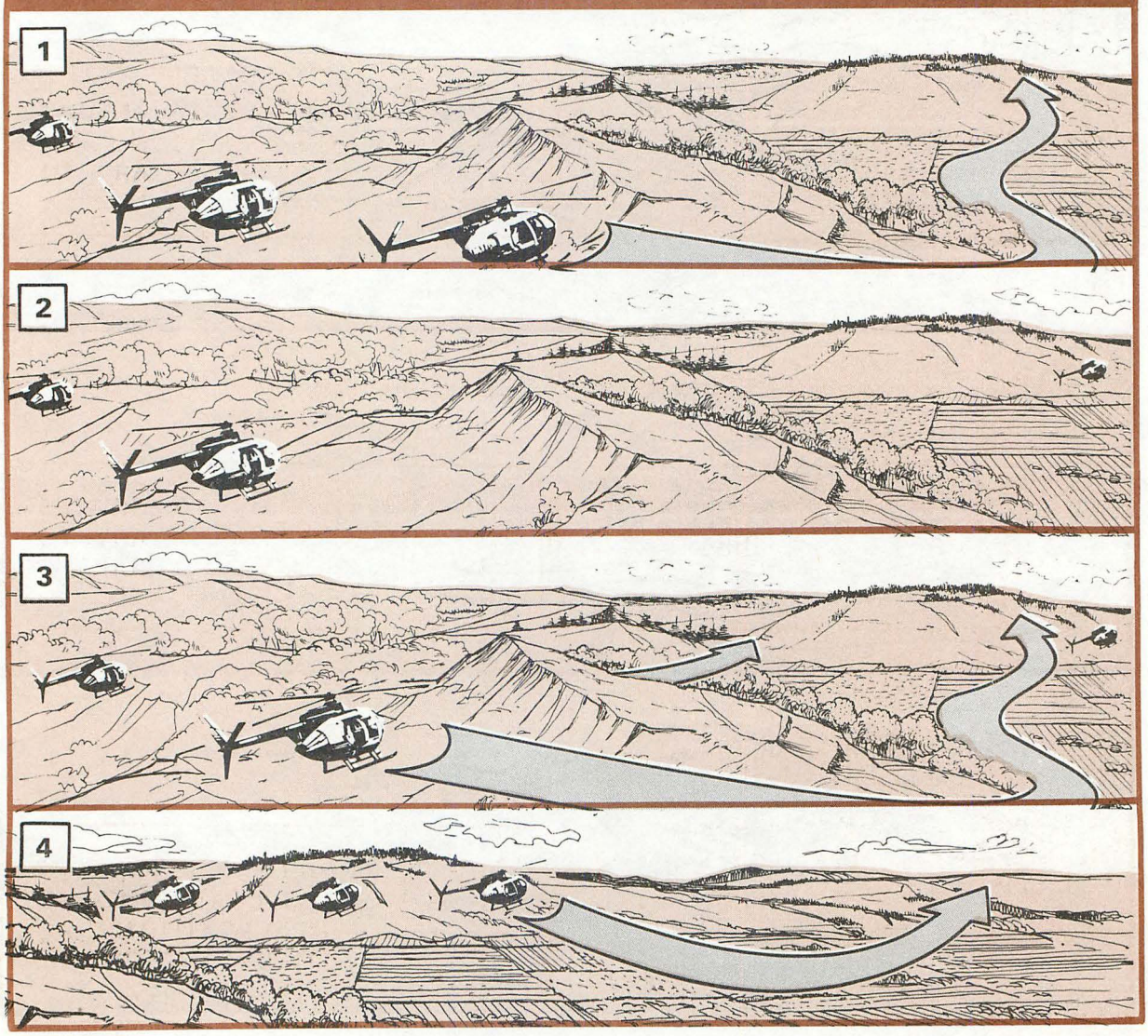
Bounding Overwatch. Use bounding overwatch when enemy contact is ***EXPECTED.*** Overwatching elements cover progress of bounding elements from a covered, concealed overwatch position offering observation and fields of fire against potential enemy positions. Attack helicopter teams do not always operate where attack helicopters can provide immediate fire support. However each element, the aeroscout section and the attack helicopter platoon can use this technique.

The following sequences describe aeroscouts by themselves and an attack helicopter team employing bounding overwatch.

AEROSCOUTS

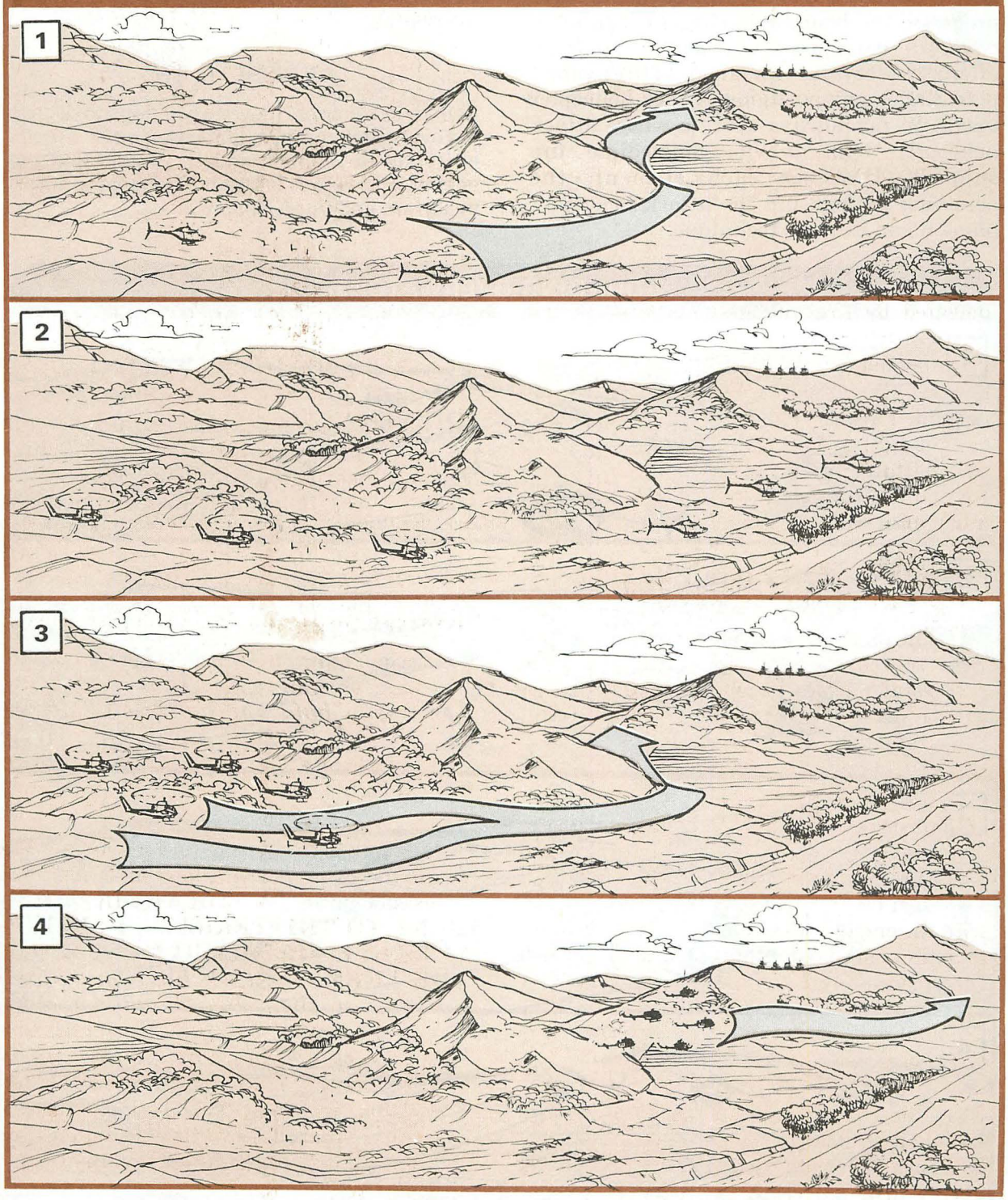
Bounding elements move to positions to take up the overwatch mission—unless contact is made en route. Bounding elements should find the enemy. The length of the bound is determined by terrain and intervisibility.

BOUNDING OVERWATCH



The attack helicopters overwatch the movement of the scouts as they move. Scouts may move as a section or by bounds within the section.

ATTACK HELICOPTER TEAM



ACTIONS ON CONTACT

As a general rule, when contact is made, fire and maneuver is the tactic employed to attack the enemy. Fire and maneuver is a logical extension of techniques of movement just described, more specifically of bounding overwatch. The difference between bounding overwatch and fire and maneuver is that overwatching elements deliver suppressive fires and maneuver elements engage exposed targets.

Once fire and maneuver have begun, it is necessary to determine if the enemy can be defeated by fire and maneuver alone in a hasty attack, or is the enemy in a well-prepared defensive posture which will require a carefully planned, deliberate attack by ground forces. Generally, if a company cannot fight at least two platoons through, or the battalion cannot fight at least two companies through quickly, the commander must assume he is up against a prepared defense which will require a deliberate attack.

And so, if fire and maneuver proceeding from traveling or bounding overwatch is successful, movement may continue; if not, it will be necessary to develop a coordinated, deliberate attack.

How does this general description of actions or contact apply to attack helicopter operations? Routinely, air cavalry or ground units precede attack helicopters, and these units can be expected to make initial contact with the enemy. Attack helicopter units move to action using techniques of movement just described in order to minimize vulnerability to enemy air defense and minimize the probability of detection before they are positioned to attack. Should, however, an attack helicopter team unexpectedly come upon the enemy, the team commander has two choices: attack or by-pass. Should he elect to attack, his primary goal is destruction of enemy armored vehicles; therefore, he will not normally attempt to fight through as would a ground unit. The decision to by-pass is based primarily on mission and enemy. If it is desirable to maintain contact with the enemy, this should be done with scout aircraft so that tank-killing aircraft are not exposed to enemy fire any longer than is absolutely necessary.

OFFENSIVE OPERATIONS

Attacking against forces equipped with modern weapons is a difficult and expensive operation. The defender has many advantages. His chief advantage is that he can organize the ground to his own advantage, maximizing the use of cover and concealment, and choose ground which requires the attacker to expose himself in areas where defending weapons can be brought to bear most effectively. The defender 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 defender's forces are spread more thinly. Thus by surprise, concentration of force, and concentration of suppressive fires, ***a bold and aggressive attack can succeed.*** In keeping with this, attack helicopter units should be concentrated at critical points.

Attack helicopter operations are similar to ground combat operations in that attack helicopter units **TAILOR THEIR MOVEMENT TO THE TERRAIN, USE SUPPRESSIVE FIRES AND MUST KNOW THE ENEMY.** ***Attack helicopter units operate in the ground environment, engage targets by fire at maximum effective range, and engage the enemy by fire from covered and concealed positions*** in order to maximize attack helicopter capabilities while at the same time minimizing the vulnerability of the attack helicopter.

In attack helicopter operations, companies or platoons may be cycled into battle using the **ONE-THIRD RULE DISCUSSED** in chapter 3.

If attack helicopter units are employed to dominate terrain as well as to destroy the enemy, ground combat power must be provided to secure terrain objectives.

As part of a larger force, attack helicopter units can participate in all types of offensive operations.

This section describes:

- MOVEMENT TO CONTACT
- ATTACK
- EXPLOITATION AND PURSUIT

MOVEMENT TO CONTACT

Movement to contact is conducted by a force moving to gain or reestablish contact with the enemy.

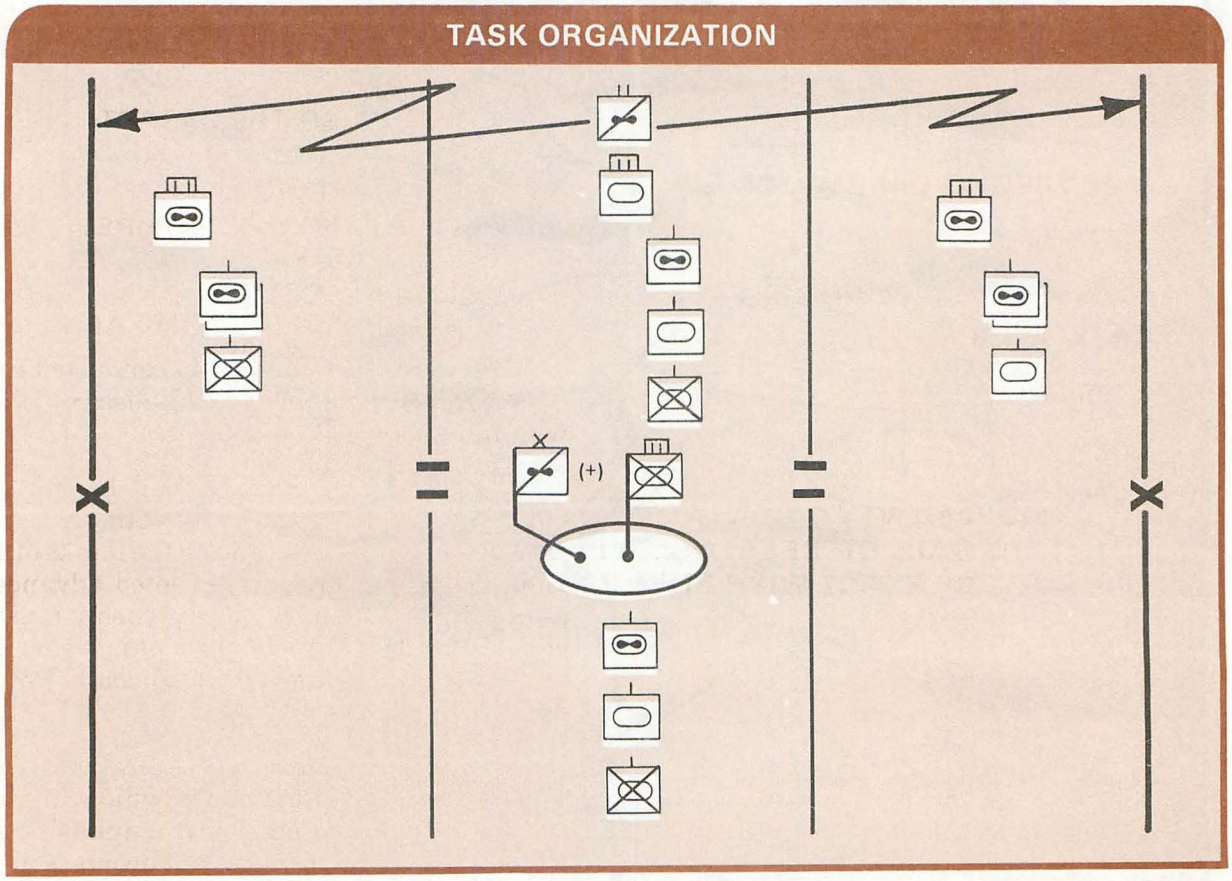
MOVEMENT TO CONTACT IS TO GAIN OR REESTABLISH CONTACT WITH ENEMY

It is generally characterized by movement on a fairly broad front, with security elements moving ahead and on the flanks of a main body to allow uninterrupted advance until contact is gained and the enemy main effort is identified. Techniques of movement to be used during movement to contact are described on pages 4-10 thru 4-14.

Here are examples of several ***movement to contact*** situations in which attack helicopters might be employed, emphasizing the part played by the attack helicopter unit.

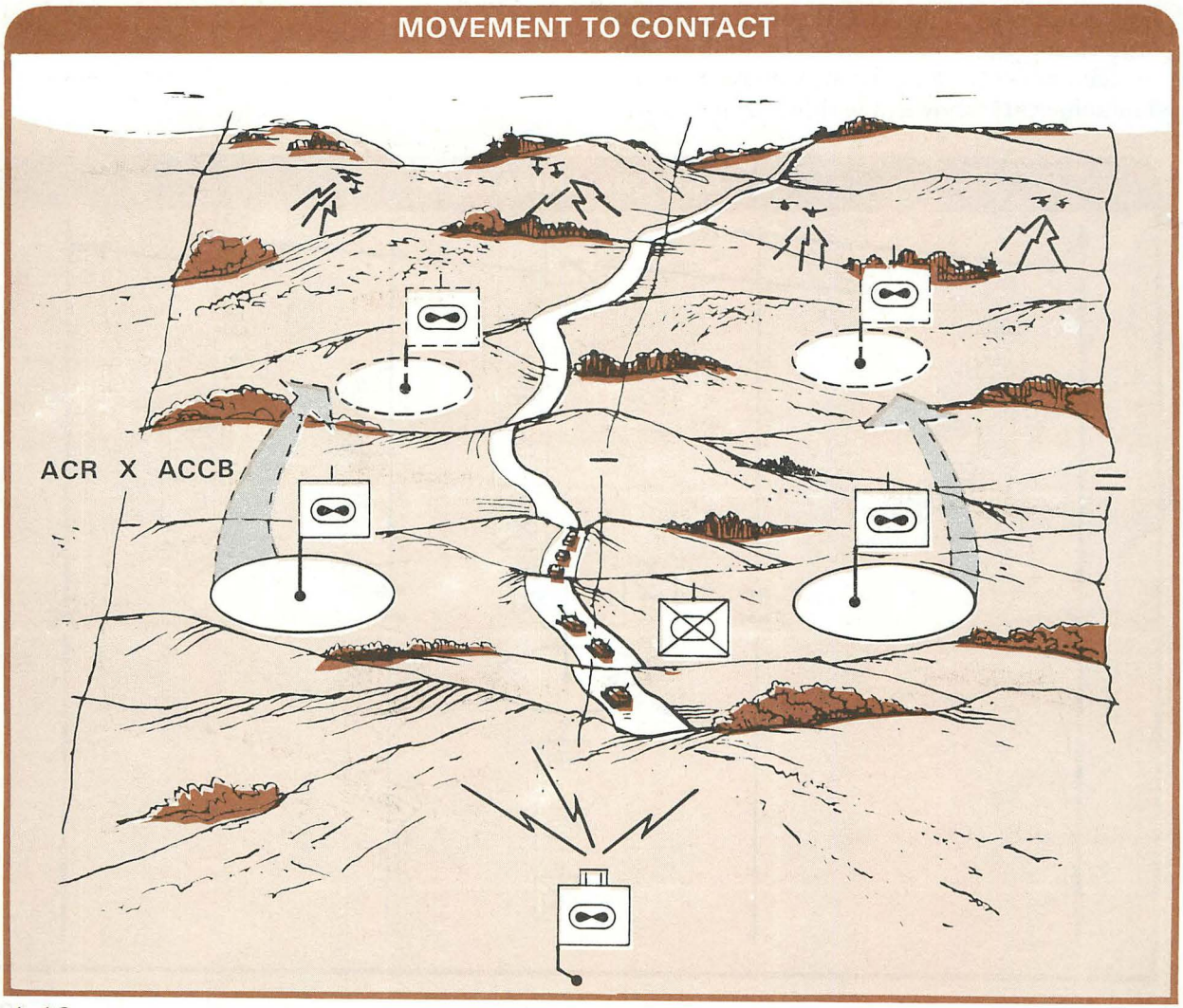
Attack helicopter battalions assigned to an ACCB.

The **ACCB** could be assigned a mission to assist in the corps covering force operation. In this situation, it would be normal to expect the **ACCB** to be augmented with ground forces to give it an all-weather, 24-hour capability. The **ACCB** commander has organized his battalions, including the attack helicopter battalions, into task forces. The schematic shows how this might be done.



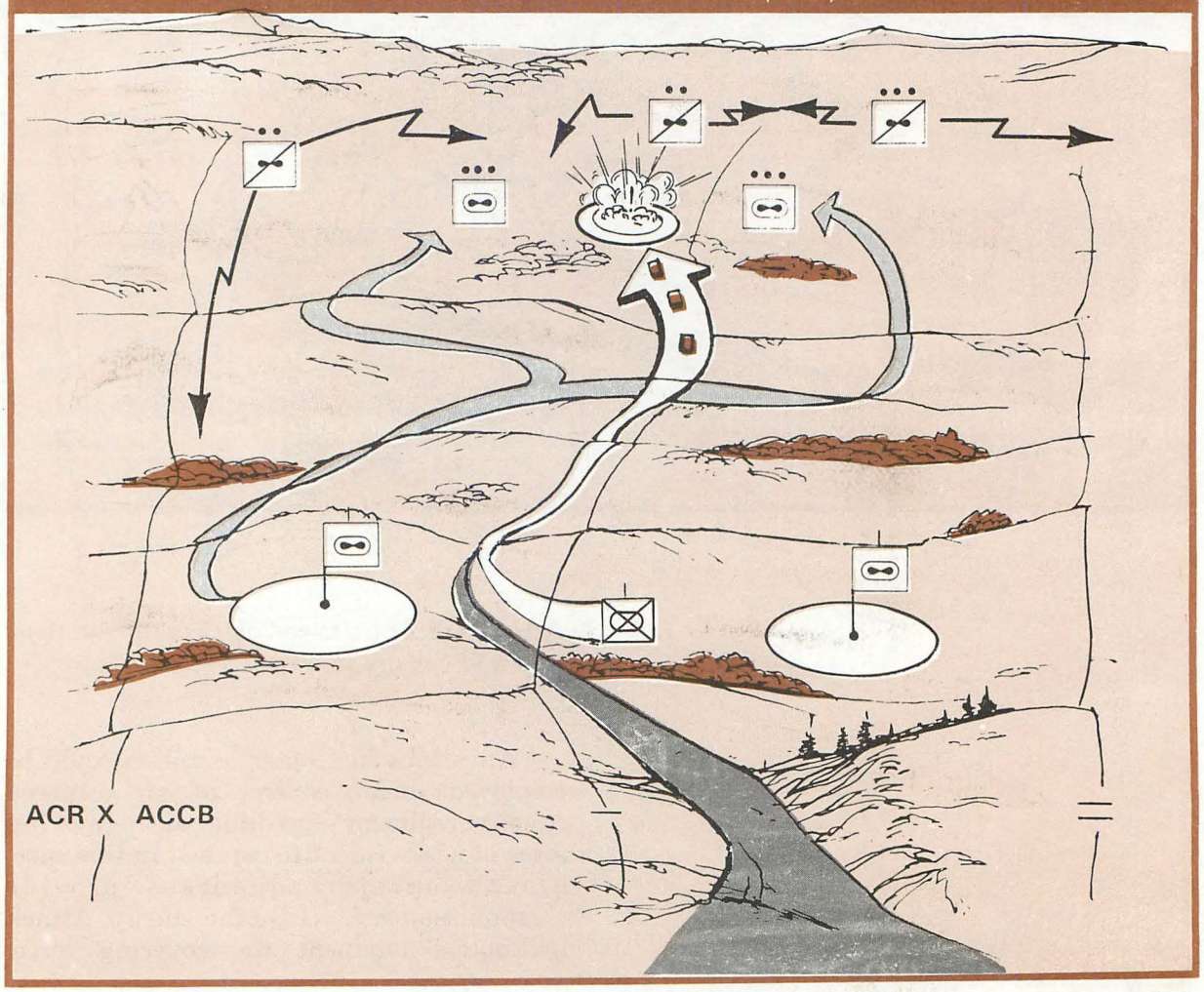
Air cavalry conducts a zone reconnaissance ahead of the task force. Information is reported simultaneously from the cavalry unit to the task force and the air cavalry squadron. Ground forces move on a central route in the task force zone ready to react. Attack helicopter companies are assigned zones within the task force zone. When air cavalry reports the area clear, attack helicopter units move by bounds behind the air cavalry zone reconnaissance. In this fashion, attack helicopter units are kept ready to react and can be used as early as possible in the fight.

