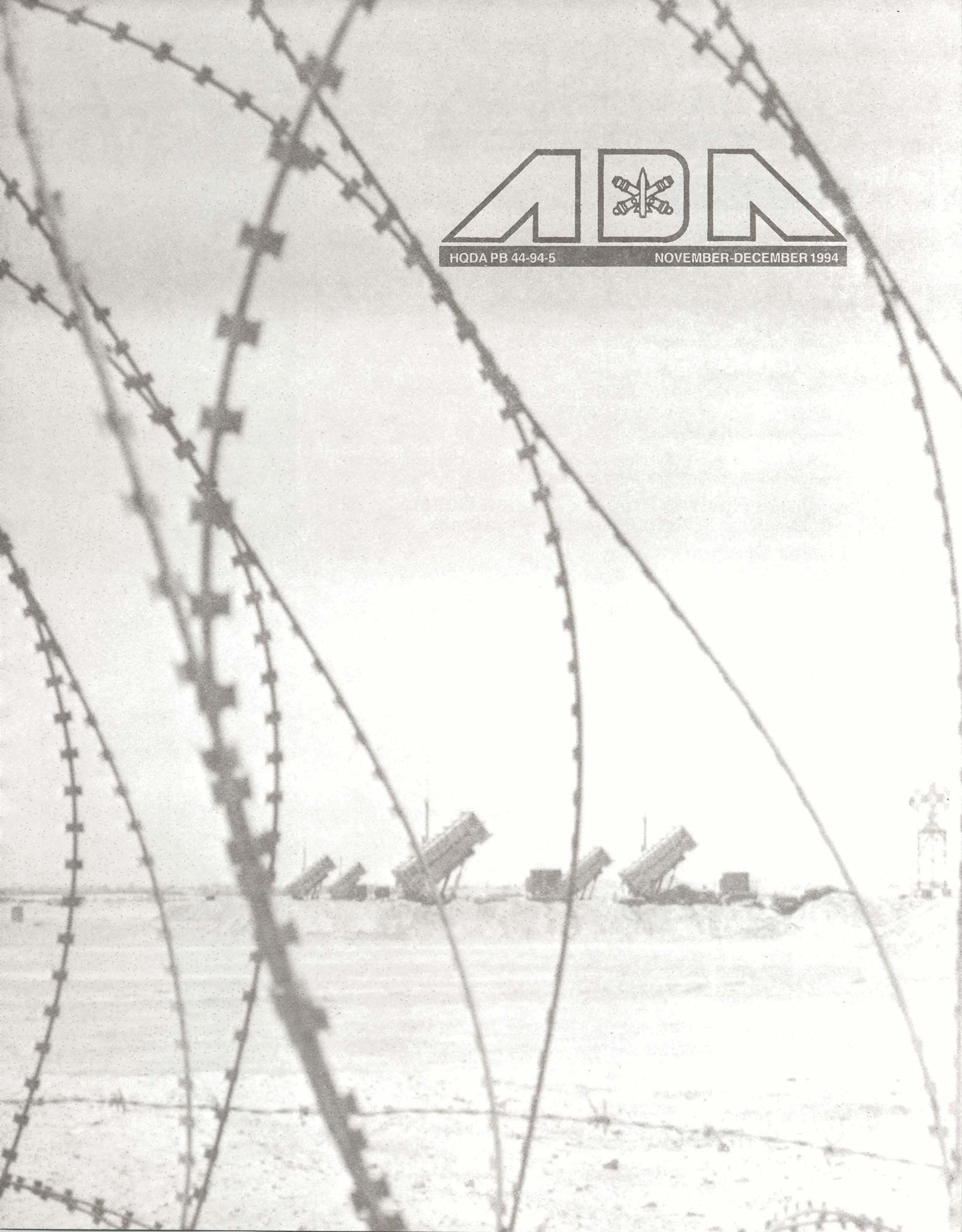




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NOVEMBER-DECEMBER 1994





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An 11th ADA Brigade Patriot battalion stands guard in Southwest Asia. Photo by Spec. Jeff Adams.