MOVEMENT TO CONTACT



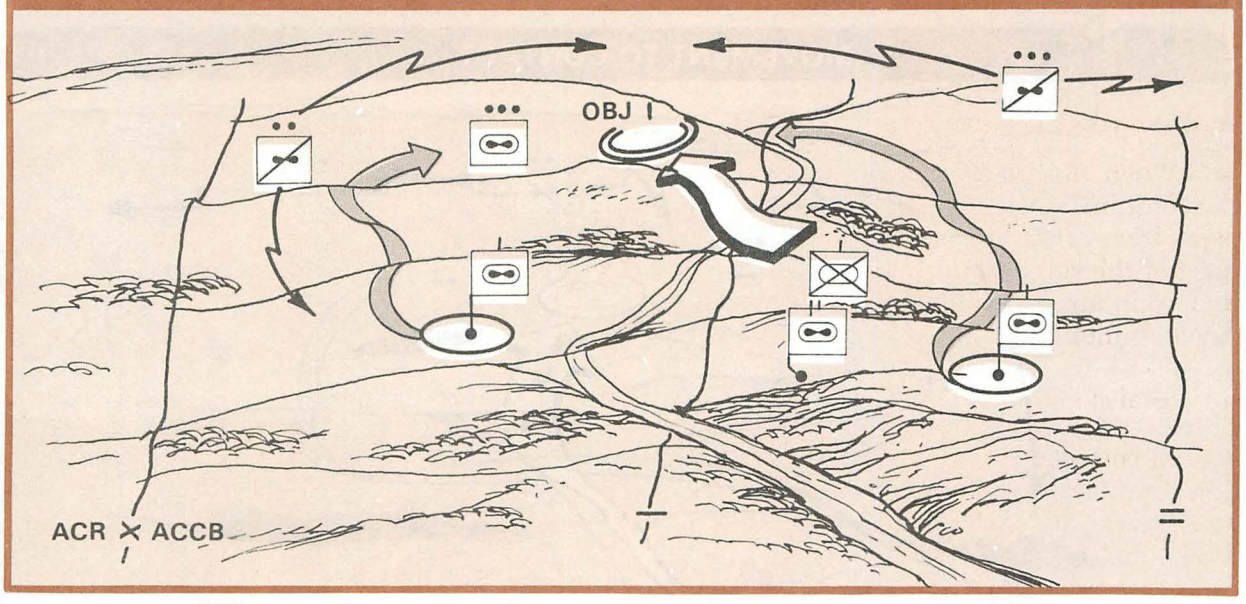
Assume that air cavalry has made contact, reported and developed locations, flanks, composition, and other details about the enemy. The attack helicopter task force commander commits the left flank attack helicopter company to attack the enemy. The mechanized company and right flank attack helicopter company are alerted for commitment if required. Cavalry teams will screen flanks and, if possible, reconnoiter behind enemy positions.

MOVEMENT TO CONTACT *(cont)*



The task force command determines it necessary to commit both the mechanized company and right flank attack helicopter company. He moves forward to better control the operation. Attack helicopter companies will cycle platoons into firing positions to provide a base of fire while the mechanized company maneuvers to secure the objective and drive the enemy from the zone. When the right flank attack helicopter company is committed, air cavalry elements in the zone screen and await further developments.

MOVEMENT TO CONTACT *(cont)*

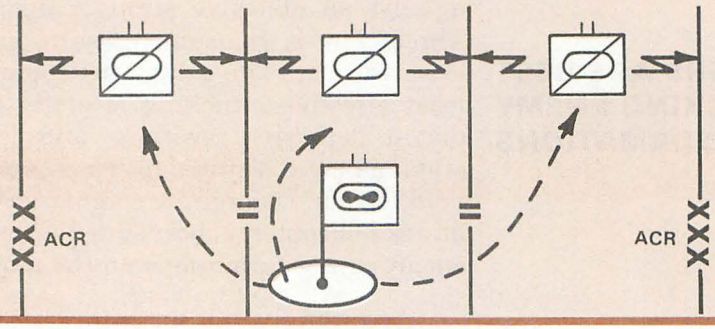


Attack helicopter battalion operating with an armored cavalry regiment (ACR).

An attack helicopter battalion could be employed under control of an armored cavalry regiment operating as a covering force in a movement to contact. In this case, ground cavalry squadrons provide reconnaissance to locate the enemy. Attack helicopters augment the covering force,

adding tank-killing power. Initially the attack helicopter battalion is usually held as a regimental reserve ready to reinforce by fire in any squadron sector. The battalion is normally located in the sector of its most probable commitment and displaces forward by bounds.

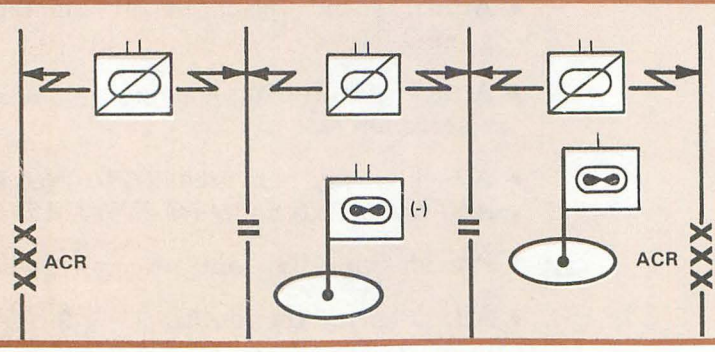
MOVEMENT TO CONTACT *(cont)*



When attack helicopter companies are task-organized with a ground cavalry squadron, they are normally employed as part of the squadron initially in reserve and placed in an area of likely employment. Like the battalion, the company moves by bounds to areas already reconnoitered or secured by reconnaissance elements.

In both cases, attack helicopter units are totally integrated into the ACR's scheme of maneuver. The ACR commander may also task an attack helicopter company to reinforce his air cavalry troop operating to the front or flanks of ground elements.

MOVEMENT TO CONTACT *(cont)*



ATTACK

Sometimes it is necessary to attack to destroy an enemy defensive system or secure key terrain, which can involve overcoming major, organized enemy resistance; this is a difficult and costly operation.

This type offensive operation is characterized by a detailed scheme of maneuver and integrated fire support against an objective strongly defended by Threat forces. It usually results in intense close combat. The attack helicopter unit is least effective attacking strongly fortified, dug-in defensive positions and lacks the staying power required to attack, secure, and hold terrain. Its organic combat vehicle, the attack helicopter, is best suited for attacking enemy armor formations on the move.

ATTACK HELICOPTERS ARE BEST SUITED FOR ATTACKING ENEMY ARMOR FORMATIONS

Accordingly, in an attack, the attack helicopter unit can best be utilized as part of a larger force and employed initially as an armor-defeating force. Using the attack helicopter unit in this role insures its mobility and flexibility to reinforce attacking forces with antiarmor fires. It permits massing for the main effort at the crucial time and place.

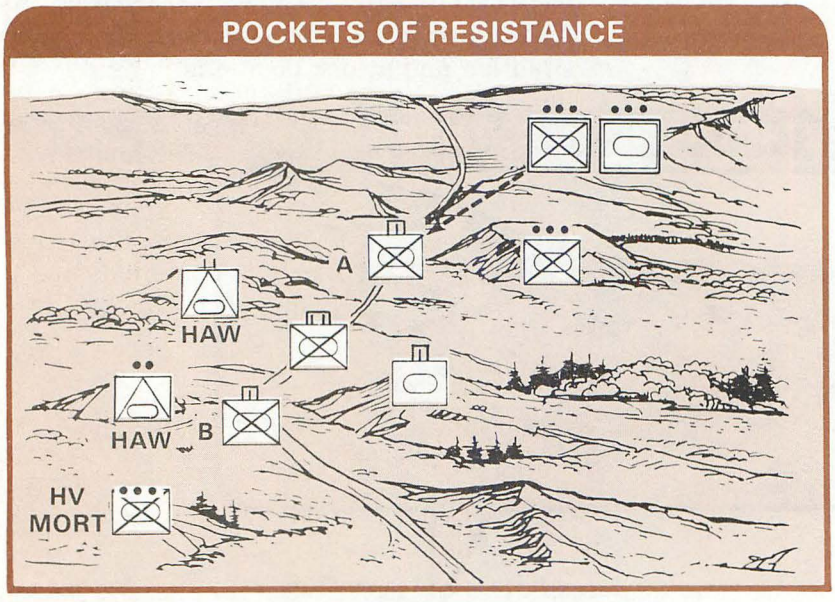
As an integral part of the combined arms team, attack helicopters combine their antiarmor fires with ground combat forces. There are several tasks for attack helicopters in such a combination.

- Attack pockets of resistance by-passed by the main force.
- Attack enemy positions in concert with ground forces.
- Attack withdrawing enemy forces or enemy reserve forces.
- Attack enemy rear areas *GIVEN AVAILABLE FLANKS OR PENETRATIONS.*
- Provide immediate antiarmor firepower.
- Attack enemy counterattacking forces.

Here are several examples of attack situations in which attack helicopters might be used, emphasizing the part played by the attack helicopter unit.

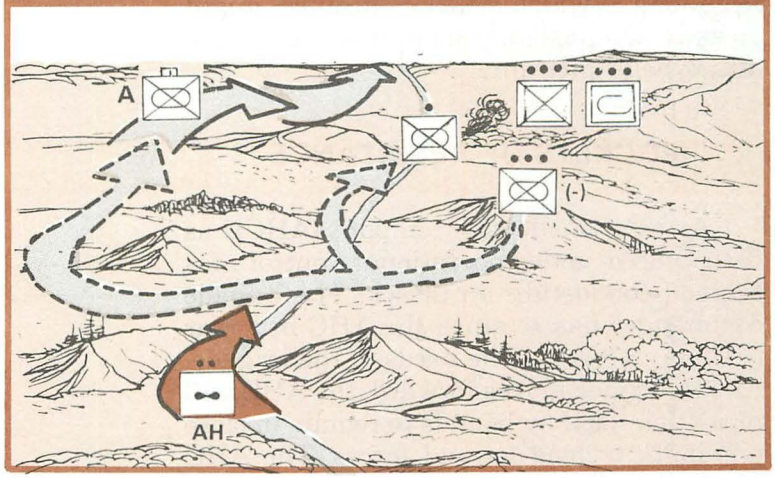
POCKETS OF RESISTANCE

An attack helicopter company (AHC) has been placed under operational control of a brigade conducting an attack. The brigade commander has retained the AHC in a rear position to react to the needs of the brigade. As the brigade moves forward, the AHC will reposition itself by bounds to remain in close proximity to lead ground forces. The AHC establishes liaison with each task force to provide for continuous coordination and rapid commitment of an attack helicopter team or the whole company.



While moving to contact, a lead task force is fired upon by a small mechanized enemy unit. The TF commander prepares to attack the enemy but is ordered to by-pass by the brigade commander—in order to maintain the momentum of the attack.

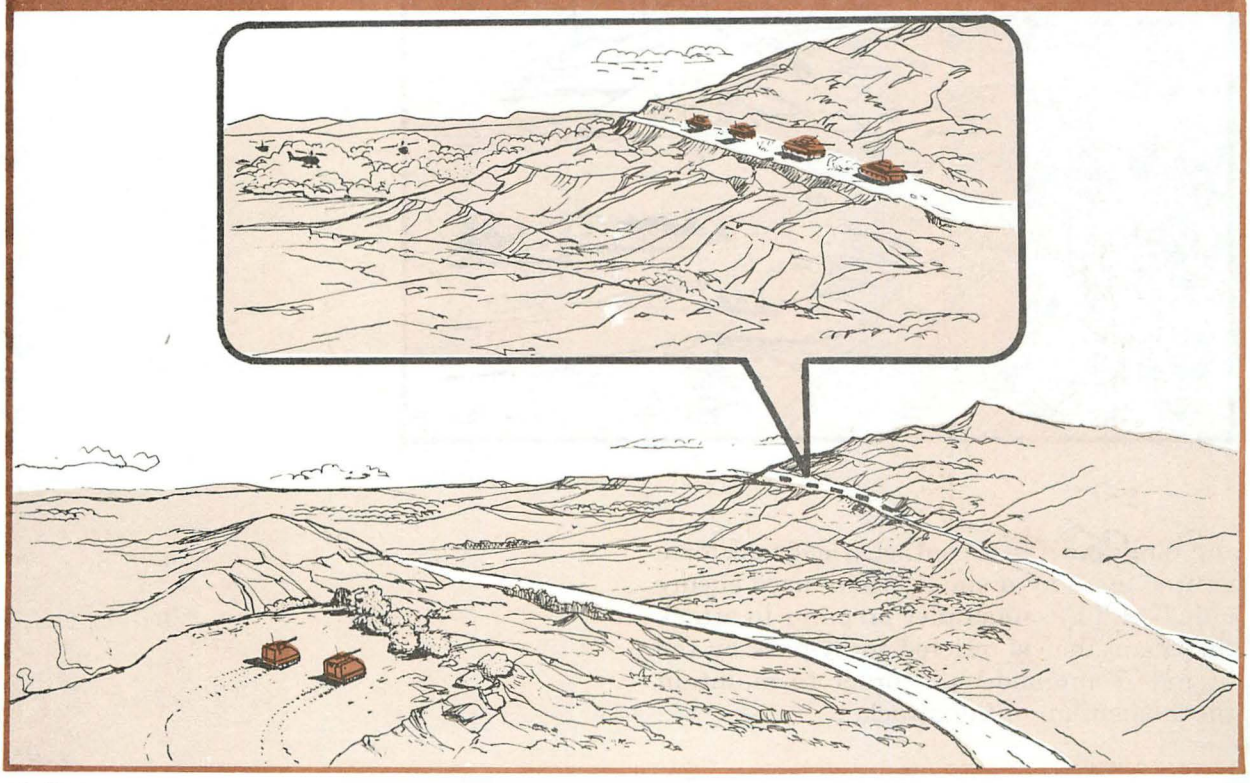
POCKETS OF RESISTANCE BY-PASSED BY THE MAIN BODY



The AHC is given the mission to destroy the by-passed enemy force.

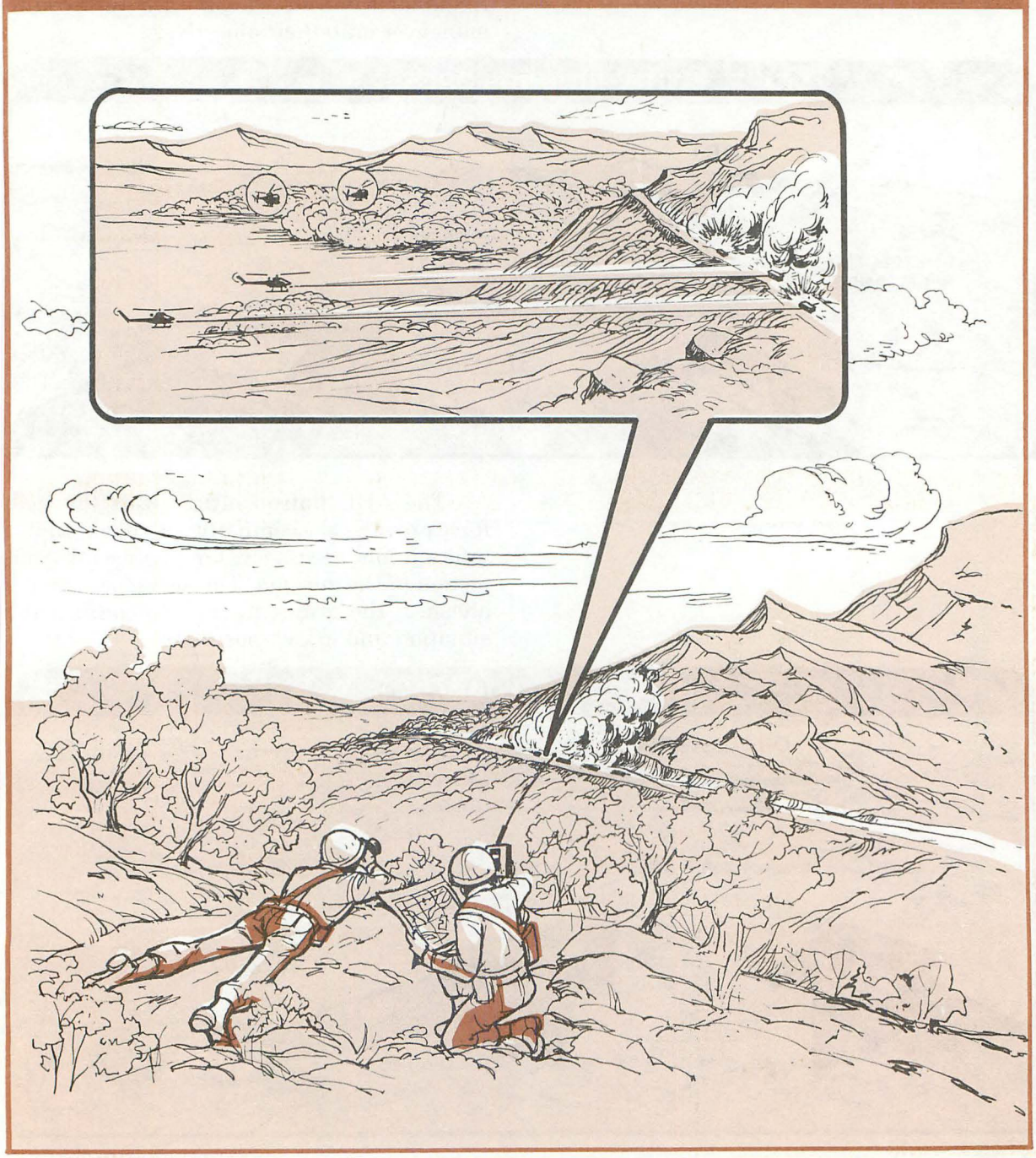
The enemy force realizes it has been by-passed and begins to move. Scouts from the AHC move forward to determine the enemy situation and attack positions.

ATTACKING BY-PASSED UNITS



Scouts direct the team into their attack positions from which they engage enemy tanks and BMPs. If additional teams are required to destroy this force, the AHC commander will utilize the **ONE-THIRD** rule to provide continuous antitank fires.

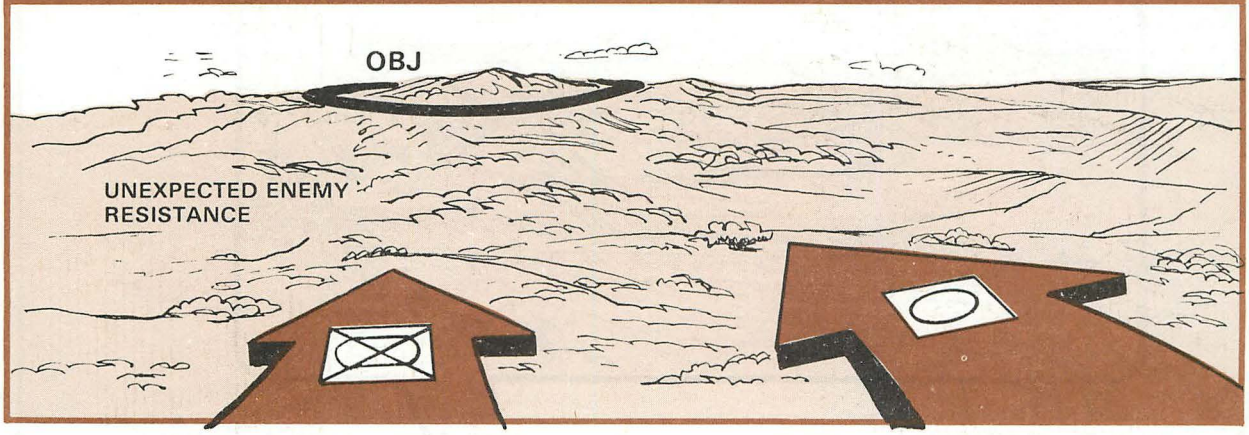
ATTACKING BY-PASSED UNITS *(cont)*



IN CONCERT WITH GROUND FORCES

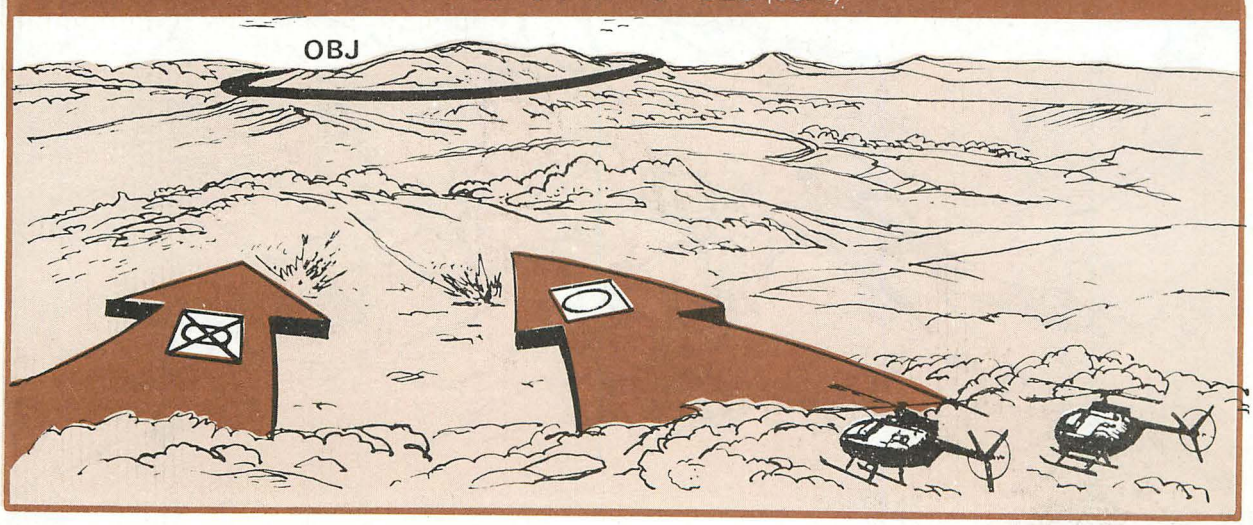
In this situation, an adjacent task force runs into unexpected enemy resistance. As the TF commander prepares to attack, he receives operational control of the attack helicopter company. The AHC is given the mission of attacking the enemy with fire thus fixing them and allowing the ground forces to maneuver onto their objective.

WITH GROUND FORCES



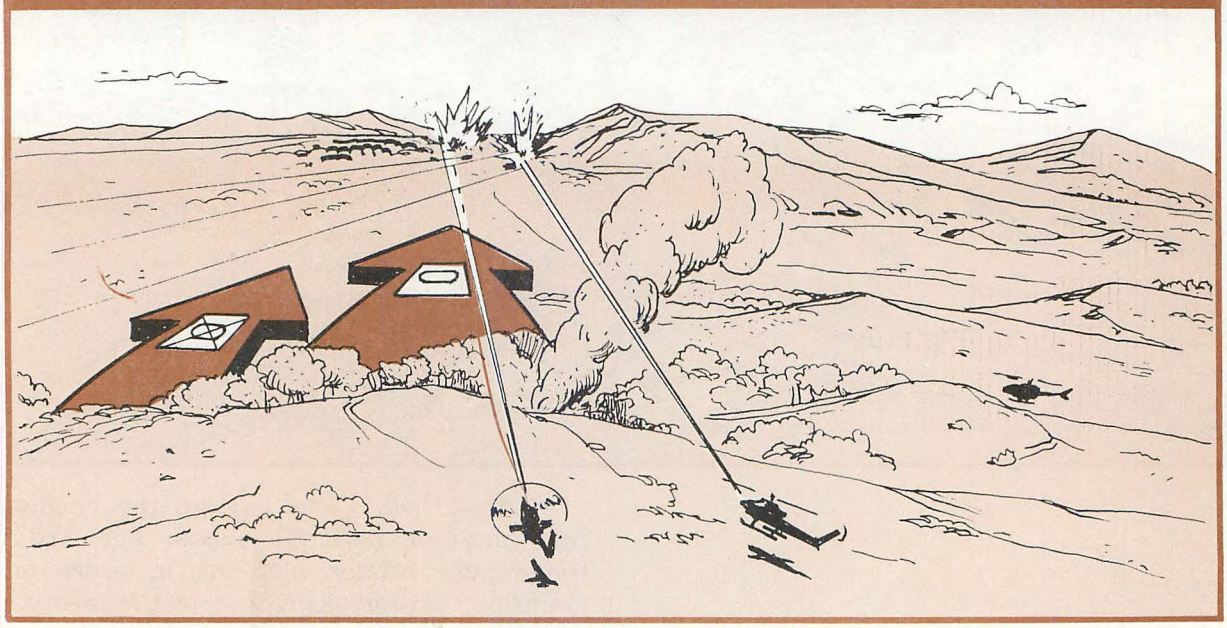
The AHC liaison officer with the task force provides the company with all pertinent information necessary for successful completion of the mission. The aeroscouts arrive ahead of the attack aircraft to confirm the situation and attack positions.

WITH GROUND FORCES *(cont)*



Attack helicopters provide antitank fires as the ground forces maneuver.

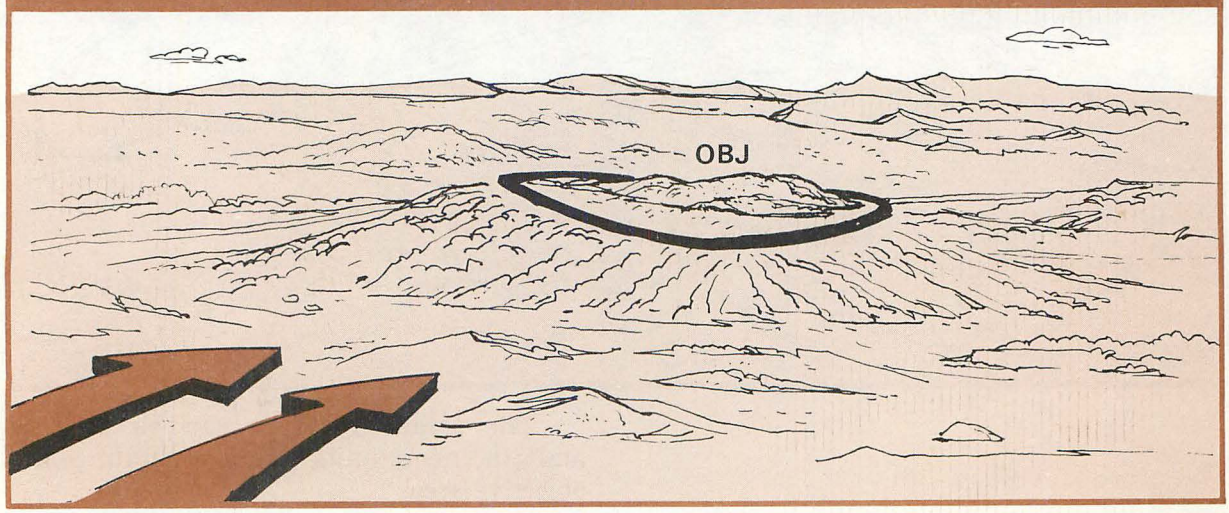
WITH GROUND FORCES *(cont)*



WITHDRAWING ENEMY FORCES OR ENEMY RESERVE FORCES

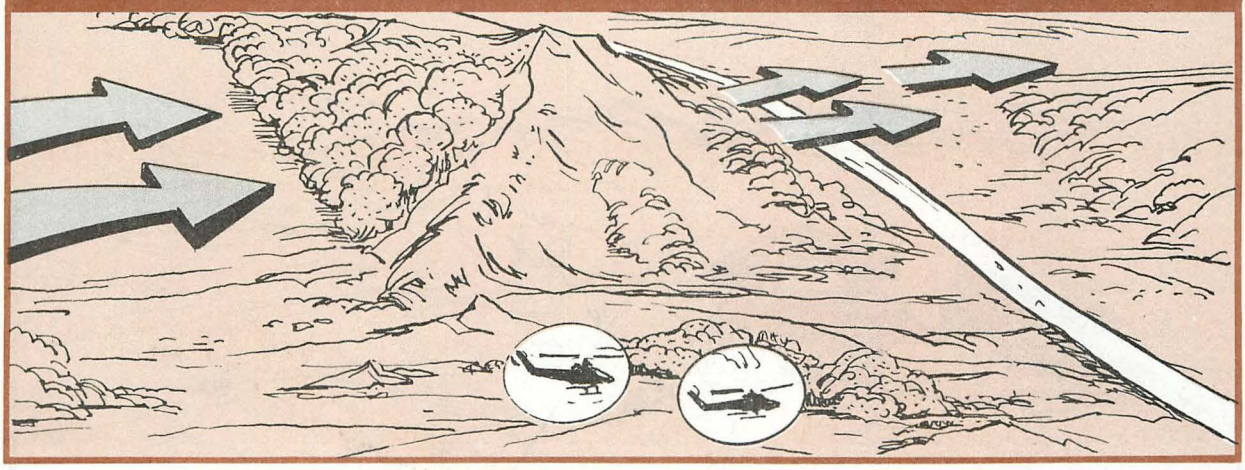
In this situation, enemy resistance is crumbling. As the task force approaches its objective, the brigade commander orders the attack helicopter company to attack the enemy from the flank as he withdraws.

WITHDRAWING ENEMY FORCES



Again scouts move forward to confirm the enemy situation and battle positions.

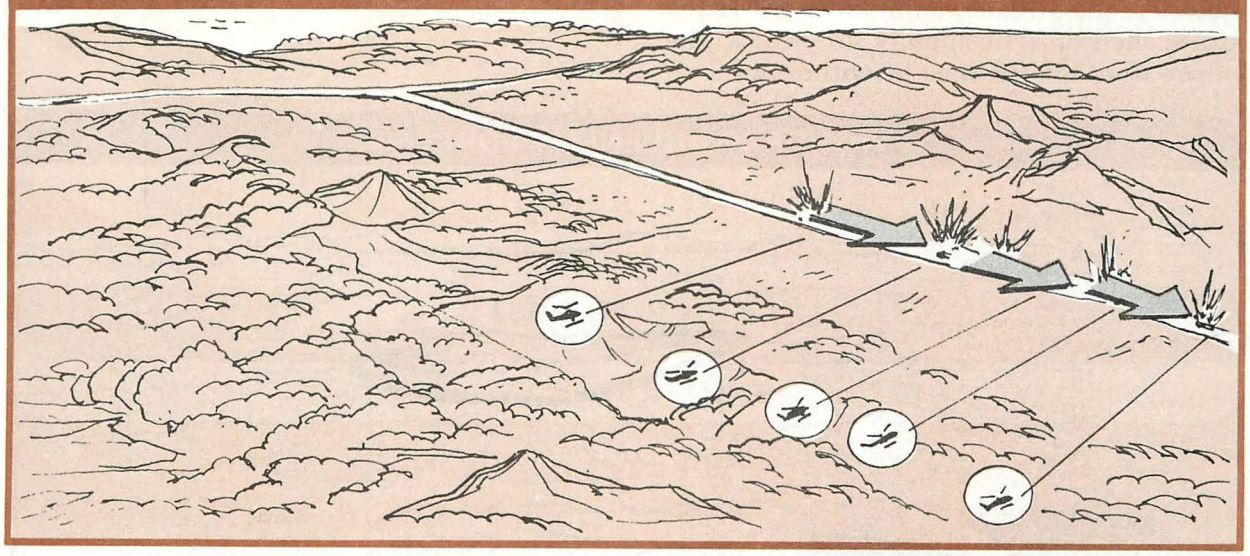
WITHDRAWING ENEMY FORCES *(cont)*



Attack helicopters engage the enemy from multiple battle positions. The AHC commander rotates platoons in order to maintain continuous pressure on the enemy.

Aeroscouts secure the immediate area around attack helicopters and reconnoiter alternate firing positions.

WITHDRAWING ENEMY FORCES *(cont)*

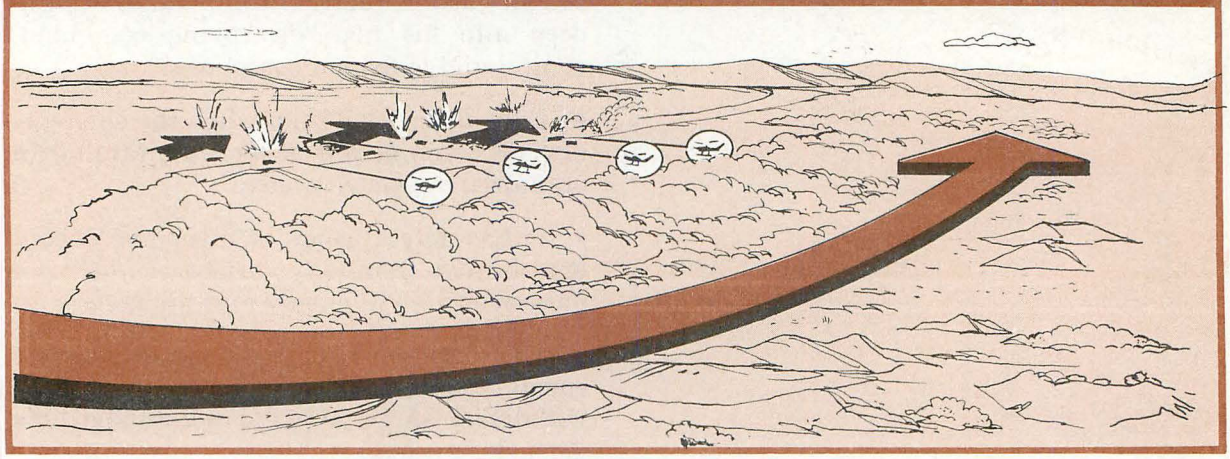


The same procedure can be used to ambush enemy units trying to reinforce the objective area.

ENEMY REAR AREA

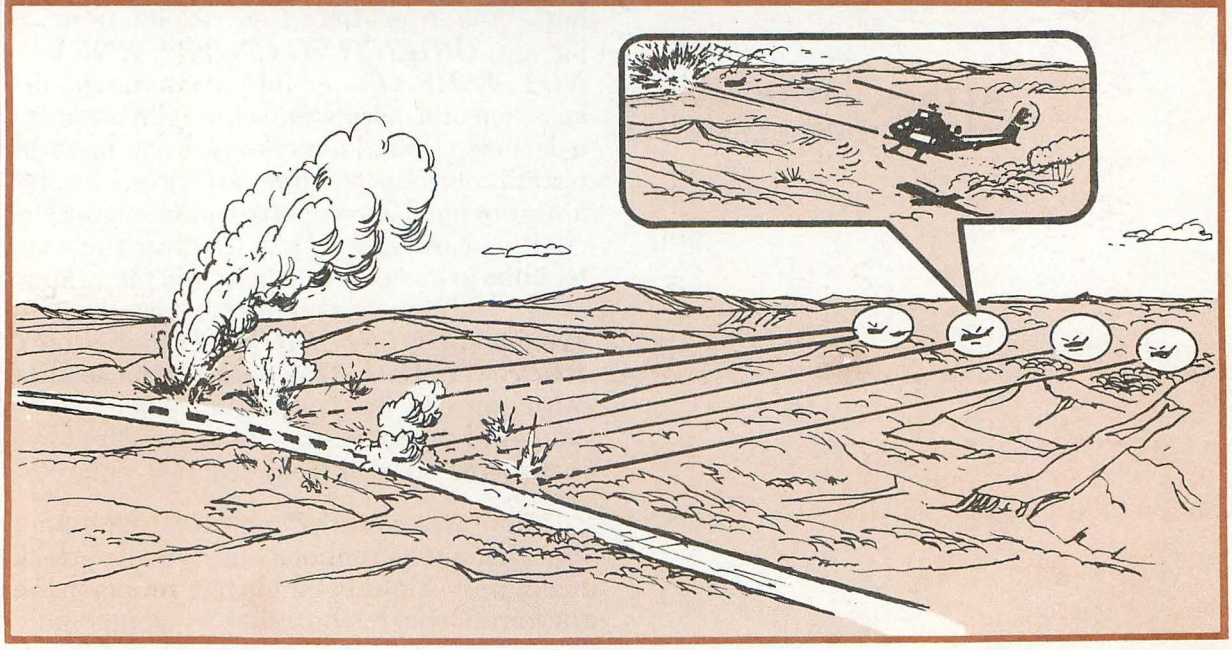
As one platoon attacks the withdrawing enemy force in conjunction with ground forces, the scouts find an open flank. The brigade commander commits the rest of the AHC to attack the enemy's immediate rear area.

ENEMY REAR AREA



Command posts, truck parks, artillery, and logistic areas are destroyed.

ENEMY REAR AREA *(cont)*



Exploitation and Pursuit

The purpose of exploitation is to capitalize on advantages gained by previous actions. Its intent is to prevent the enemy from reorganizing a defensive system or conducting an orderly withdrawal by driving deep into his rear, destroying command, control and logistical complexes.

- Exploitation is begun when the enemy is obviously unable to continue maintaining an organized defensive system.
- Larger forces (corps or divisions) during exploitation normally orient on terrain objectives deep in enemy rear areas.
- The purpose of pursuit is annihilation of enemy forces. It is executed as the enemy withdraws attempting to reestablish his defensive system.

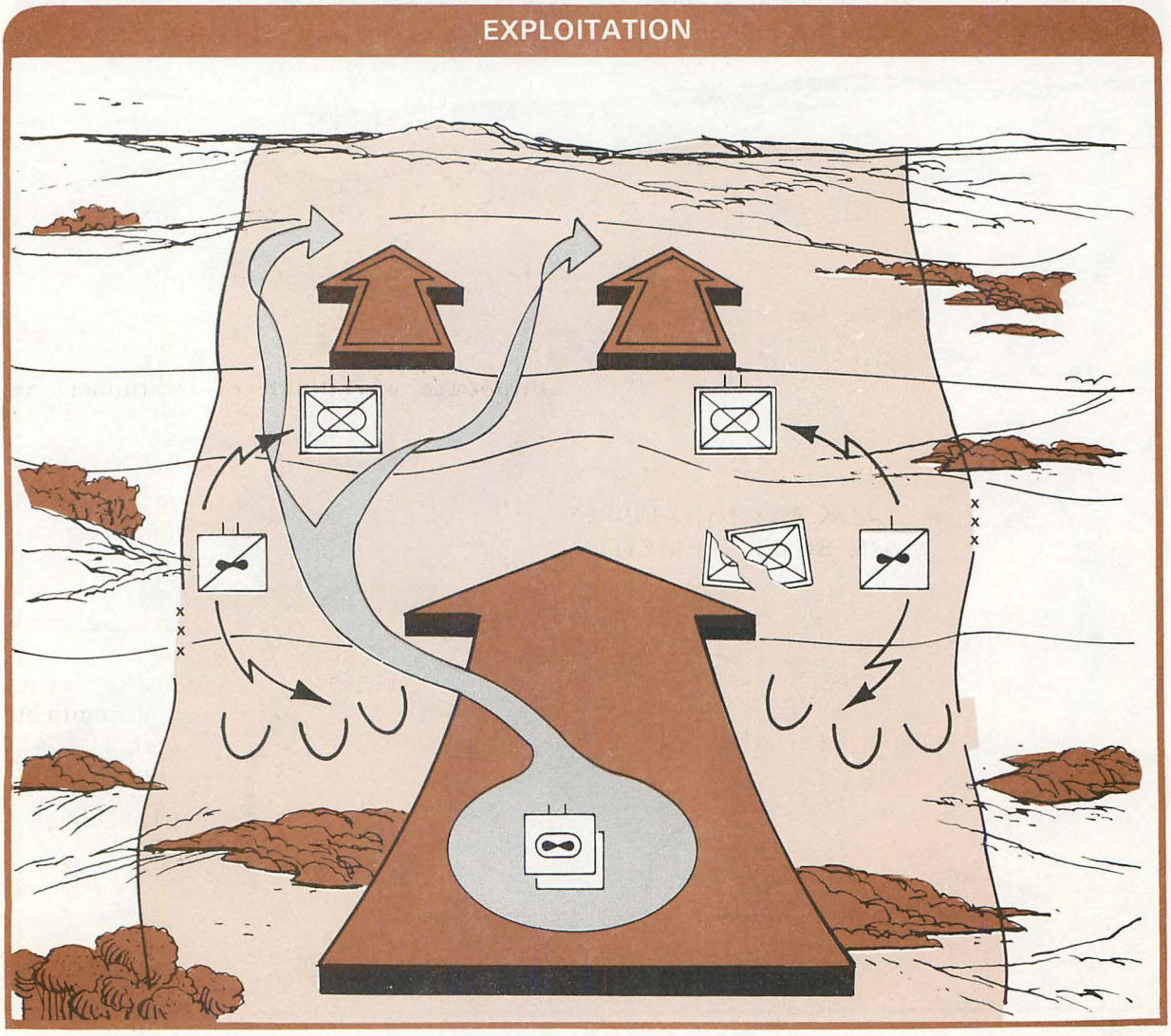
Pursuit requires unrelenting pressure. Speed, mobility, and firepower of attack helicopter units make them ideal forces for exploitation and pursuit. Because of these qualities, attack helicopter units can readily make the transition from exploitation to pursuit, ***ORIENTING ON THE ENEMY, NOT TERRAIN*** to inflict maximum destruction and disrupt any effort to reorganize a defense. Ground forces may orient more on terrain objectives while attack helicopter units orient on enemy forces, maximizing the combined arms effort. Ideally, attack helicopter units are used in the encircling force. They attack withdrawing main body elements but avoid and ***DO NOT FIGHT THE ENEMY REAR GUARD.*** This does not mean that other attack helicopter units cannot be employed as part of the direct pressure force in conjunction with ground maneuver forces.

ATTACK WITHDRAWING MAIN BODY ELEMENTS

Here are several examples of exploitation and pursuit situations in which attack helicopters might be employed, emphasizing the part played by the attack helicopter unit.