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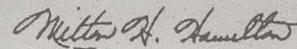
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By order of the Secretary of the Army:

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Army Chief of Staff

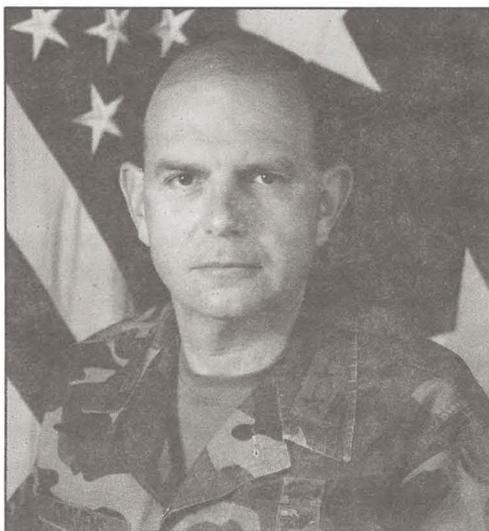
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# Intercept Point



This issue of *ADA Magazine* offers readers a preview of FM 44-100, *U.S. Army Air Defense Operations*, the post-Cold War revision of our capstone doctrinal manual. Scheduled for publication during the second quarter of FY95, the new FM 44-100 is part of a sweeping Armywide campaign to rapidly publish doctrine based on the contemporary strategic environment and a new set of global missions.

While FM 44-100 maintains basic air defense principles expressed in previous editions, it represents a clean break with the past, a break so decisive that the publication of the revised FM 44-100 will stand as a milestone event in ADA history.

As always, our primary mission will remain to **protect the force**, but the chief emphasis is no longer placed on protecting the force from attack by fixed-wing aircraft. We have not abandoned our responsibility to counter fixed-wing aircraft — modern-day fighter-bombers are far too lethal for us to disregard the possibility of even one leaking through the interceptor screen — but our post-Cold War air defense doctrine is based on the assumption that the joint air forces can be trusted to negate the fixed-wing threat. Instead, FM 44-100 focuses our efforts against attack helicopters, the rapidly growing tactical ballistic missile and cruise missile

threat and unmanned aerial vehicles. ADA units have, for a long time, conducted operations other than war (OOTW). FM 44-100 formalizes OOTW as a major mission, not simply another task to be undertaken at the expense of operational readiness.

FM 44-100 represents a sharp departure from Cold War doctrine. It complements the Army's capstone doctrinal manual, FM 100-5, *Operations*; has been well received throughout the Army's combined arms team; and enjoys the support of senior Army and Department of Defense leaders. Most importantly, the doctrine expressed in FM 44-100 is based on a consensus that has been building among senior ADA leaders and soldiers for years.

Indeed, ADA units have already validated the tenets of FM 44-100 in combat, training exercises and OOTW. During Operation Desert Storm, our Patriot battalions performed the anti-tactical ballistic missile mission while our forward area air defenders provided defense against possible rotary-wing and hostile unmanned aerial vehicles. Other ADA units have assisted in the Hurricane Andrew cleanup, fought forest fires, provided humanitarian relief and protection in Somalia, processed refugees at Guantanamo Bay and contributed to the war of attrition against narcotics traffickers.

The threat has grown more lethal and diverse, but we have unparalleled firepower and an adequate force structure to counter it. Our mission has truly grown more complex. Fortunately, we have competent and confident leaders, outstanding equipment and magnificent ADA soldiers to execute the mission. FM 44-100 provides us a doctrine and azimuth that ensure Air Defense Artillery will remain —

“First to Fire!”

Maj. Gen. James J. Cravens Jr.  
Chief, Air Defense Artillery

## ADA Doctrinal and Training Literature Publication Schedule

FM 44-100, *U.S. Army Air Defense Operations*, takes its impetus from FM 100-5, *Operations*, the Army's capstone field manual. It provides a foundation for the development of all subordinate air defense doctrine.

The following doctrinal manuals, one for each ADA weapon system, are scheduled for publication in FY95.