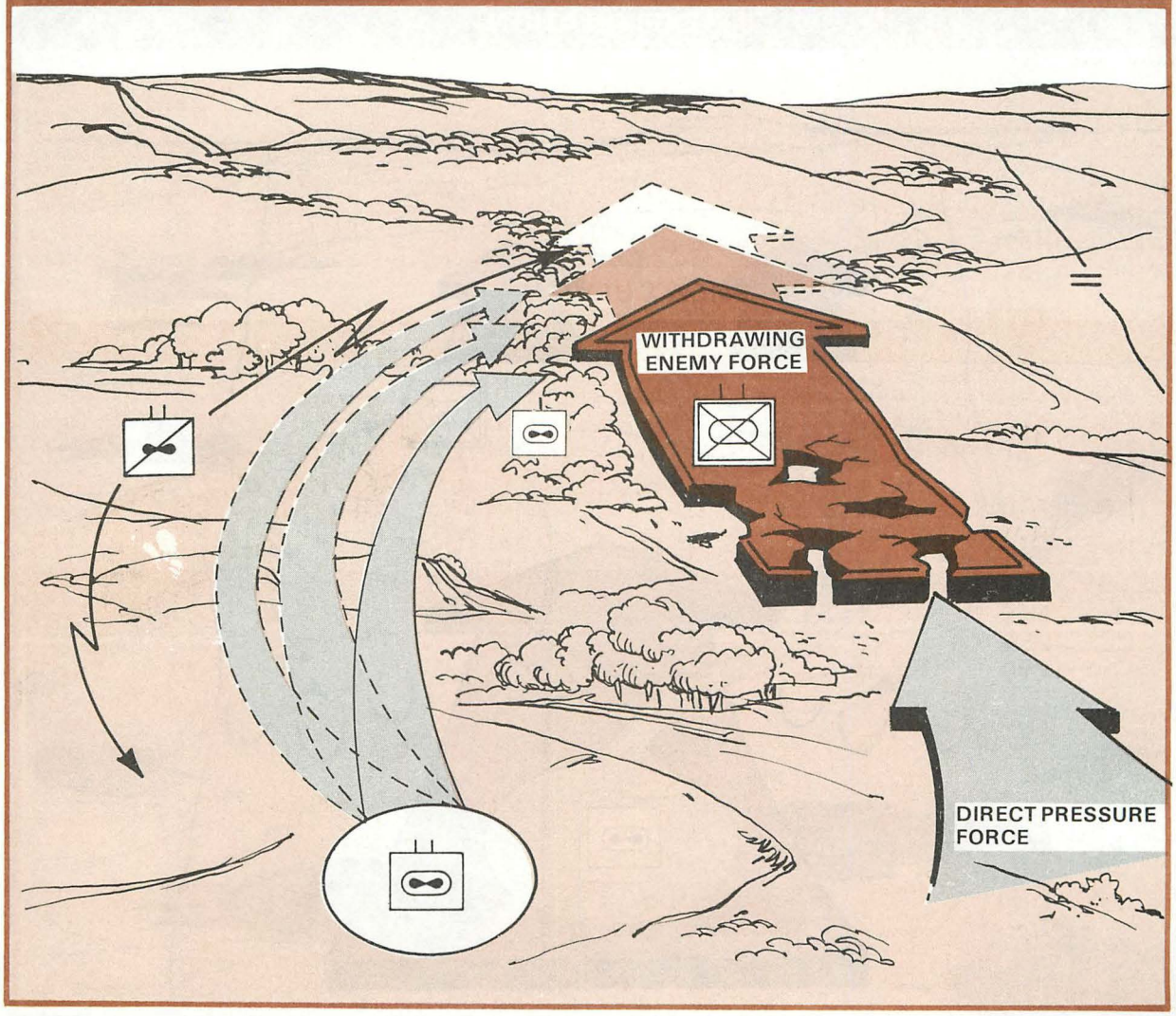
Attack helicopter battalions assigned to an ACCB.

Friendly ground forces have penetrated enemy defenses and now begin an exploitation. Attack helicopter battalions of the ACCB are committed as part of the encircling force. Each has been given a zone in which to orient on enemy forces and control maneuver units.



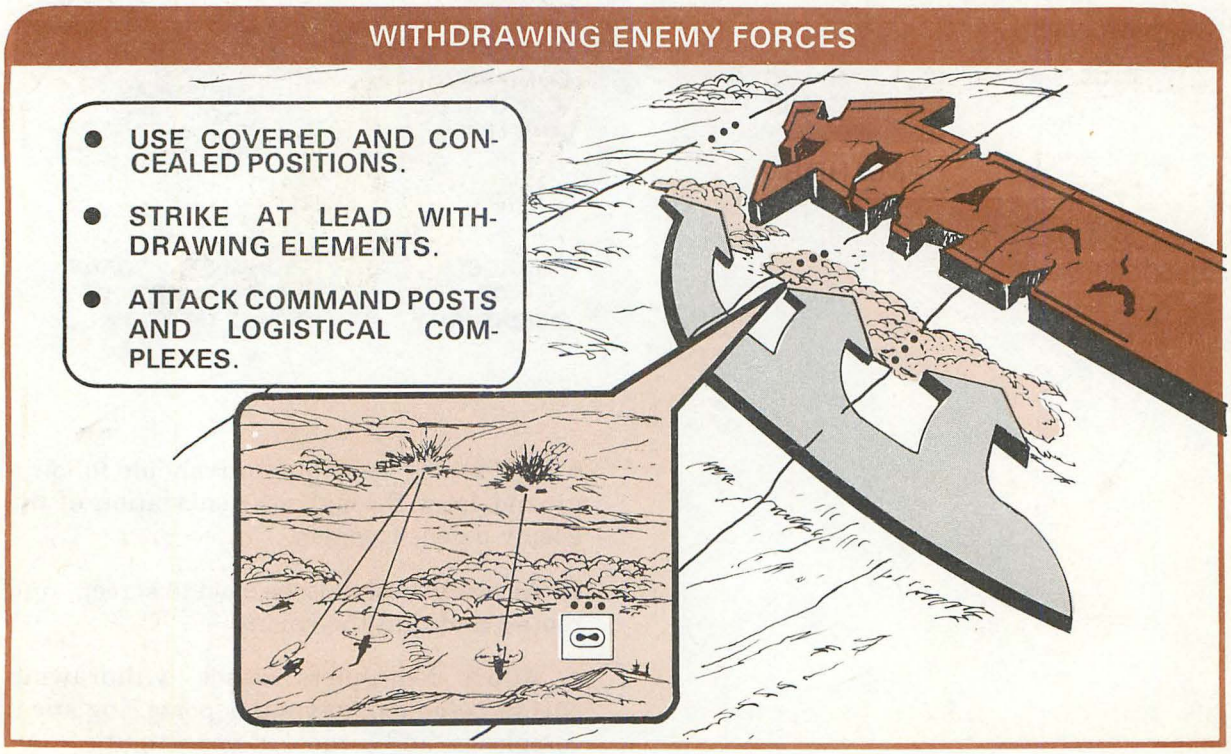
As part of the encircling force, the attack helicopter battalion attacks withdrawing enemy forces. Commitment of one company to strike the lead portion of withdrawing enemy permits rotation of companies under the one-third rule, and provides for continuous pressure on enemy lead elements by three attack helicopter platoons at all times. Attack helicopter elements must follow through the ground penetration of the enemy defense, avoiding shoulders of the penetration and the battle around the enemy defensive system.

EXPLOITATION *(cont)*



As part of an attack helicopter battalion conducting encircling operations in exploitation or pursuit missions, *attack helicopter companies* should be committed as units. Coordination with air cavalry reconnoitering withdrawing enemy forces must be made early, to determine flight routes to the lead elements of withdrawing enemy. By attacking lead elements in ambush along routes of withdrawal, attack helicopters can achieve surprise, further confusing, disorganizing, and fixing the enemy for the direct pressure force. It also allows encircling ground elements time to maneuver into position to attack.

Attack helicopter platoons attack lead enemy elements in order to disorganize and slow the enemy force. By attacking and destroying command posts, logistics complexes, communications relay sites, artillery positions, and other targets of opportunity found in the enemy rear, reorganization of his defensive system is further inhibited and the transition into pursuit begins.

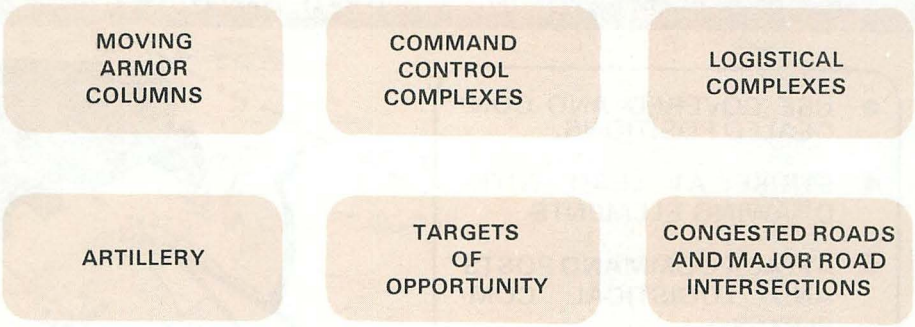


Attack helicopter companies must carefully plan their mission, considering proposed flight paths, mission time, possible time in a holding area, and return to a rearm and refuel location. Because of their mobility, attack helicopters can move back through the penetration to FARRPs which may not be able to move forward due to battlefield congestion. However, careful planning and monitoring of flight time are required to insure a completed mission.

REMEMBER:

■ Exploitation and pursuit operations favor use of attack helicopter units.

ATTACK THESE TARGETS.....



- The attack helicopter unit should follow a ground force through its penetration of the enemy defense system.
- Air cavalry should be used to screen, find routes, and find the enemy.
- Attack helicopters attack withdrawing enemy columns, command posts, logistical complexes, and targets of opportunity.

DEFENSIVE OPERATIONS

While the outcome of battle generally derives from the success or failure of offensive operations, defensive operations may be necessary when: the enemy is stronger; the enemy has the initiative; it is necessary to gain time; it is necessary to hold a critical area; or as an economy-of-force measure to permit concentration of forces elsewhere.

Attack helicopter units will normally conduct defensive operations as part of a larger force. The purpose of the larger force is to prevent the enemy from controlling terrain or other features essential to the friendly force mission. To defend successfully, then, the defender has to destroy enough enemy forces to convince the enemy that the attack is too costly and that he must break it off.

STUDY THE TERRAIN, ANALYZE AVENUES OF APPROACH AND SELECT DEFENSIVE POSITIONS

In defense, the defender has many advantages over the attacker. Among these is the opportunity to thoroughly study the terrain—analyze avenues of approach and select defensive positions where the defender can maximize the capabilities of his weapons while minimizing their vulnerability to enemy observation and fire.

ATTACK HELICOPTERS SHOULD BE COMMITTED IN LARGE NUMBERS

Regardless of the mission of higher headquarters, attack helicopter units are offensive in nature. The great mobility differential of attack helicopter units over ground forces allows them to rapidly move to the decisive point on the battlefield. As in the offense, attack helicopters should be committed in large numbers, in the same general area, against the same attacking enemy, in rotation, from concealed attack positions. This should provide for nearly continuous antitank fires. Attack helicopter units can also concentrate firepower for short periods of time by committing an entire battalion against an enemy effort, although this method may not provide continuous pressure on the enemy.

To defeat an enemy while outnumbered, the battlefield must be organized in depth. To do this, the battlefield is divided into three areas: Covering Force Area, Main Battle Area and Rear Area.

Covering Force Area (CFA).

- Antitank heavy (tanks, attack helicopters, HAWs).
- Inflict maximum destruction on the enemy without sacrificing tactical integrity of the force in order to:

—Strip away enemy reconnaissance screen.

—Force enemy to deploy, bring up artillery, and organize a deliberate attack, thereby revealing his composition, strength capabilities and intentions.

Main Battle Area (MBA)

Forward Committed Battalions

- Initially mechanized infantry heavy; tank units from CFA forces are added to MBA forces after CFA battle.
- Fight decisive battle in order to destroy, contain, or force the withdrawal of the enemy from the assigned sector.

Reserves (Brigade and Division)

Add depth.

Block, reinforce, counterattack.

Rear Area (RA)

- Division and corps logistics support units and communications centers.

■ The battle will begin early and as far forward as possible. The intent is to limit the enemy's initial thrust and to block alternative courses of action he may take. Ground forces will select and organize on terrain which:

- Provides long-range fields of fire or long-range crossing or flanking shots for ATGMs and tanks.
- Provides good cover and concealment for the defender and no cover or poor cover and concealment for the attacking enemy.
- Provides covered and concealed battle positions, organized in depth, for terrain-masked counterattack routes.

Initially, forces deploy in depth in a system of mutually supporting battle positions. Since there are not enough units to occupy all positions, forces are shifted to critical positions as the battle develops.

Attack helicopters are integrated into the CFA and MBA force commander's scheme of maneuver; their long-range firepower and mobility allow them to move rapidly, changing battle positions as the enemy situation dictates. They can work together with ground forces or independently.

When separate attack helicopter units are used in the CFA or MBA, they should be attached to the corps or division headquarters directing the operation because of maintenance and resupply of Class III and V. While attack helicopter battalions and companies can operate rearm and refuel points, they require additional transportation from DISCOM or COSCOM to keep FARRPs resupplied. By the same token, attack helicopter units are placed under operational control of, not attached to, forward brigades or regiments to preclude placing an undue logistics burden on these commands.

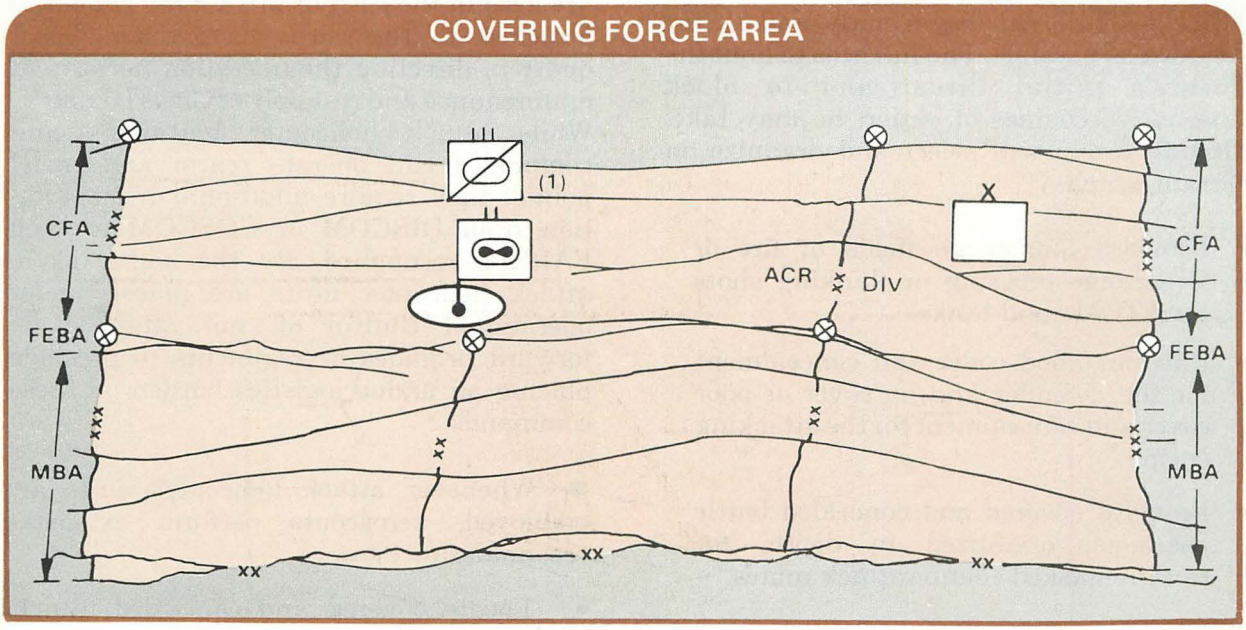
■ Whenever attack helicopter units are employed, aeroscouts perform extensive reconnaissance to:

- Locate covered and concealed attack routes.
- Locate likely engagement areas.
- Identify possible battle positions.
- Coordinate suppressive fire support.
- Integrate helicopter battle positions with the ground force scheme of maneuver.
- Identify usable holding areas.

Here are examples of several defense situations in which attack helicopters might be used, emphasizing the part played by the attack helicopter unit.

Attack helicopter battalion reinforcing an armored cavalry regiment in the covering force area.

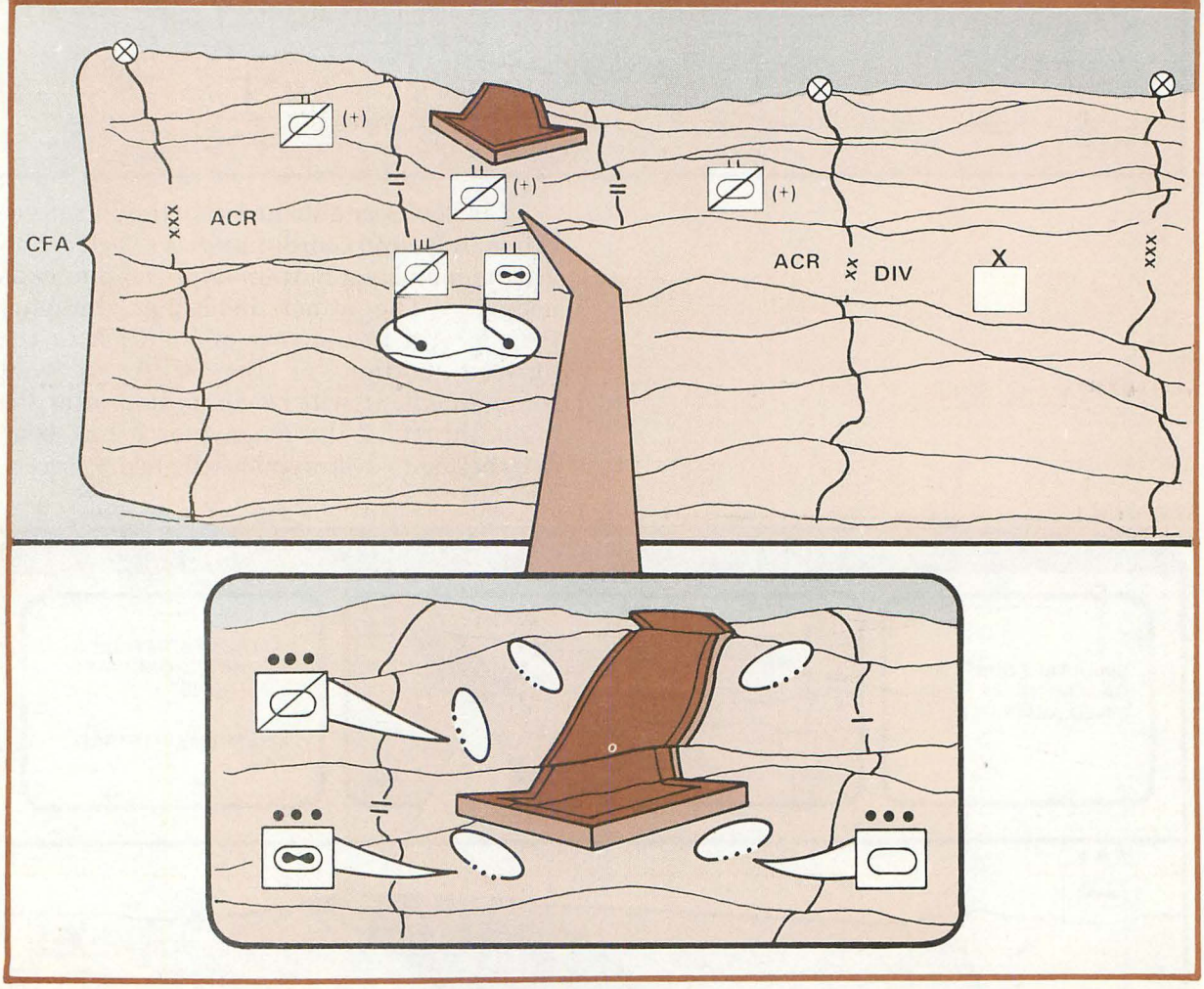
The CFA has been divided into two sectors, one controlled by the ACR commander and the other by the assistant division commander of the corps' right flank division. Both units have been reinforced with the tank battalions, mechanized infantry battalions, and attack helicopter units.



Terrain is analyzed to determine critical avenues of approach into the area. An estimate is made concerning possible enemy courses of action. The attack helicopter battalion is then placed in the rear of the CFA, or in a forward portion of the MBA, closest to areas where commitment can be expected, to await development of the enemy's situation. Liaison is established at

regimental level, and coordination effected with squadrons/task forces of the regiment. Attack helicopter units are committed after the enemy situation has been developed and the major enemy thrusts have been identified. The attack helicopter units are then committed in the most threatened sectors to destroy masses of enemy tanks and armored vehicles.

COVERING FORCE AREA *(cont)*

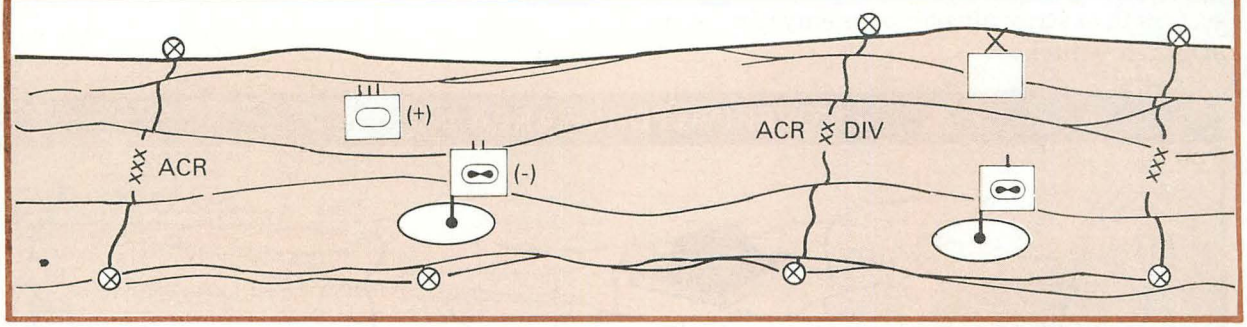


Enemy forces can be engaged simultaneously by tanks and attack helicopters, each firing from different battle positions. Indirect fire is used to cover movement from one battle position to another. Fires from attack helicopters can also be used to cover movement of ground forces from one position to another.

An attack helicopter company cycles platoons into battle positions based on flow of battle.

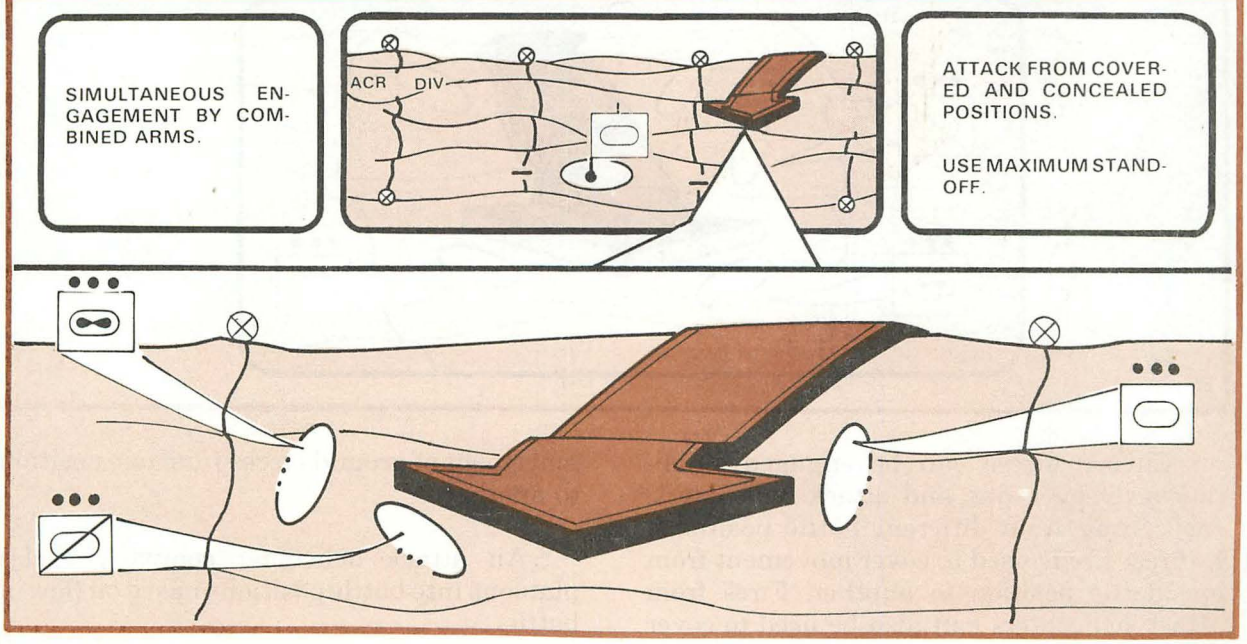
In this situation, one attack helicopter company has been placed under control of the division operating in the right sector of the CFA. An attack helicopter company operating with a division in the CFA follows the same procedures as the attack helicopter battalion.

COVERING FORCE AREA *(cont)*



Liaison is established with the CFA force commander and coordination is effected with ground maneuver battalions or companies as necessary. The attack helicopter company then locates to the rear of the CFA or the forward portion of the MBA to wait commitment. It will be committed after the main thrust of the enemy force has been determined to destroy massed enemy forces.

COVERING FORCE AREA *(cont)*



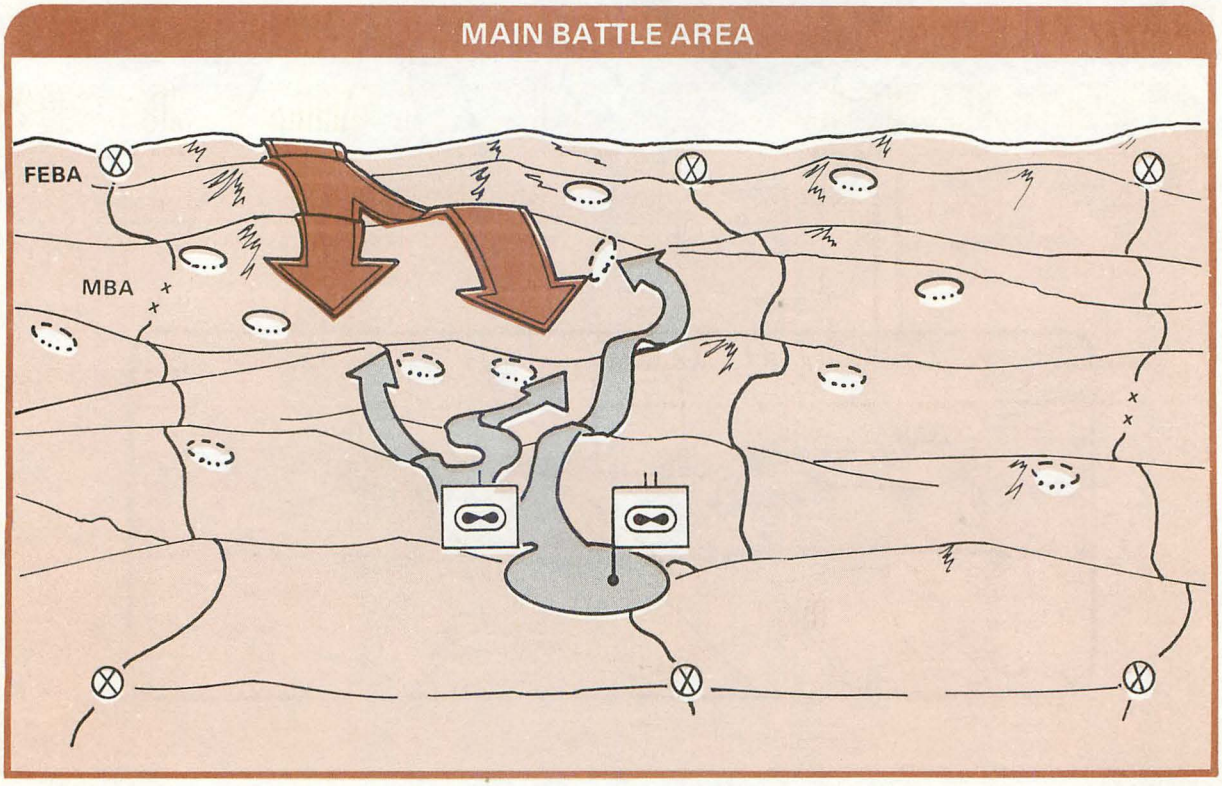
Attack Helicopter Units in the Main Battle Area.

Attack helicopter units fight the same in the MBA as in the CFA when they are employed as integral parts of the combined arms team. Alternately, attack helicopter units can be kept in reserve and committed as an independent force against an enemy who has either by-passed MBA forces or penetrated MBA positions.

In the situation that follows, CFA forces have passed through the MBA forces, and the attack helicopter battalion has been attached to one of the divisions in the MBA. The division retains the attack helicopter battalion in reserve. The enemy presses into the MBA and a sizable enemy tank force by-passes friendly forces in one brigade area. The attack helicopter battalion is committed, under control of the forward brigade, to blunt the penetration and help destroy the enemy tank force.

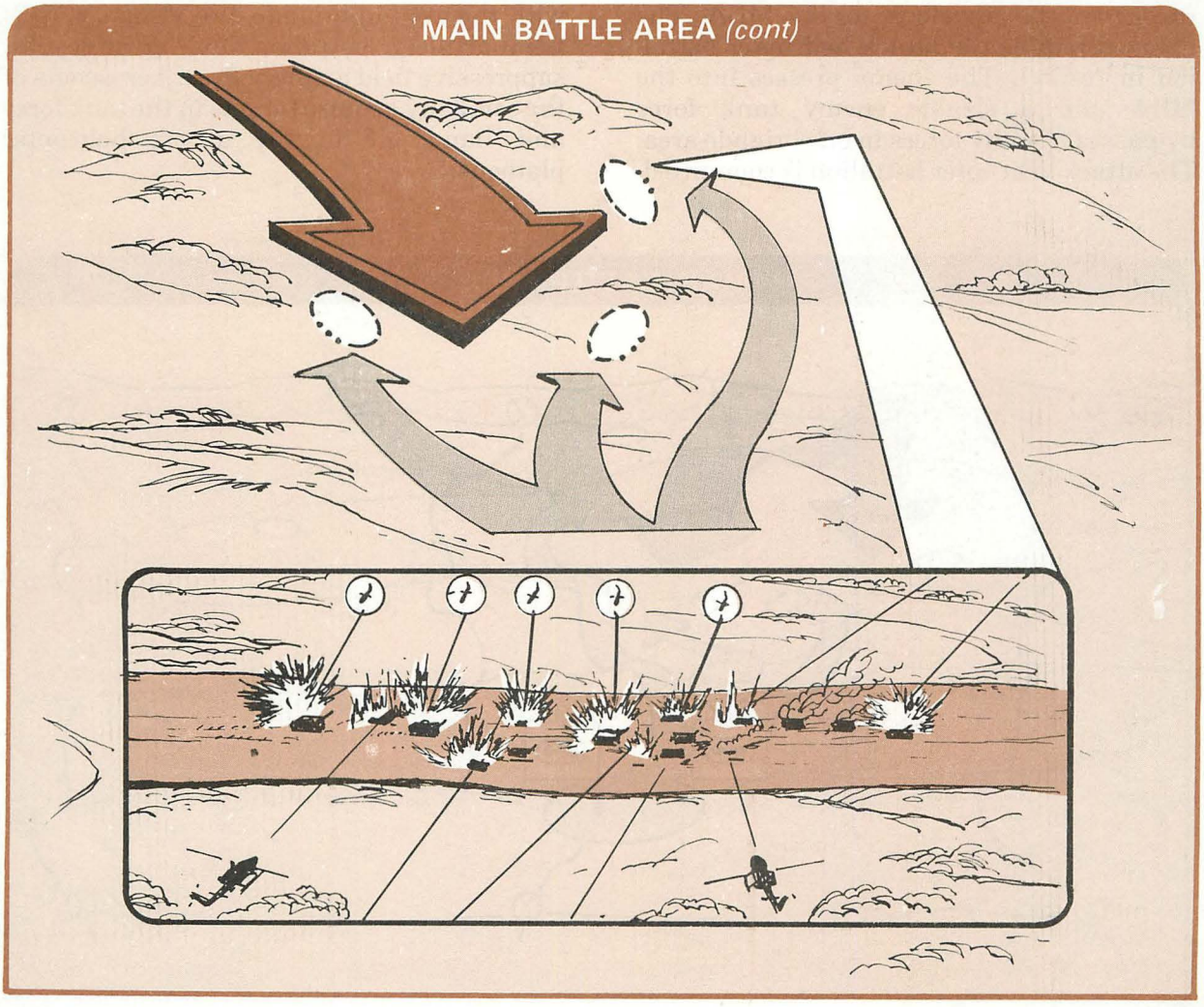
Using the **ONE-THIRD RULE,** the attack helicopter commander commits one company at a time to maintain continuous antitank fire on the enemy force. Attack helicopter battle positions previously selected by ground forces are reconnoitered and confirmed by the attack helicopter unit.

The first company of the attack helicopter battalion moves into position. The attack helicopter commander coordinates with the ground brigade direct support (DS) field artillery battalion and arranges for suppressive field artillery fires. Aeroscouts of the company acquire targets in the tank force and hand off to the attack helicopter platoons.



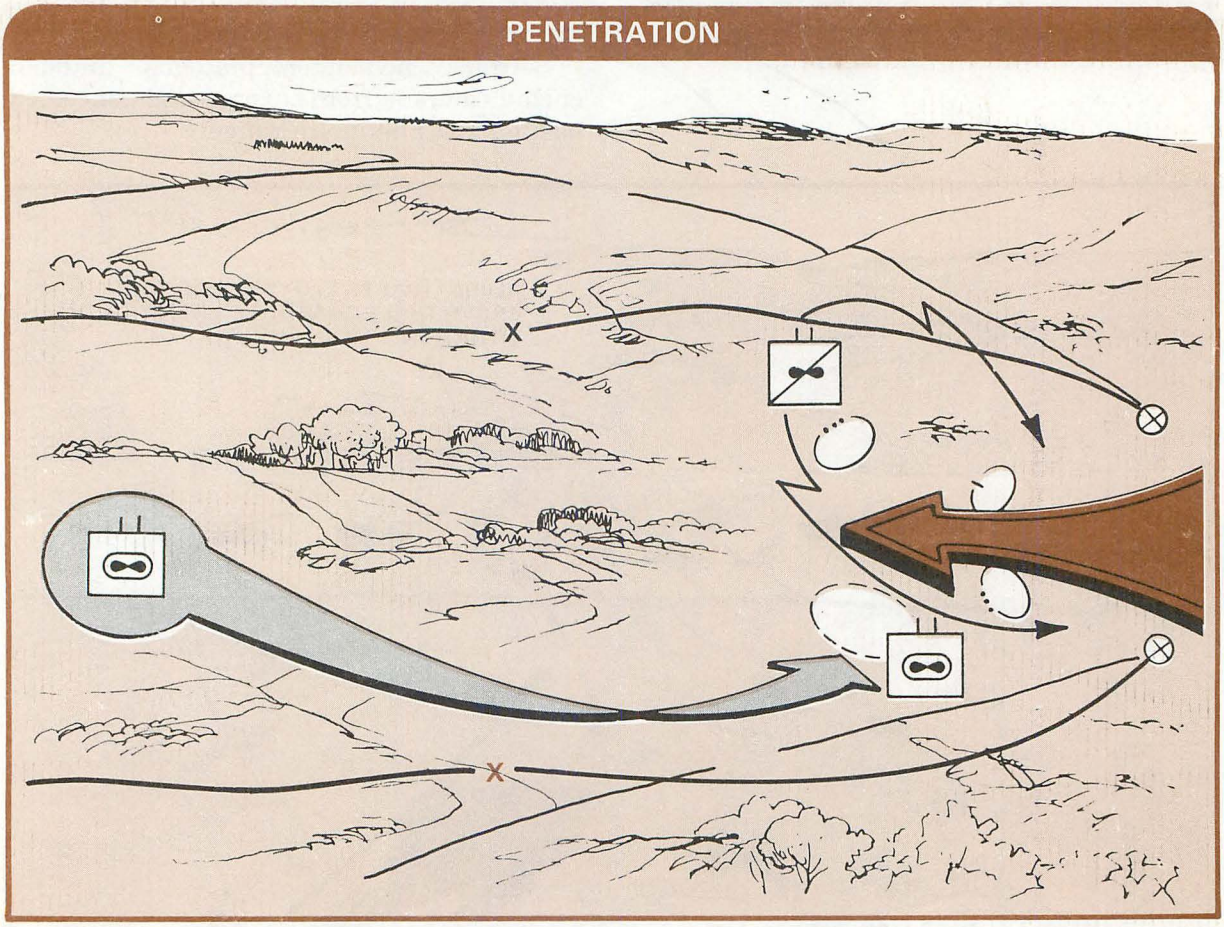
As the enemy moves toward the company, the company commander calls for indirect fires and signals the attack platoons to commence engagement. One or two ATGMs will be fired from each attack helicopter before platoons of the company must move to another battle position. The attack helicopter platoon continues to engage the enemy from successive battle positions until ordnance or fuel is depleted and then the company returns to the FARRP. The second company moves into battle positions and continues antitank fire. The third company is rotated into action in similar fashion, thus providing for continuous, heavy antitank fire against the enemy.

MAIN BATTLE AREA *(cont)*



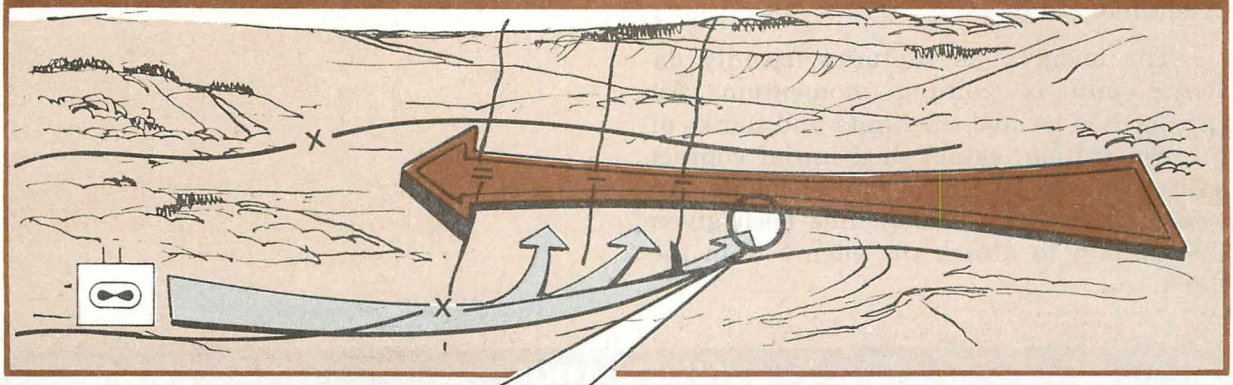
Attack helicopter battalions in attack of a penetration.

The enemy has ruptured friendly defenses and is gaining momentum. Air cavalry has located the limits and flanks of the penetration, established initial contact and coordinated with ground elements. An attack helicopter battalion has been given the mission to attack the enemy from the flank.

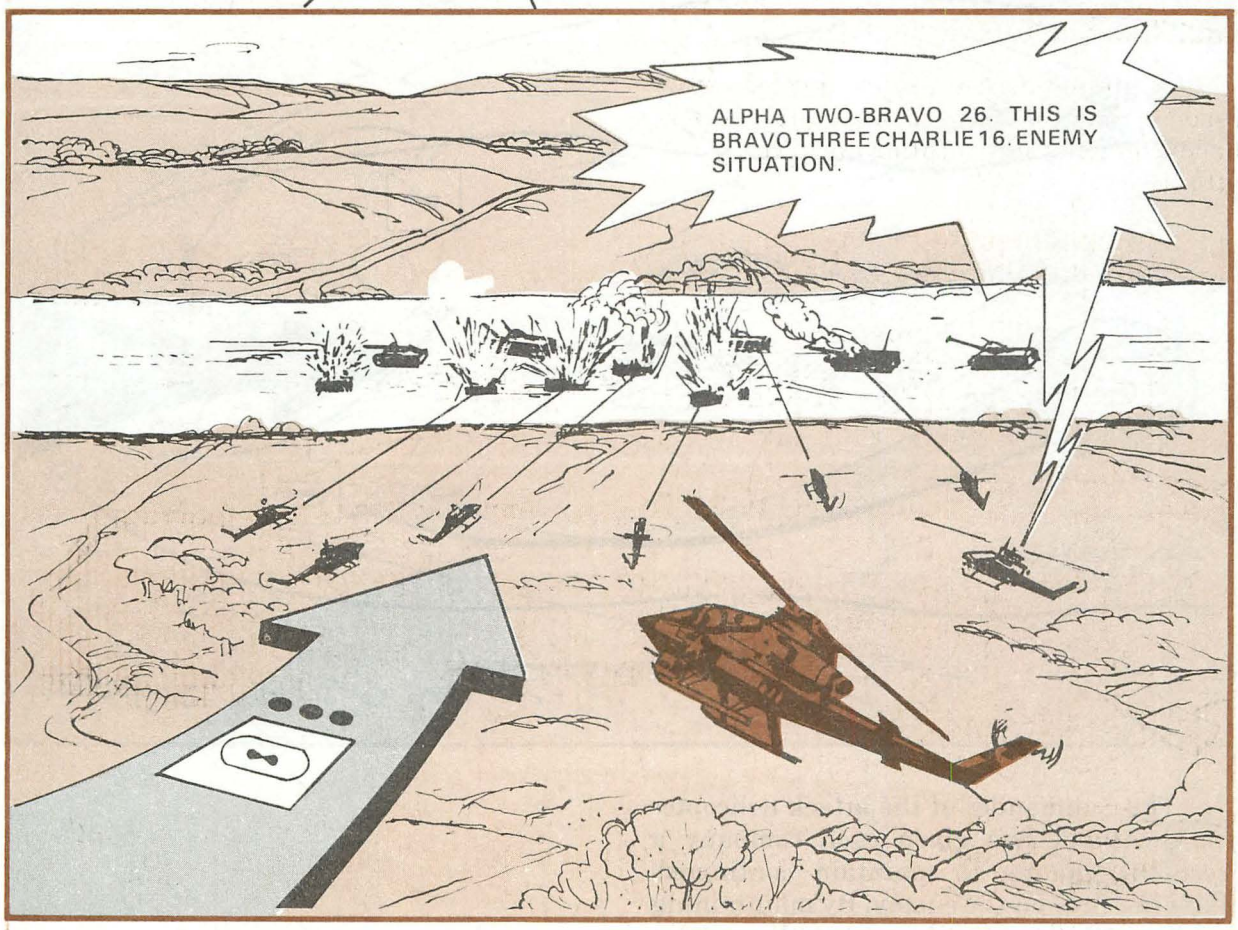


The commander of the attack helicopter on the flank has given each company a sector, intending to maintain continuous flanking fires on the enemy. By maintaining continuous pressure, the enemy momentum is slowed allowing ground forces to concentrate to stop him.

PENETRATION *(cont)*



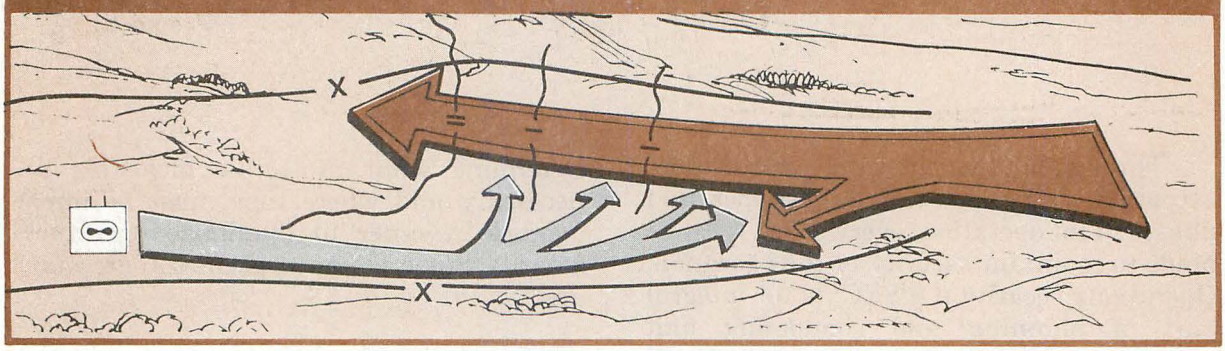
Attack helicopter platoons ambush enemy columns from covered and concealed positions at maximum range.