1QFY95

FM 44-43

Bradley Stinger Fighting Vehicle Platoon and Squad Operations

FM 44-71

Air Defense Artillery Brigade Operations

2QFY95

FM 44-64

FAAD Battalion and Battery Operations

FM 44-94

Army Air Defense Command and Control Operations

FM 44-100

U.S. Army

Air Defense Operations

3QFY95

FM 44-44

Avenger Platoon and Squad Operations

FM 44-85

Patriot Battalion

and Battery Operations

FM 44-85-1

Patriot Tactics, Techniques and Procedures

TC 44-10

BSFV Gunnery Tables

4QFY95

(S) FM 44-100A

Air Defense Operations and Planning

# ANALYZING THE ADA MISSION

by Lt. Col. Claude Jackson

More than a year has passed since the chief of Air Defense Artillery adopted a new mission for the branch. Although the mission statement contains only a few words, it is packed with significant implications for air defenders. This mission analysis will focus on those implications.

## Background

Doctrinal underpinnings for this mission statement come from the 1993 revision of FM 100-5, *Operations*. It states that air defense operations provide the force with protection from enemy air attack, preventing the enemy from separating friendly forces while freeing the commander to fully synchronize maneuver and firepower.

Air defense operations are performed by all members of the combined arms team; however, ground-based ADA units execute the bulk of the force protection mission. These units protect deployed forces and critical assets within a theater area of responsibility by preventing enemy aircraft, missiles and remotely piloted and unmanned aerial vehicles from locating, striking and destroying them.

The threat to friendly forces and combat functions is significantly greater than in the past due to weapons of mass destruction and the proliferation of missile technology. The potential for catastrophic loss of soldiers, time or initiative, forcing a change to operational objectives, requires a greater role for theater missile defense when generating combat power at the operational level.

Clearly, FM 100-5 tags Air Defense Artillery with the force protection mission. The mission statement has been expanded over the 1988 version and includes all elements (such as geopolitical asset protection) that require protection and includes all threats (such as aerial attack, missile attack and surveillance) that Air Defense Artillery must defend against.

## Forces

While past ADA doctrine has specified which elements of the force would receive air defense, the current mission statement includes all Army forces and places no priority on any particular types of forces. In fact, the mission is broadly written to also encompass protection of joint and combined forces when required. Critical assets, installations and facilities of the forces are also included, as are infrastructure requirements needed to conduct operations.

## Geopolitical Assets

Geopolitical assets are non-military assets that are determined by civil authorities. These assets could be political, religious, ethnic or territorial in nature. They could be determined by U.S. authorities, but more likely will be the result of alliance or coalition coordination. Because each member of the alliance or coalition has different objectives and priorities, geopolitical assets will rarely seem to support military operations. Therefore, the integration of geopolitical assets into the air defense priorities list must be done at the highest levels. Coordination with civil authorities must be conducted at all levels.

## Threat

The threat is not limited to attack aircraft, helicopters and tactical ballistic missiles. The threat includes all aircraft; all air-launched missiles; all indirect-fire, surface-launched missiles; and all aerial surveillance platforms. Some threats, which were not previously considered in the ADA mission, are unmanned aerodynamic vehicles, cruise missiles, intercontinental ballistic missiles and satellites.

## Consequences

The ADA mission statement opens up new areas for ADA forces. More emphasis has been placed on countering threat reconnaissance, intelligence, surveillance and target acquisition efforts. National missile defense is a strategic mission that falls into the ADA mission area. While capabilities do not currently exist to meet the entire spectrum of the ADA mission requirements, the mission statement provides a clear vision of Air Defense Artillery as it enters the 21st century.

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***New ADA Mission***  
***Protect the force and selected***  
***geopolitical assets from aerial attack,***  
***missile attack and surveillance***

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*Lt. Col. Claude Jackson is the former chief of the Command, Control, Communications and Intelligence Branch, Doctrine Division, Combined Arms and Tactics Department, U.S. Army Air Defense Artillery School, Fort Bliss, Texas.*



# NEW ADA DOCTRINE

*"The Army's doctrine lies at the heart of its professional competence. It is the authoritative guide to how Army forces fight wars and conduct operations other than war." — FM 100-5*

*by Lt. Col. Kevin Silvia*

Aware that success too often breeds complacency, Napoleon warned: "The moment of greatest peril is the moment of victory." It was a warning that America has too often failed to heed. Following each of this century's wars, budget cuts, force reductions and neglect by both civilian and military leadership have led to disaster. The cost of complacency was high for the soldiers of the 1st Armored Division, Task Force Smith and 2-7 Cavalry, who paid in blood at

Kasserine Pass, Osan and the Ia Drang Valley.