Company rotates platoons to maintain continuous antitank fires.

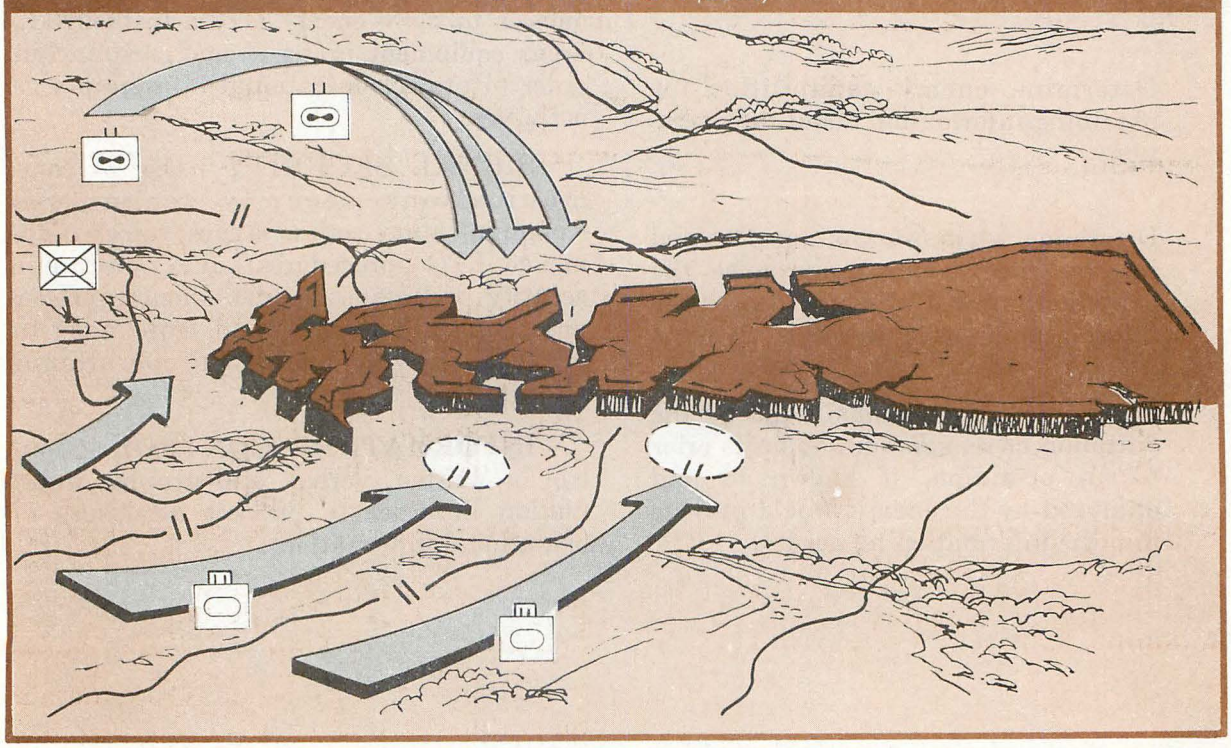
If stopped, the enemy can be expected to try to by-pass. Air cavalry elements maintain contact, report enemy movements and positions. Attack helicopter companies are shifted quickly to block or destroy by-pass attempts.

PENETRATION *(cont)*



As ground forces are committed, they assume control of sectors, and attack helicopter units shift location and direction of attack.

PENETRATION *(cont)*



OPERATIONS SECURITY

Throughout the planning, preparation, execution, termination and post-operation phases of an operation, every effort must be made to maintain security of the operation. Operations security (OPSEC) is an integral part of planning and conducting unit training and day-to-day operations at all levels of command.

Unit S-2s and S-3s work together to develop OPSEC protective measures. There are four logical steps in the OPSEC planning sequence.

Determine enemy capabilities for obtaining information about the operation.

Determine what information obtained by the enemy can compromise the operation and when he would need the information in order to react.

Determine what actions taken by the battalion or its subordinate units prior to an operation, if known to and analyzed by the enemy, would provide him the information he needs.

Determine what protective measures are necessary and where they must be implemented in order to maximize operations security. Some examples of OPSEC measures are:

DECEPTION - Actions taken to mislead the enemy of current or intended operations.

PHYSICAL SECURITY - Use of security forces, barriers, and anti-intrusion devices to deny enemy access to facilities, areas, equipment, materiel, and personnel in order to protect operational information or activities.

SIGNAL SECURITY - Use of communications security techniques (communication codes, secure voice equipment, RTO procedures) and electronic security techniques (radio silence, proper positioning of radars and antennas) to prevent the disclosure of operational information.

INFORMATION CONTROL - Control of written, verbal, and graphic information in order to prevent disclosure of operational information.

CHAPTER 5

COMBAT SUPPORT

Combat support for attack helicopter battalions of an ACCB is provided by the brigade or corps. Support for separate companies and battalions must be provided by the unit under whose control the company or battalion is operating. It consists of USAF tactical fighter bombers and field and air defense artillery.

Nonorganic combat support units organize themselves to accomplish their mission which is normally described in one of three ways:

Direct Support:

The supporting unit establishes liaison with the supported unit. The ***supported*** unit has priority on the effort of the ***supporting*** unit which responds directly to ***supported*** unit requests.

General Support:

The ***supporting*** unit supports the ***supported*** force as a whole, responding to requests for support according to priorities established by the force commander.

When Attached:

The ***supporting*** unit provides its support exclusively to the ***supported*** unit as if it were organic to the unit to which attached. Of the three, this is the only mission that requires the ***supported*** unit to provide logistical support to the ***supporting*** unit.

CONTENTS

FIELD ARTILLERY FIRE SUPPORT

The fire support means most frequently employed will be field artillery. Field artillery support requirements for attack helicopter units are generally the same as for ground maneuver units.

FIELD ARTILLERY FIRE SUPPORT FOR SUPPRESSING ENEMY AIR DEFENSES

Field artillery is used primarily to suppress enemy air defenses, permitting the attack helicopter unit to employ its point target firepower against the enemy. Most often, attack helicopter units will obtain field artillery support from the field artillery supporting the force as a whole. When operating with the ACCB or a ground combat brigade, for example, field artillery support will normally be provided by the brigade DS artillery battalion. Infrequently, a field artillery battalion may be placed in direct support of an attack helicopter battalion. On other occasions, pilots may simply be provided the communication frequency of field artillery units supporting ground forces in the area of operations.

Two categories of field ***artillery*** suppressive fire are available to attack helicopter units: ***planned*** and ***unplanned.***

PLANNED ARTILLERY SUPPRESSIVE FIRES AGAINST KNOWN TARGETS

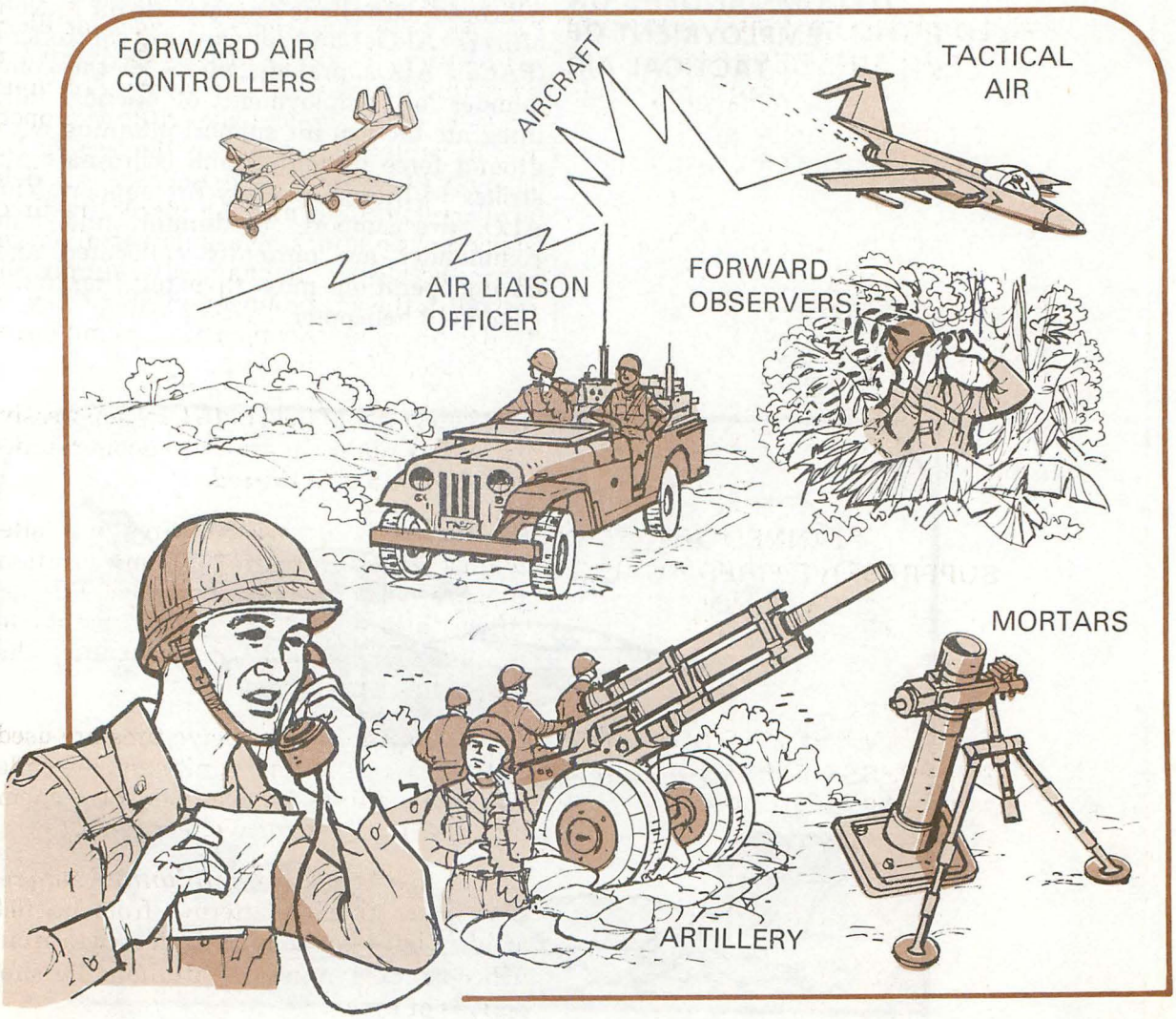
- ***Planned*** suppressive fires are sited against ***known*** or ***likely*** enemy locations and are called for when needed. Planned targets also serve as reference points for shifting on to targets of opportunity that appear in their vicinity.

IMMEDIATE ARTILLERY SUPPRESSIVE FIRES AGAINST TARGETS OF OPPORTUNITY

- ***Unplanned*** suppressive fires are used against targets of opportunity and are called for when required; for example, if the enemy fires on friendly maneuver elements.

To answer calls for ***unplanned*** suppressive fires, firing batteries from a field artillery battalion may be dedicated to attack helicopter companies or battalions for short periods of time.

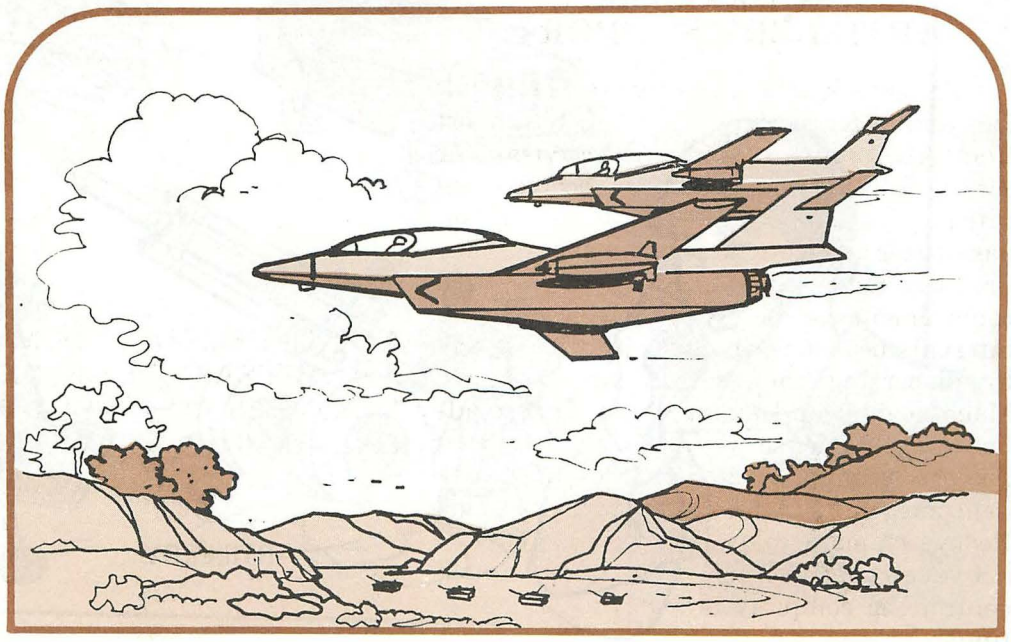
A dedicated battery monitors the supported company or battalion command net, follows the operation and anticipates fire support requirements. The company or battalion provides the forward observer with a description of control measures for an operation, and he in turn sends these measures to the battery fire direction center. This allows the battery to follow progress of maneuver elements, to fire on checkpoints when necessary, and to shift to other targets.



USAF TACTICAL AIR SUPPORT

ALOs PROVIDE ADVICE TO COMMANDERS ON EMPLOYMENT OF TACTICAL AIR

Requirements for preplanned tactical air support are forwarded to higher headquarters through operations channels. Requests for immediate tactical air support are forwarded by the *Tactical Air Control Party (TACP)* to the *Direct Air Support Center (DASC)* collocated with the corps. Tactical Air Control Parties may be provided to attack helicopter battalions and include air liaison officers (ALOs) and forward air controllers (FACs). ALOs provide advice to the commander on employment of tactical air, integrate tactical air support planning with ground force planning, and coordinate air strikes with organic army fire support. The ALO, fire support coordinator, and unit commander are normally collocated and during operations may travel together in the command helicopter.



FACs control air strikes from either ground or airborne positions, depending upon the tactical requirement. For certain operations, both ground and airborne FACs are employed. As a general rule, FACs operate from an appropriate Air Force fixed-wing aircraft when supporting helicopter operations. Although procedures vary with the type of operations, airborne FACs usually maintain a stand-off position so as not to signal the position of the helicopter elements. The airborne FAC from his stand-off position provides a communications link for the ALO in the command helicopter with the rear TACP or battalion command net. The FAC coordinates with the commander and the ALO before the mission to determine the escort pattern/position for airborne FAC and strike aircraft. Should the helicopter element come under enemy attack, the FAC will employ strike aircraft according to prebriefed strike control procedures.

AIR DEFENSE ARTILLERY SUPPORT

The attack helicopter company or battalion normally receives area ADA support from ADA units covering the division or corps. They do not normally receive dedicated ADA support and have to rely on passive air defense measures and small arms fire against aerial targets. Cover and concealment can be achieved by increasing intervals between vehicles and aircraft and by dispersing the unit in small groups. Machineguns and small arms can provide limited self-defense against hostile aircraft for the ground-based elements of attack helicopter units. Attack helicopter units find Redeye teams employed forward to provide active air defense for units under whose control the company or battalion is operating.

ATTACK HELICOPTERS MUST RELY ON PASSIVE AIR DEFENSE MEASURES AND SMALL ARMS FIRE AGAINST AERIAL TARGETS

HOSTILE CRITERIA AND WEAPONS CONTROL STATUS CONTROL AIR DEFENSE FIRES

Air Defense fires are controlled using hostile criteria and weapons control status established by higher headquarters. Air defense or section leaders of forward area air defense weapons decide whether an aircraft is hostile by visual observation. Once identified as hostile, engagement is controlled by the weapons control status then in effect. Subordinate units, including units exercising command control of air defense weapons, may impose a more restrictive status but cannot implement a less restrictive status. Weapons control status categories are:

WEAPONS FREE

May fire at aircraft not positively identified as friendly.

WEAPONS TIGHT

Fire only at aircraft positively identified as hostile according to prevailing hostile criteria.

WEAPONS HOLD

Do not fire except in self-defense.

TO PRECLUDE MISTAKEN IDENTITY PILOTS MUST KNOW THE CURRENT IFF MODE AND CODE SETTING

Hawk units normally make a hostile identification based on aircraft meeting several hostile criteria. Lack of an electronic Identification Friend or Foe (IFF) response is one hostile criteria. Others may be aircraft speed, heading location, and/or altitude, depending upon rules established by the air defense commander of a particular area of operations. Therefore, commanders of attack helicopter units must insure that all airborne transponders are functioning properly and that all pilots know the current IFF mode and code setting as well as any established safe passage criteria, to preclude mistaken identity and possible engagement by friendly air defense units.

FIRE SUPPORT PLANNING

The attack helicopter unit commander must insure that his scheme of maneuver and fire support plan are integrated. Fires are planned on sufficient targets to give good support, and enough reference points are established to bring immediate fire on targets of opportunity.

UNIT COMMANDER MUST MAKE SURE MANEUVER PLAN AND FIRE SUPPORT PLAN ARE INTEGRATED

Fire planning is normally done by the battalion fire support officer. In the case of a separate or detached company, planning is done by the company commander. Targets are consolidated into a target list for all elements of the company/battalion to use. The list is normally forwarded to the next higher unit for incorporation into their fire-planning.

Too many targets in the fire plan can slow artillery responsiveness by giving FDCs more data than they can keep current and FOs more preplanned targets than they can remember or use. Three or four numbered targets in a one kilometer grid square may be considered too many in most situations.

FIRE SUPPORT COORDINATION

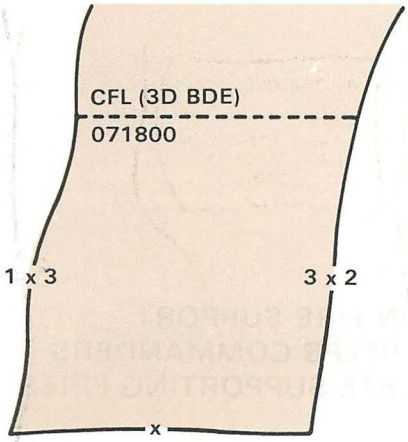
Fire support coordination is of primary concern to attack helicopter units. The battalion fire support section helps commanders coordinate supporting fires. When field artillery units are placed in direct support of the attack helicopter unit, the direct support unit commander is the fire support coordinator. In the absence of a direct support unit commander, the attack helicopter battalion fire support officer acts as the fire support coordinator. At company level the company commander is the fire support coordinator.

BATTALION FIRE SUPPORT SECTION HELPS COMMANDERS COORDINATE SUPPORTING FIRES

To aid fire support coordination and to insure safety of friendly troops, aircraft and installations, various coordinating and limiting measures are used. Boundaries, for example, are established by maneuver force commanders. No unit may fire into another unit's area of operations without approval of that unit. However, boundaries are not intended to restrict concentration of fires on the enemy.

Some of the other coordinating measures common to attack helicopter operations are described below. **FM 6-20, *Fire Support for Combined Arms Operations,*** contains additional information.

COORDINATED FIRE LINE (CFL)



Definition: A line beyond which FA, mortars, and naval gunfire ships may fire at any time within the zone of the establishing headquarters without additional coordination.

Purpose: To expedite the attack of targets beyond the CFL by FA, mortars, and NGF. Fires short of the line are coordinated using standard coordination procedures.

Establishment: May be established at battalion or higher headquarters but normally it is established at brigade or division level.

Applicability: FA, mortars, and NFG conventional and improved conventional weapons and their effects.

Location: Based on such factors as the scheme of maneuver, patrol plans, location of security forces and troop safety considerations.

RESTRICTIVE FIRE LINE (RFL)

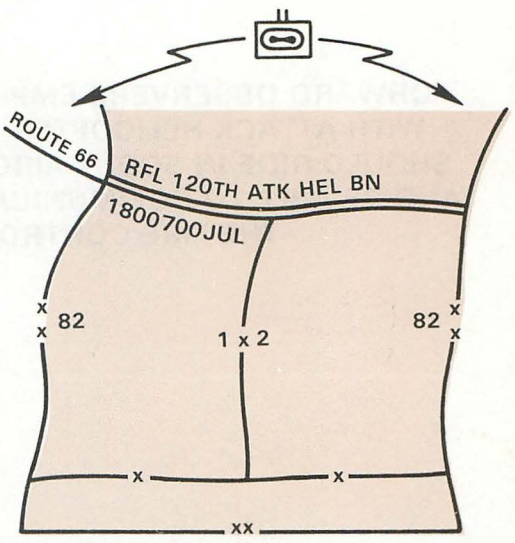
Definition: A line established between converging friendly forces which prohibits fires or effects from fires across the line without coordination with the affected force.

Purpose: To prevent interference between converging friendly forces.

Establishment: It is established by the common commander of the converging forces.

Applicability: Applies to conventional, improved conventional, special ammunition, and their effects delivered by any means.

Location: The RFL should be located on identifiable terrain.