Today, in the wake of our Cold War victory and our showpiece triumph in Operation Desert Storm, the Army is once again downsizing and restructuring. This time, as Army Chief of Staff Gen. Gordon Sullivan is fond of declaring, "we've got to get it right!" We can't "get it right" without the "right" doctrine, a doctrine that positions the Army to fight and win decisively with mini-

mum casualties in a radically new strategic environment.

Doctrine provides soldiers a common framework for thinking about the conduct of war and operations other than war. Doctrine evolves constantly to accommodate changes in the dynamics of global politics, warfare and technology. Since the collapse of the Soviet Union, the armed forces of the United States have undergone unprecedented changes in both force structure

and operational requirements. The Army has responded to these changes by developing a new doctrine that adapts its operations to the demands of force projection and to the full range of military operations. The Army's new doctrine, described in detail in FM 100-5, *Operations*, has stimulated the development of new concepts and doctrine by the Air Defense Artillery branch and the rest of the Army.

FM 44-100, *U.S. Army Air Defense Operations*, provides new capstone doctrine for the air defense battlefield operating system. It builds upon the fundamentals provided in the 1988 version of the manual, just as the current version of FM 100-5 builds upon its 1986 predecessor, *AirLand Battle*. It reflects the collective knowledge and wisdom of the senior leadership of the air defense branch, as well as the experience of the many soldiers and civilians who contributed to its development. This article discusses the doctrinal changes described in FM 44-100, along with the changes in the global strategic environment and the ground and air threat that led to its

revision. In addition, it discusses both Army and joint doctrine and their impacts on the conduct of air defense operations.

### Strategic Environment

FM 100-5 and FM 44-100 are very much the products of the revolutionary events that began with the crumbling of the Berlin Wall and culminated with the collapse of the Soviet Union. The triumph of democracy and capitalism over totalitarianism and Marxist ideology ended the Cold War and averted the final confrontation between Western democracies and the Warsaw Pact. Though global war is now highly unlikely, the world is still a dangerous place.

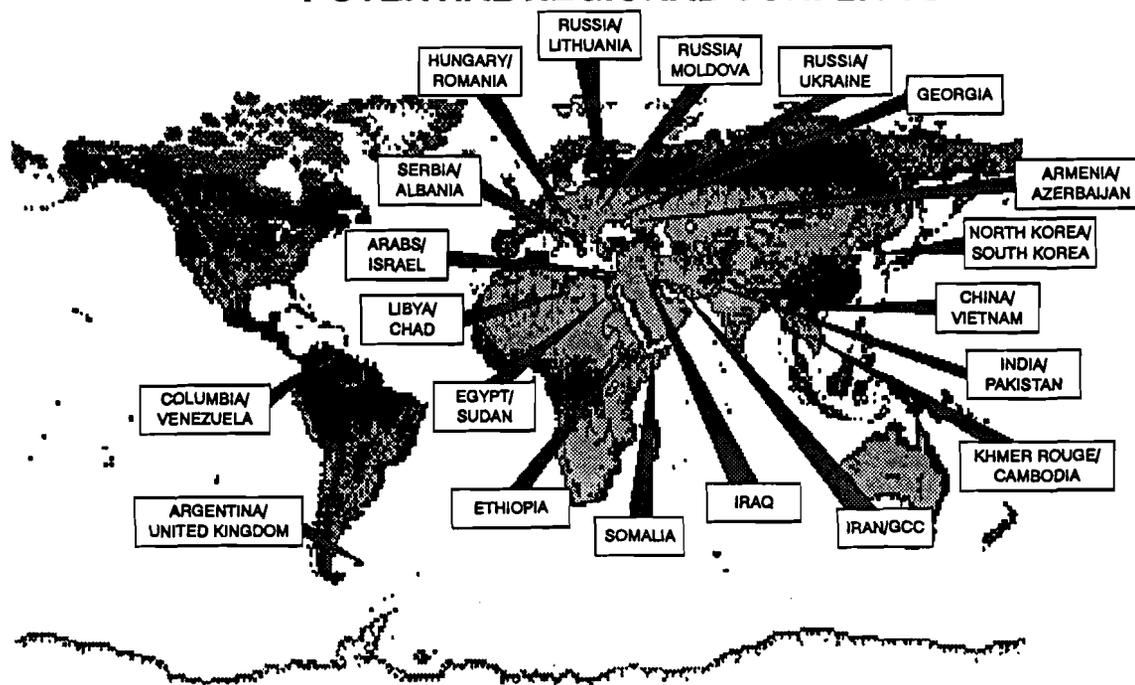
Anyone who watches nightly newscasts of carnage in Bosnia, genocide in Rwanda or rafters adrift in the Caribbean recognizes that the chief characteristics of the "New World Order" are disorder and instability. Nationalism has emerged as the greatest source of conflict between and within nations. Based on race, religion, ethnicity or historical affinity or enmity, it has sup-

planted ideology as the primary engine of conflict. Widespread poverty, famine, disease, natural disasters and increased competition for shrinking resources provide additional sources of instability. Ongoing conflicts in the Balkans, Eurasia, Middle East, Africa and Asia threaten regional stability, and risk involvement of the world's major powers.

Within this environment of unprecedented regional instability, the United States has emerged as the only superpower with the ability to globally project its power in pursuit of national objectives and humanitarian ideals. Unfortunately, the dynamic nature of regional conflict defies attempts to predict future crises and identify threats to national interests. Consequently, the elements of national power, including the military, must be prepared to conduct a wide range of operations, anywhere in the world, with little prior notice.

Doctrinal revisions such as FM 100-5 and FM 44-100 represent the Army's "intellectual" adaptation to a new strategic environment, an environ-

## POTENTIAL REGIONAL CONFLICTS



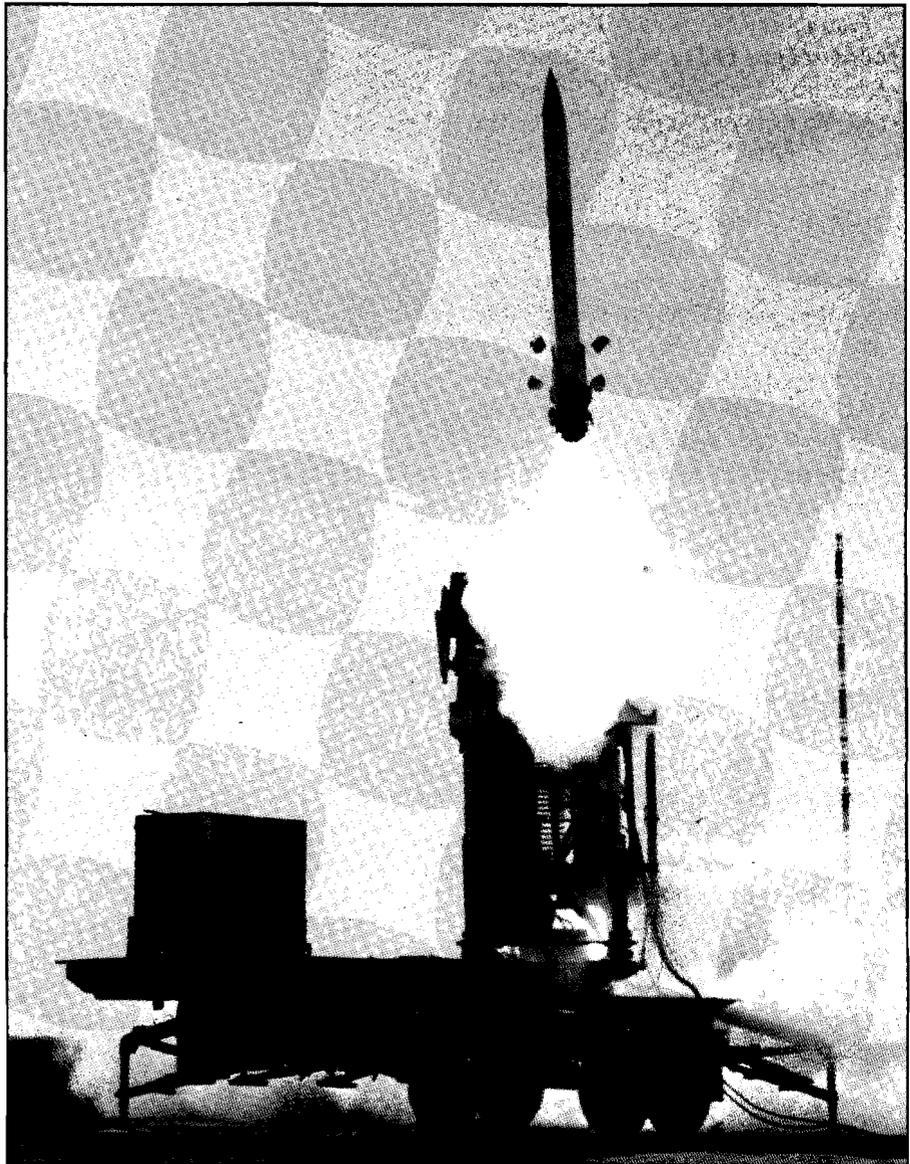
ment filled with unprecedented challenges and tremendous opportunity.