RESTRICTIVE FIRE AREA (RFA)

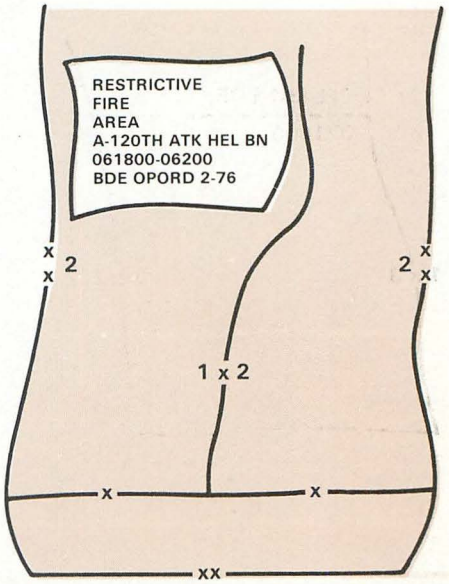
Definition: An area in which specific restrictions are imposed and into which fires in excess of those restrictions will not be delivered without coordination with the establishing headquarters.

Purpose: To regulate fires into an area according to the stated restrictions.

Establishment: May be established by battalion or higher level.

Applicability: Applies to the specified delivery means and/or munitions and their effects.

Location: The Restrictive Fire Area should be located on identifiable terrain, to facilitate recognition from the air.

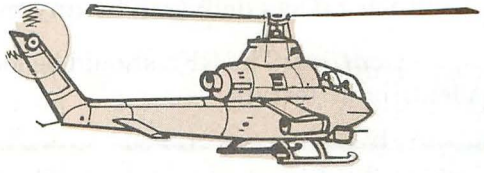


When operating under corps control, the attack helicopter unit fire support officer (FSO) coordinates requests for additional fire support assets with the corps artillery commander. When attached to a division, requirements for fire support must be in coordination with the division artillery commander.

FORWARD OBSERVERS EMPLOYED WITH ATTACK HELICOPTER UNITS SHOULD RIDE IN SCOUT AIRCRAFT AND BE ABLE TO COMMUNICATE IN THE FIRE CONTROL NET

When forward observers are employed with attack helicopter units, they should ride in a scout aircraft and be able to communicate in the supporting field artillery battalion's fire control net. An alternate solution is to place the forward observer in the company commander's aircraft.

Fire support officers at all levels must provide commanders with the fire direction frequencies of supporting field artillery units.



For a variety of reasons, attack helicopter units may not receive forward observers from supporting field artillery. Therefore, ***ALL PILOTS ASSIGNED TO ATTACK HELICOPTER UNITS MUST BE TRAINED IN THE EMPLOYMENT AND ADJUSTMENT OF FIELD ARTILLERY FIRES AND HASTY FIRE PLANNING TECHNIQUES.***

INTELLIGENCE

Intelligence is essential to successful combat operations. In order to win, the commander must **SEE THE BATTLEFIELD** better than the enemy. He must **KNOW THE ENEMY, THE WEATHER,** and the **TERRAIN** better than ever before. Accurate intelligence will enable the commander to decide correctly when, where, and how best to concentrate his units and weapons systems.

The battalion commander gets much of his information about the enemy through combat operations. Considerable information is available from higher headquarters, artillery FDCs and ground maneuver units in the area of operations.

The battalion S2 coordinates with US Air Force and supporting ASA units to detect and locate enemy air defense weapons systems so that enemy AD weapons can be suppressed. Jamming assistance from Air Force and divisional electronic warfare units directed against enemy air defense systems is planned and requested. The Air Force can also provide photographic support which can be integrated with engineer photogrammetric and topographic data to make detailed terrain analysis. Trained Air Force weather personnel are assigned to division and corps to provide accurate, current weather information.

JAMMING AND ELECTRONIC WARFARE UNITS DIRECTED AGAINST ENEMY

Signal intelligence *(SIGINT)* and electronic warfare *(EW)* support are provided largely by division and corps MI units. They have the means to exploit all electromagnetic systems—radars, radios, homing beacons, for example—during all weather day and night operations. *SIGINT* can identify and locate enemy transmitters and emitters and develop radar and radio order of battle. By identifying the type of emitter, MI specialists can further determine associated weapons systems. When integrated with intelligence from all sources, this information can provide a significant insight into composition, disposition, activities, and capabilities of the enemy force.

IDENTIFY AND LOCATE ENEMY TRANSMITTERS AND EMITTERS AND DEVELOP RADAR AND RADIO ORDER OF BATTLE

Intelligence collection requirements are expressed in terms of essential elements of information *(EEI)* and other intelligence requirements *(OIR)*. Based on the mission and command guidance, the S2 recommends *(EEI)* and *(OIR)*. When approved by the commander, orders and requests are issued as necessary to collect information for intelligence production.

CHAPTER 6

COMBAT SERVICE SUPPORT

The attack helicopter unit receives considerable administrative and logistical support from a variety of sources. Lumped together this is called combat service support *(CSS)*.

CONTENTS

SUPPLY

Combat service support planning and coordination are responsibilities of the battalion S1 and S4.

S1 is responsible for maintenance of unit strength, personnel and manpower management, development and maintenance of morale, maintenance of discipline, law and order, headquarters management, and health services.

S4 is responsible for supply, maintenance, movements, services and associated logistical support.

Personnel administration and logistics support are normally provided on an area basis from:

- **Support Battalion of the ACCB**
- **DISCOM**
- **Corps units**

depending on the headquarters to which the battalion is assigned or attached.

The attack helicopter battalion is dependent on support from the *ACCB* support battalion, *DISCOM* or *COSCOM.* During periods of sustained attack the attack battalion must be augmented by ground and airlift transportation.

The attack helicopter company is dependent for combat service support on its parent battalion, *ACCB* support battalion, *DISCOM, COSCOM,* or other support units. Transportation at battalion, and particularly at attack helicopter company level, is limited. Supplies of all classes are normally delivered to the company forward assembly area by the supporting unit. When the company operates semi-independently or at great distances from its parent battalion, additional cargo trucks from the supporting unit should be attached, giving it some logistical self sufficiency.

Attack helicopter company organic service support personnel and equipment are found in the:

- **Company headquarters.** Administrative, supply, and organizational maintenance for small arms. In a battalion, mess teams are provided from the battalion headquarters and headquarters company; they are organic to separate company headquarters.
- **Service platoon.** Organizational maintenance of aircraft, ground vehicles, communication and armament subsystems. It establishes and operates rearming and refueling points. The separate company also has a *DS*-level maintenance capability.

ECHELONMENT OF COMBAT SERVICE SUPPORT

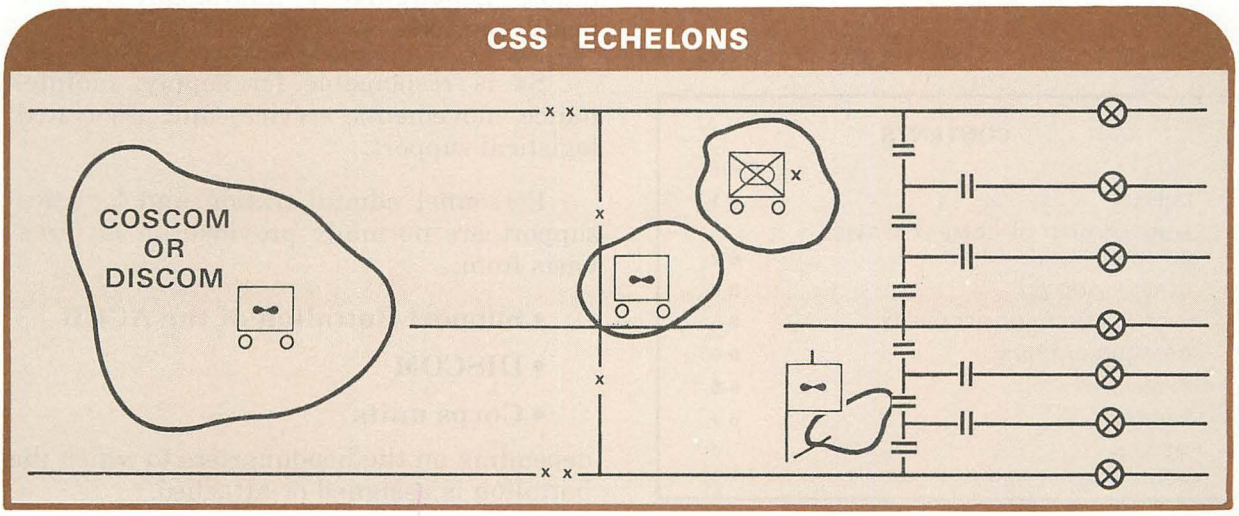
Combat service support is usually echeloned. Battalion trains normally collocate in the brigade rear area and consist of a forward area refuel and rearm point (**FARRP**) maintenance contact teams, aidmen, and a temporary command post. The majority of battalion combat service support will be located in division or *ACCB* main support areas. Separate attack helicopter companies establish support teams as required.

Echeloned in this manner, the battalion relies on its mobility to return damaged or unnecessary equipment to the rear where it can be maintained, thereby concentrating the bulk of its effort in:

Quick turn-around of attack aircraft.

Providing continuous, responsive, massed antitank firepower well forward.

Retaining flexibility to react in any direction on short notice.



CLASS III AND V

In helicopter units, ***Class III*** and ***V*** availability is ***CRITICAL.*** To conserve time spent moving helicopters to and from sources of support and to provide flexibility, one or more forward area refuel and rearm points are established. Forward area rearm and refuel points are designated by the attack helicopter battalion or company, established and manned by attack helicopter companies, and resupplied by the supporting headquarters. Each attack helicopter company can establish two support sites. Attack helicopter units from the ***ACCB*** or separate attack helicopter units attached to a division require ***DISCOM*** assistance to supply their **FARRPs** with ***Class III*** and ***V.***

If refueling and rearming are not conducted in a timely manner, TACTICAL OPERATIONS CAN BE IMMEDIATELY IMPAIRED! The attack helicopter, unlike ground combat systems, must rendezvous with its supporting logistical element at least *two,* and as many as seven, times per day.

Under normal conditions, the optimum distance between the battle position and the forward area refuel and rearm point is 17 to 25km.

This distance:

- Simplifies attack helicopter logistics by allowing aircraft to fly to a point in the supply system which can be resupplied in bulk with minimum time and confusion.
- Simplifies security by locating in an area with other service support and combat maneuver elements.
- Reduces requirement for displacement.
- Decreases the probability of detection entering or leaving the **FARRP.**
- Places the **FARRP** beyond the normal range of enemy divisional artillery employed in depth.

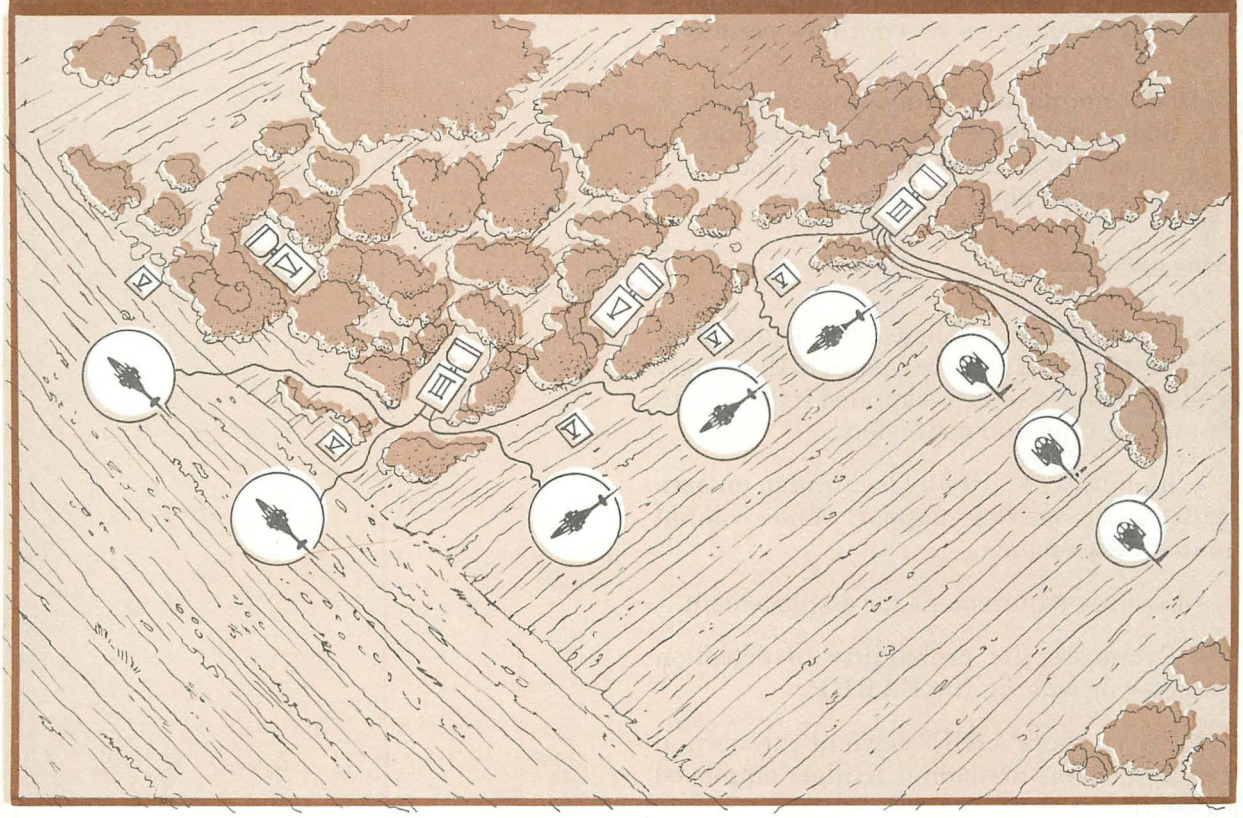
FARRPs are usually established in or near forward assembly areas which are described in appendix B. Locations and routes to and from **FARRPs** should be masked from radar detection.

Enemy radar should be assumed to be on any high ground or prominent terrain occupied by enemy forces. A line-of-sight analysis is made to determine the **FARRP** mask. Then three or four points with routes leading to the **FARRP,** masked from radar detection, are established and used by aircraft going to the **FARRP.** As teams return from missions to the **FARRP** they fly to one of these known masked points and then fly masked from radar detection to the **FARRP.** Upon leaving the **FARRP,** the teams return NOE to a mask point and then, if required, move by high speed to resume their assigned mission. By using such passive security measures the teams avoid having the **FARRP** directly detected by radar.

Because of the volume of aircraft traffic and their importance to AH operations, **FARRPs** should also be kept beyond medium artillery range. When located further forward they must be displaced often to minimize this threat.

The site for a **FARRP** must not only be masked from possible radar detection but it must have sufficient space to service helicopters as they rearm and refuel. Because all platoons of a company can be committed simultaneously and then arrive at the **FARRP** at approximately the same time, it is necessary to rearm and refuel the aircraft quickly. To keep attack helicopter platoons and their respective aeroscouts together, the following diagram shows one way in which a **FARRP** may be organized.

ORGANIZATION OF A FARRP



MAINTENANCE AND RECOVERY

Good maintenance keeps material in serviceable condition. It includes inspecting, testing, servicing, repairing, requisitioning, rebuilding, recovering, and evacuating. Repair and recovery are accomplished as far forward as possible, at the lowest capable echelon. When equipment cannot be repaired on site, it is moved only as far as necessary for repair.

Aviation Unit Maintenance (AVUM). Organizational maintenance is performed by the using organization on its own equipment. It includes services and repairs within the capabilities of authorized personnel, skills, tools, test equipment, and time available. Direct support maintenance is performed by specific maintenance activities that directly support using organization. It is limited to repair of end items or unserviceable assemblies on a return-to-user basis.

Units organic to an attack helicopter battalion are responsible for organizational maintenance of vehicles, aircraft, and equipment. Using integrated direct support elements from the battalion provides direct support maintenance by collocating elements from the battalion ***DS*** maintenance platoon with each company. Separate attack helicopter companies have a ***DS*** aircraft maintenance capability. For all other ***DS*** maintenance, they rely on ***DISCOM*** or ***COSCOM*** support.

Units with an ***IDSM*** capability can perform 60% of required ***DS*** maintenance on organic aircraft. ***IDSM units concentrate on quick turn-around repairs which assure high aircraft availability.*** Aircraft requiring extensive repairs, or a more stable maintenance environment should be evacuated to the aviation intermediate maintenance company ***(AVIM).***

The ***DS*** maintenance platoon can boresight and troubleshoot aircraft weapons systems; however, ***IDSM*** does not include ***DS*** maintenance for avionics or aircraft armament. These services must be provided by the aviation intermediate maintenance company of the ***ACCB*** support battalion, ***DISCOM,*** or ***COSCOM.***

The aviation intermediate maintenance company provides repair parts supply and approximately 40% back-up support maintenance for units with ***IDSM.*** Organizational maintenance and technical assistance are provided as required.

Whenever possible, aircraft that cannot be flown are repaired in place. Repair may consist only of that necessary for one-time flight to more suitable repair facilities. Units of attack helicopter battalions cannot recover aircraft. They can help rig and prepare for movement. Recovery support is provided by the support battalion of the ***ACCB*** or other corps units.

RECOVERY SUPPORT

Attack helicopter battalions and separate companies can retrieve and evacuate ground vehicles. However, if required, assistance may be requested from direct support maintenance units. Replacement vehicles may be issued from floats. During fast-moving offensive operations, vehicles (or aircraft) that cannot be repaired and are not recoverable by direct support units, are left in place, their location and condition reported through maintenance channels.

Units should prescribe procedures for destruction of aircraft and equipment if capture is imminent.

At company level the service platoon provides organizational maintenance support for unit aircraft and aircraft systems. For a separate attack helicopter company, backup direct support maintenance is provided by the aircraft maintenance company of the ***DISCOM*** maintenance battalion, or the aircraft maintenance company of the ***COSCOM*** support battalion.

Recovery of downed aircraft depends on the tactical situation. If a downed aircraft is in a secure area or can be secured by combat units, recovery operations should be initiated and coordinated with the ground commander. Ground units normally provide security and combat support for recovery operations. Recovery operations cannot be allowed to interfere with tactical operations.

The attack helicopter company is responsible for rigging and coordinating the security of its downed aircraft. The company must have prescribed recovery procedures that include designated recovery teams trained to rig all company aircraft, and rigging equipment readily available. The service platoon's UHL may be used to recover scout aircraft, but other support must be used to recover attack and utility helicopters. A recovery plan should be established before combat, coordinated with the ground commander, and included in his plans.

Aeroscouts, not attack helicopters, have the responsibility of assisting downed crews. The decision to attempt rescue rests with the overall force commander. Downed crews move to designated pickup points or rally points, if necessary. Units must plan and coordinate with other combat and supporting units (air cavalry, assault helicopter, field artillery and USAF) for search and rescue missions along pre-established pickup points, rally points and phase lines. This information and coordination must then be disseminated to each pilot and crew member. To facilitate aircraft and pilot recovery, pilots and crew members must wear flak apparel, survival equipment, carry survival/emergency radios and be knowledgeable in first aid, evasion and survival techniques.

COMMUNICATIONS

Organizational level communications maintenance (except aircraft avionics) is provided by the battalion communications platoon of an attack helicopter battalion of an ***ACCB.*** When the company operates independently it must receive part of battalion maintenance support. Separate attack helicopter companies are supported by a ***DISCOM*** or ***COSCOM DS*** aircraft maintenance company. All organizational maintenance on aircraft avionics is performed by the company's service platoon.

Support for aircraft avionics or direct support communications maintenance is provided by the aviation intermediate maintenance company of the ***ACCB*** support battalion, ***DISCOM*** or ***COSCOM,*** depending on the headquarters to which the attack helicopter company is assigned or attached.

ARMAMENT

Organizational armament maintenance is performed by the company. Aircraft armament maintenance is limited to detection, fault isolation, and evacuation of major components ("black boxes").

Additional support is provided by the ***ACCB*** support battalion, ***DISCOM*** or ***COSCOM*** depending on the headquarters to which the battalion or company is assigned or attached.

Attack helicopter weapons boresighting and general troubleshooting is provided by the ***DS*** aircraft maintenance company or the supporting aviation intermediate aircraft maintenance company of ***DISCOM*** or ***COSCOM.***

VEHICLES

Company headquarters maintenance element provides organizational level maintenance support.

Vehicular direct support maintenance and repair parts support must be provided by the maintenance company of the ***ACCB*** support battalion, or in the case of the separate attack helicopter company, by a ***DS*** maintenance company of ***DISCOM*** or ***COSCOM.***

MEDICAL

Medical support is provided by the battalion medical section which establishes an aid station and provides medical aid teams to each company. Medical aid teams move with the company **FARRP** or, if no **FARRP** has been established, locate with the company operations section. Patients requiring extensive treatment are evacuated directly to an appropriate medical facility. Separate attack helicopter units receive medical support from the nearest medical treatment facility.

The chart shows where various attack helicopter units obtain combat service support.