### The Threat

While few nations or non-national powers (such as nationalist, international criminal and expatriate organizations) possess military capabilities adequate to directly challenge the United States, the nation and its military should anticipate frequent and varied threats to national interests at the regional level. Though the risk of general war is now very low, the potential for major conflict involving the United States still exists, particularly in Asia and Eastern Europe. More likely is the possibility that the United States will be required to deploy military forces to conduct combat operations in one or more major or lesser regional conflicts. The most likely use of the U.S. military, however, is in operations other than war. The potential exists for a wide range of operations, from disaster and humanitarian relief efforts to peace-making or peacekeeping operations involving conflict with non-national powers.

Just as it is impossible to predict future threats to U.S. interests, so too is it impossible to predict the military capabilities of potential enemies. Technological proliferation makes modern weapons readily available to even the poorest nations, as well as to non-national powers. A significant advance, or leap ahead, in weapons technology by a nation or non-national group can radically shift the regional balance of power, and may enable an enemy to overmatch even U.S. capabilities. The potential for possession and use of weapons of mass destruction by an enemy is present in every possible conflict. Since we can't anticipate the nature of the future threat, the Army must prepare for a broad spectrum of capabilities, both in types of threat weapon systems and ability of the enemy to employ those weapons effectively.

The demise of the Soviet Union removed a threat that was well-defined and familiar to the West. The new re-



HIMAD forces, like Patriot PAC-3, protect the force from attack by theater missiles.

gional threats that replaced the Warsaw Pact are diverse and ill-defined. The U.S. Army Training and Doctrine Command is leading the Army's intellectual efforts to understand the new threat and the nature of future warfare. TRADOC Pamphlet 525-5, *Force XXI Operations*, published in August 1994, provides both a vision for 21st century Army operations and an excellent discussion of the wide range of potential ground threats. The following paragraphs provide a summary of the types of forces the Army may face during

current and future operations and operations other than war.

*Phenomenological threats.* These nonmilitary threats result from human occurrences and experiences that may require a military response. Examples of such threats include natural disasters, epidemics, famine, major population dislocations and illegal immigration.

*Non-nation forces.* Non-national threats use modern technologies to give them niche capabilities similar to those of nation-states.

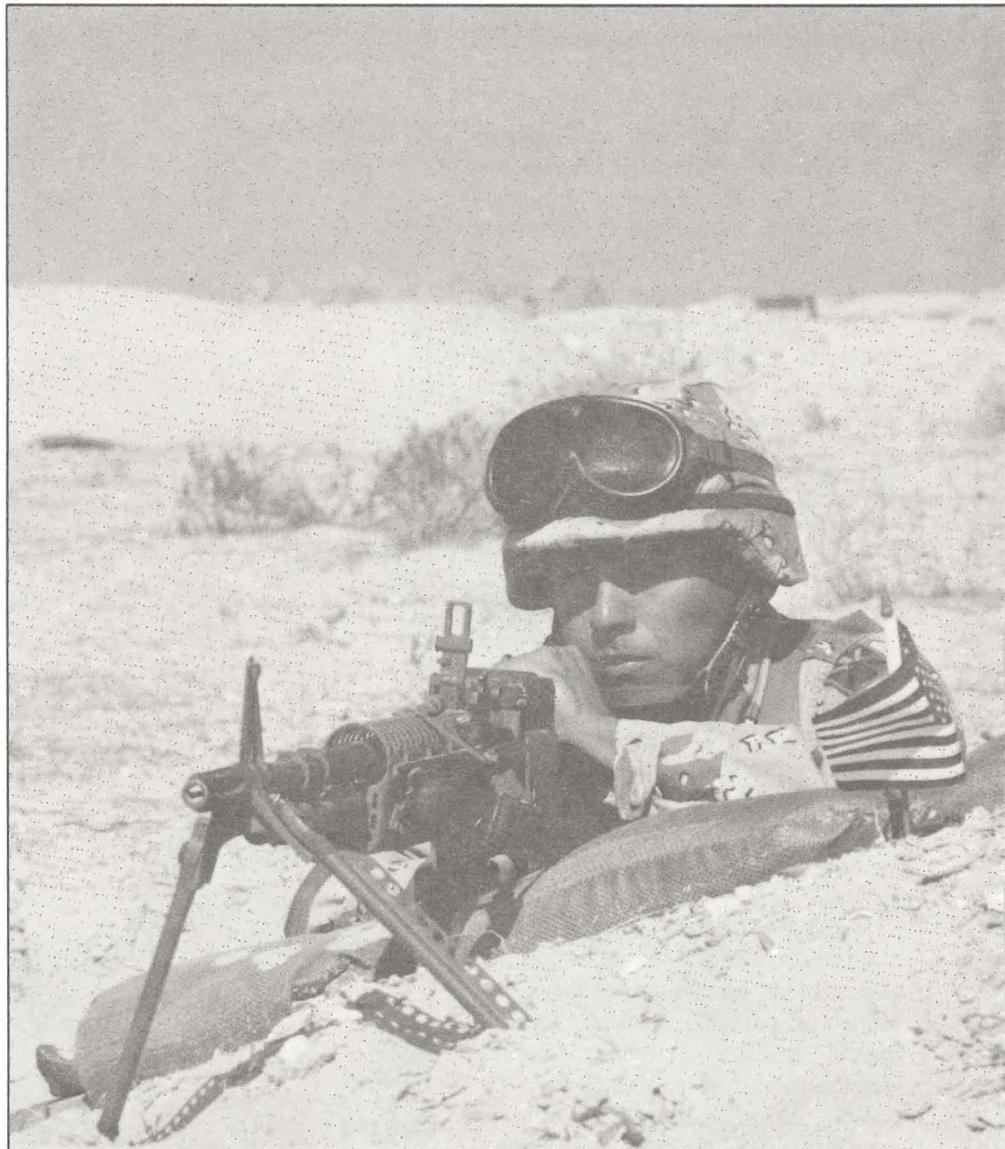
*Internal security forces.* These small, poorly trained and equipped forces are of the less-developed world. They are able to maintain order within their country, but would not be able to conduct extended military operations against a more capable force.

*Infantry-based armies.* This is the most common type army in the less-developed world. Though they possess some armor, the bulk of their combat power is provided by dismounted infantry. Skill in integrating weapons technology into operations and the ability to conduct combined arms operations are marginal to basic at the tactical level.

*Armor-mechanized-based armies.* The most common type army in industrial nations, they mount at least 40 percent of their forces in armored vehicles. Ability to integrate weapons systems and to conduct coordinated combined arms operations vary. Generally, these armies are not as technologically advanced as armies from the developed nations, particularly in the exploitation of information technology. They usually compensate for their technological inferiority by maintaining larger standing armies than their potential opponents.

*Complex, adaptive armies.* Existing in the developed nations, these technically and tactically advanced armies are relatively small, and expensive to equip, train and maintain. Complex forces are flexible, adaptive and versatile across the full dimension of operations. Future military operations by these armies will involve either joint or multinational forces, multidimensional maneuver, precision munitions, high-technology equipment and enhanced situational awareness.