SUPPLY

UNIT \ CLASS	I	II & IV	III & III A	V & VA	VII	VIII	IX	IXA
ATTACK HELICOPTER BATTALION ACCB	SPT BN S&T CO	SPT BN S&T CO	SPT BN S&T CO	SPT BN S&T CO	SPT BN S&T CO	SPT BN MED CO NOTE 1	SPT BN DS MAINT CO	SPT BN AVIM CO
ATTACK HELICOPTER COMPANY ACCB	PARENT BN SPT PLT	PARENT BN SFT PLT	PARENT BN SPT PLT	PARENT BN SPT PLT	PARENT BN SPT PLT	PARENT BN MED PLT	SPT BN DS MAINT CO	PARENT BN DS MAINT PLT
ATTACK HELICOPTER COMPANY (SEPARATE)	COSCOM S&S BN / UNITS TO WHICH ATCHD	COSCOM S&S BN / UNIT TO WHICH ATCHD	COSCOM S&S BN / UNIT TO WHICH ATCHD	COSCOM ASP / UNIT TO WHICH ATCHD	COSCOM S&S BN / UNIT TO WHICH ATCHD	NEAREST MED FACILITY	COSCOM DS MAINT / UNIT TO WHICH ATCHD	COSCOM AVIM ARMY / UNIT TO WHICH ATCHD

SERVICES

UNIT \ SERVICE	MESS	PERSONNEL SERVICES	MEDICAL SUPPORT	TRANS. SUPPORT	AIRCRAFT RECOVERY SUPPORT	DS AIRCRAFT MAINT SUPPORT	DS VEHICULAR MAINT SUPPORT	DS AVIONICS SUPPORT	DS COMM. EQUIP. SUPPORT	DS ARMAMENT SUPPORT
ATTACK HELICOPTER BATTALION ACCB	ORGANIC	SPT BN ADM CO NOTE 1	SPT BN MED CO NOTE 1	SPT BN S&T CO	SPT BN AVIM CO	SPT BN AVIM CO	SPT BN DS MAINT CO	SPT BN AVIM CO	SPT BN DS MAINT CO	SPT BN AVIM CO
ATTACK HELICOPTER COMPANY ACCB	PARENT BN MESS SECTION	PARENT BN S1 SECTION	PARENT BN MEDICAL SECTION	BATTALION SPT PLT	SPT BN ACIM CO	BATTALION DS MAINT PLATOON	SPT BN DS MAINT CO	SPT BN AVIM CO	SPT BN DS MAINT CO	SPT BN AVIM CO
ATTACK HELICOPTER COMPANY (SEPARATE)	ORGANIC	COSCOM ADMIN CO / UNIT TO WHICH ATCHD	NEAREST MEDICAL FACILITY	COSCOM TRANS UNIT / UNIT TO WHICH ATCHD	COSCOM AVIM CO	DS MAINT CO DISCON/ COSCOM	COSCOM DS MAINT CO / UNIT TO WHICH ATCHD	COSCOM AVIM CO / UNIT TO WHICH ATCHD	COSCOM DS MAINT CO / UNIT TO WHICH ATCHD	COSCOM AVIM CO / UNIT TO WHICH ATCHD

NOTE 1: Augmentation only, otherwise this support will be provided by the applicable COSCOM unit.

FOLD OUT

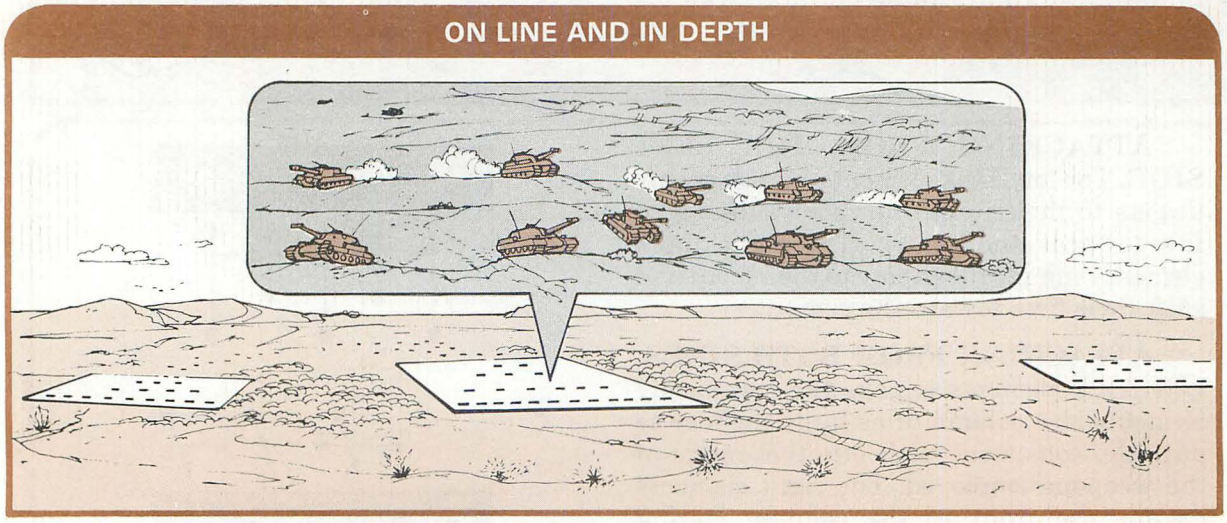
APPENDIX A

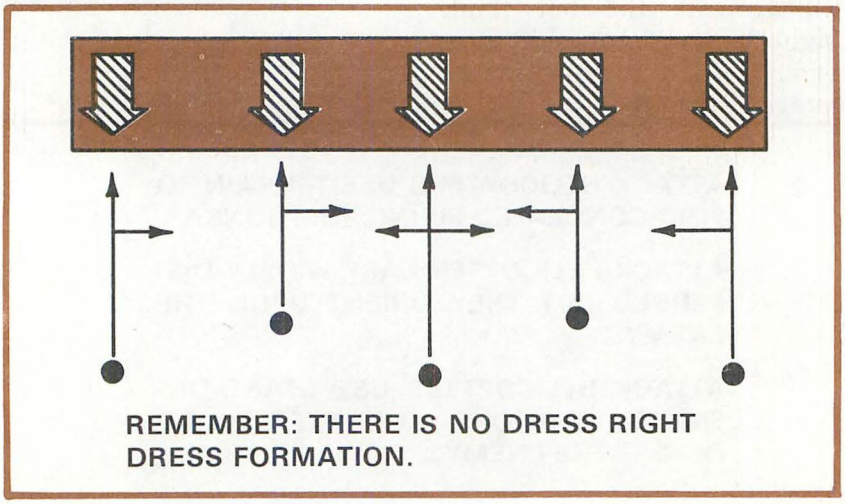
FIRE DISTRIBUTION

To insure an orderly and coordinated attack on the enemy, attack helicopters of a team are briefed by their aeroscouts concerning the azimuth, range and description of the enemy in the engagement area. In order to expedite the attack (fire patterns), guidelines for fire distribution are established for adequate coverage of targets. Guidelines which can be used as a sample SOP for fire distribution are:

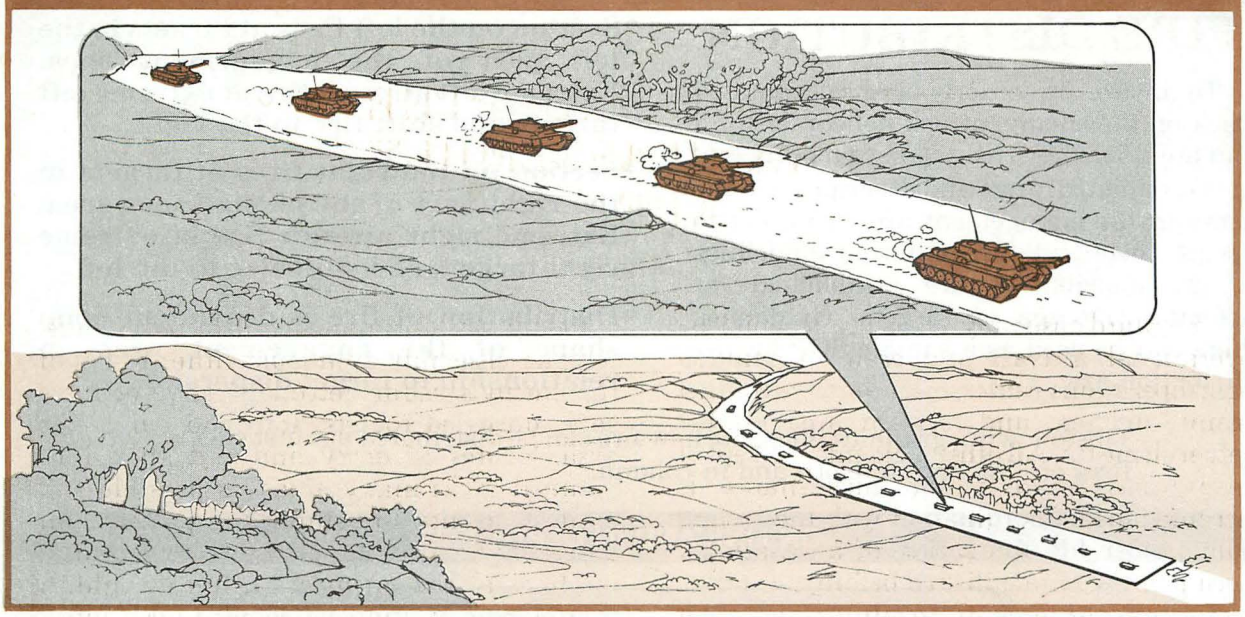
- **Section on the left fires at targets in the left part of the engagement area. Extreme left aircraft fire at extreme left targets and shift fire to the right.**
- **Section on the right fires at targets in the right part of the engagement area. Extreme right aircraft fire at extreme right targets and shift fire to the left.**
- **Distribution of fire is dependent upon shape of the engagement area in relationship to target dispersion.**

The following graphics illustrate how fire can be distributed against enemy fires on line and in depth and in column.



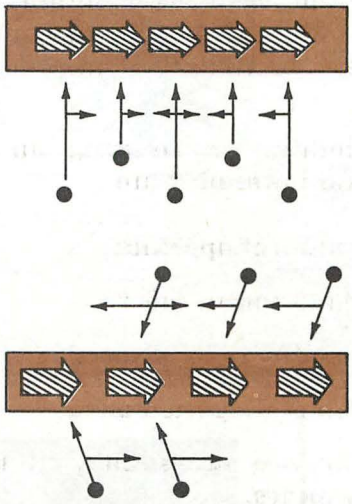


IN COLUMN



ATTACKING FROM THE LEFT SIDE. The left flank elements engage enemy targets to their front and move subsequent fire towards the center. The right flank elements engage the enemy to their front and shift their fires toward the center.

ATTACKING FROM BOTH SIDES. Left flank elements engage the last enemy elements in a column or as far to the rear as possible, consistent with effective range of the weapons employed. The right elements engage the front of the column. During subsequent engagements the left flank elements and right flank elements shift their fires to the center of the column to insure maximum coverage of the area.



- ATTACK HELICOPTERS USE TERRAIN TO FIND CONCEALED FIRING POSITIONS.
- ATTACK HELICOPTERS ARE WIDELY DISPERSED BUT THEY ORIENT UPON THE ENEMY.
- ATTACK HELICOPTERS USE STAND-OFF FIRING POSITIONS AND STEALTH TO DEFEAT THE ENEMY.

APPENDIX B

ATTACK HELICOPTER FORWARD ASSEMBLY AREA

Forward assembly areas are occupied by operational aircraft and crews, command post/operations center, maintenance contact teams, aidmen, and forward area rearm/refuel elements. All other elements are kept at rear bases where major maintenance is accomplished. Coordination with the ground commander for occupation of an assembly area must be accomplished before the arrival of tactical elements of an attack helicopter unit. Attack helicopter assembly areas can be collocated with, or close to ground unit trains to facilitate coordination and logistical support.

Consideration in selecting an appropriate forward assembly are:

- Air avenues of approach.
- Cover and concealment.
- Sufficient room for dispersion.
- Location of supported units.
- Location and accessibility to main supply routes.

AIR AVENUES OF APPROACH

The enemy has capabilities to either electronically or visually establish a pattern or location where aircraft land, continually fly over, or disappear, and then register artillery in that area. The principle activity by helicopters which calls attention to either the assembly area, forward area rearm/refuel point or brigade trains is indiscriminate flight where a helicopter can be visually, optically or electronically detected. Therefore, an assembly area must either be out of the enemy's radar detection range or have safe concealed route(s) into and out of the area. Routes of entry and exit should be planned in as many areas as possible and used so as not to establish a pattern. An assembly area should provide terrain masking to break the enemy radar line of sight. A thorough map analysis coupled with latest intelligence reports of enemy radar activity helps determine radar-free areas.

COVER AND CONCEALMENT

The attack helicopter unit must be given an area where helicopters can either be hidden or adequately camouflaged from aerial reconnaissance detection. A good place to hide helicopters is in or near towns or villages. Helicopters can either be placed in structures or hidden in shadows. Also, towns and villages provide hard stand for easy ground movement of aircraft, wheeled vehicle movement, and a night maintenance capability. If a built-up area is not available, a site should be selected where vegetation is thick but scattered in patches, drainage is good, and there is adequate room for dispersion. By covering the aircraft canopy with a non-reflective synthetic material and using natural camouflage to break up the aircraft's outline, attack helicopter units can achieve some protection from aerial observation and detection. Camouflage is usually not necessary to deceive ground forces but to deceive aerial reconnaissance. Therefore, when camouflaging, break the outline of the aircraft from above.

DISPERSION

In order to withstand an artillery strike or airstrike without suffering major losses, attack helicopter companies must disperse over a 2- or 3-square-kilometer area and a battalion must disperse over a 6- to 9-square-kilometer area.

GROUND FORCE LOCATION

Attack helicopter companies, in order to be immediately responsive to requirements of ground forces, must closely tie into the ground unit's command channels. A liaison officer from the attack helicopter company is located with the ground unit's operations and intelligence center to advise the commander and his staff on attack helicopter employment and to pass missions to the company. The attack helicopter unit need not be physically close to the ground unit's operations and intelligence center but good communications links must be established.

RESUPPLY

Because attack helicopters use large quantities of fuel and ammunition, attack helicopter units must locate near supply routes for ease of resupply.

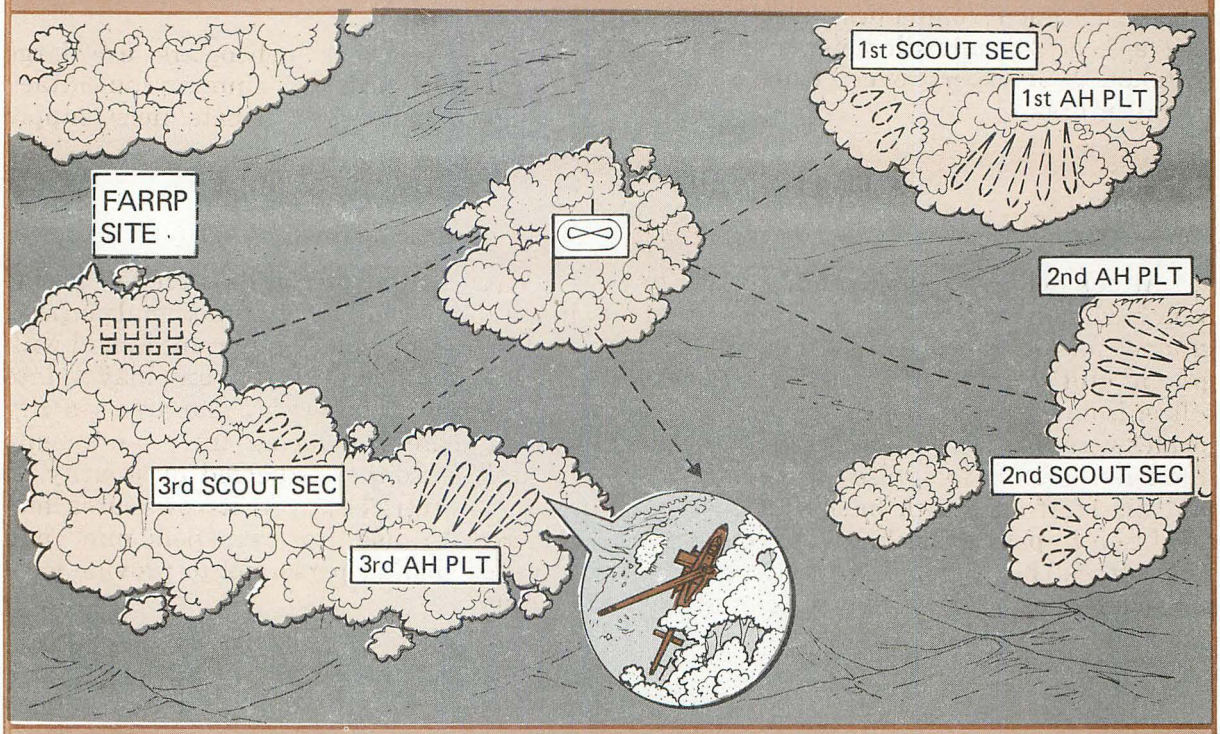
SECURITY

Attack helicopter units have few people in the area and all have a functional purpose; so, local security is closely coordinated with the ground commander. The unit may tie into a part of the ground unit's rear area security system thereby reducing the requirements for unit personnel dedicated to security. It may, however, be given its own area and required to use its own personnel and attached combat personnel to provide local security.

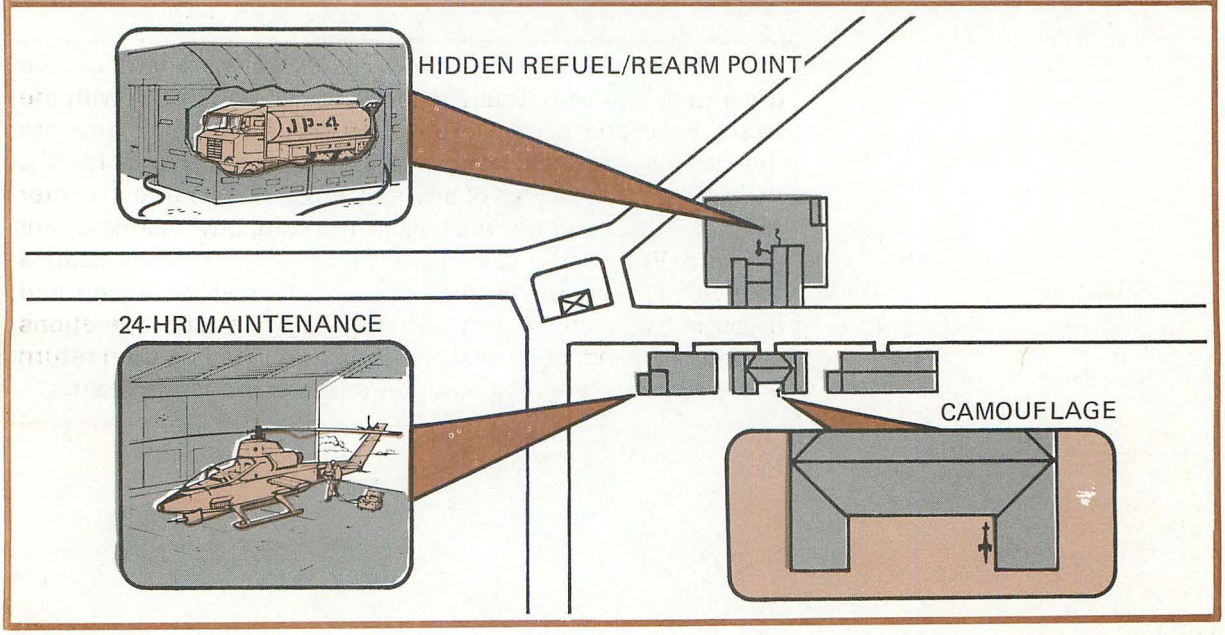
The following illustrations show how assembly areas can be organized. The aeroscout sections are task-organized with the attack helicopter platoons to form teams and these teams are then assigned areas or zones within the assembly area. Ideally, the teams act as spokes of a wheel while the operations center forms the hub and the nucleus of the company. Teams orient outward. Wire and messengers are used for communications with company operations. Attack helicopter platoon leaders and aeroscout section leaders usually remain at the operations center to immediately receive missin briefings and then return to their platoon areas to plan the mission and issue orders.

ORGANIZATION OF ASSEMBLY AREAS

USING A WOODED AREA



USING A BUILT-UP AREA



APPENDIX C

INTERNATIONAL AGREEMENTS

	NATO STANAG	ABCA SOLOG	CENTO STANAG	SEATO SEASTAG
Lane Minefields	2001	IR		
Marking of Contaminated or Dangerous Lane Areas	2002	124		
Patrol Reports by Army Forces	2003	6R		
Toxic Alarm System	2004	26		
Monitoring and Toxic Reports	2008	5R2		
Bridge Classification Markings	2010	24		
Operation Orders	2014	17R		
Route Classification	2015			
Operational Situation Reports	2020	16R		2020
Intelligence Reports	2022	2R2		2022
Method of Describing Ground Location, Areas, and Boundaries	2029			
Interrogation of Prisoners of War	2033	69		
Techniques of Land Minefield Laying and Recording	2036	18R		
Operational Road Movement Orders, Tables, and Graphs	2041	51		
Standard Procedures for Establishing Communications	2043	15R2		
Standard Procedures for Dealing with Prisoners of War	2044	22R		
Emergency Alarm if Hazard Attack	2047	110	2047	2047
Rear Area Security and Rear Area Damage Control	2079	48R	2079	2079
Relief of Combat Troops	2082	49R	2082	2082

Battlefield Illumination	2088	108	2088	
Sign Posting of Radiologically Contaminated Areas	2094	111		
Reporting Engineer Data in the Field	2096	107		
Fire Coordination in the Land/Air Battle	2099		2099	2099
Principles and Procedures for Establishing Liaison	2101	104		
Reporting Nuclear Detonations	2102	123	2103	2103
Friendly Nuclear Strike Warning to Armed Forces Operating on Land	2104	130		
Radiological Survey	2112			2112
Recognition and Identification of Forces on the Battlefield	2129		2129	2129
Offensive Air Support Operations	2134			
Aircraft Marshalling	3117			
General Rules Covering the Transport of Loads by Helicopter	3468			
Standard Procedures prior to Infantry/Armored Fighting Vehicle Operations		222		

FM 17-50

1 JULY 1977

By Order of the Secretary of the Army:

BERNARD W. ROGERS
General, United States Army
Chief of Staff

Official:

PAUL T. SMITH
Major General, United States Army
The Adjutant General

DISTRIBUTION:

Active Army, USAR, and ARNG: To be distributed in accordance with DA Form 12-11A, Requirements for Avn Co, Bn, Gp, and Bde; Attack Helicopter Gunnery; Army Avn Techniques and Procedures; The Inf Bde; The Armored Bde; Divisional Armored and Air Cavalry Units; Air Cavalry Squadron; The Armored Cavalry Regiment (Qty rqr block no. 3, 4, 8, 80, 130, 131, 132, 133); plus: DA Form 12-12, Section III, Requirements for training publications relating to TOE 1-167, 11-59, 17-200, 17-205, 17-385, 29-155, 29-157, 29-158, 55-417 (5 copies each account).

Additional copies can be requisitioned (DA Form 17) from the US Army Adjutant General Publications Center, 2800 Eastern Boulevard, Baltimore, MD 21220.