Both national and non-national armies will be supported by air and missile forces of varying sizes and capabilities. Though no regional power has an air force that can match the size and sophistication of the former Soviet air forces, the emerging air and missile threat to the United States is becoming more stressing and dangerous than ever



The United States is the only superpower with the ability to globally project its power in pursuit of national objectives and humanitarian ideals.

before. Proliferation of missile technology and the development of inexpensive, unmanned aerial vehicles (UAVs) allow even the poorest countries to acquire a flexible, survivable and highly lethal air and missile attack capability. Though still potentially lethal to U.S. forces, the manned fixed-wing aircraft has been largely neutralized by the technological and tactical superiority of the joint air forces. Unfortunately, the remainder of the air and missile threat, while increasing in both size and lethality, can operate without interfer-

ence from the U.S. air forces. When armed with weapons of mass destruction, air and missile attack platforms provide a future adversary with a capability to strike the force at a time and place of his choosing, with potentially devastating consequences.

*Tactical ballistic missiles (TBMs).* The TBM has replaced the manned, fixed-wing aircraft as the weapon of choice for aerial attacks against forces and geopolitical assets. They are the primary threat to friendly forces in the corps and theater rear areas. TBMs,



the theater. They will be particularly dangerous when used against the air and sea points of debarkation in the lodgement. They will also be used to attack logistics and troop concentrations in the theater base, command and control complexes, tactical assembly areas, choke-points (such as bridges, mountain passes and breaches in obstacles) and high- to medium-altitude air defense (HIMAD) sites. When used to attack geopolitical assets, whether in the host nation or in another regional nation, TBMs may have strategic significance.

*Cruise missiles.* These unmanned, powered, self-guided missiles can be armed with conventional munitions, improved conventional munitions or weapons of mass destruction. They are inexpensive, widely available and easily manufactured using off-the-shelf technology. Cruise missiles may be launched from the ground, air, surface ship or submarine. Their low-level flight profile and low radar cross section make them extremely difficult to detect,

track and engage. They can attack at long ranges, and are both accurate and lethal. Their low cost, lethality, versatility and survivability complement the capabilities of TBMs. Cruise missiles will be used against the same types of friendly assets targeted by TBMs. Future developments in cruise missile technology will increase both range and accuracy, and may include the use of low-observable materials.

*Unmanned aerial vehicles.* UAVs include remotely piloted vehicles and drones, which may be powered or un-

powered. UAVs are rapidly becoming the primary reconnaissance, intelligence, surveillance and target acquisition (RISTA) threat to the force throughout the theater. Like cruise missiles, they are inexpensive, widely available and easily manufactured. They too are extremely versatile and survivable. A low radar cross section, low infrared signature and the ability to fly varying flight profiles make them difficult to acquire, track and engage. Currently, both long- and short-range UAVs are available with a wide range of both reconnaissance and attack capabilities. They may be used for RISTA, attack, electronic warfare or deception operations. RISTA UAVs, with a real-time down-link to command and control or fire control nodes, provide an enemy the ability to conduct deep attacks against U.S. forces using long-range artillery or missiles. UAVs can also be used for deception operations against air defense systems. Flying profiles similar to attacking manned aircraft, UAVs cause air defense sites to reveal their locations, making them susceptible to attack by air-launched cruise missiles.

*Rotary-wing aircraft.* Though rotary-wing aircraft, or helicopters, are no longer available in the numbers employed by the Warsaw Pact, they remain the primary threat to the force during decisive operations. Attack helicopters and armed utility helicopters are lethal, versatile and survivable. Used primarily for close air support, they also pose an air assault and reconnaissance threat throughout the corps. In addition, helicopters may be used to insert special operations forces throughout the theater. A low-level flight profile, using terrain masking, makes helicopters difficult to acquire and track. The standoff range of some anti-tank guided missiles allows helicopters to frequently engage friendly forces beyond the range of friendly forward area air defense (FAAD) weapons.

*Fixed-wing aircraft.* Fixed-wing aircraft are also an extremely lethal threat

while proliferating throughout the world, are also improving greatly in both range and accuracy. They are versatile and survivable, and allow their possessor to hold an entire region at risk. Even if armed with conventional warheads alone, TBMs have a psychological effect far out of proportion to their actual military significance. When the enemy is able to employ weapons of mass destruction, TBMs pose a significant threat to the joint force. TBMs will be used to attack immobile, high payoff targets throughout

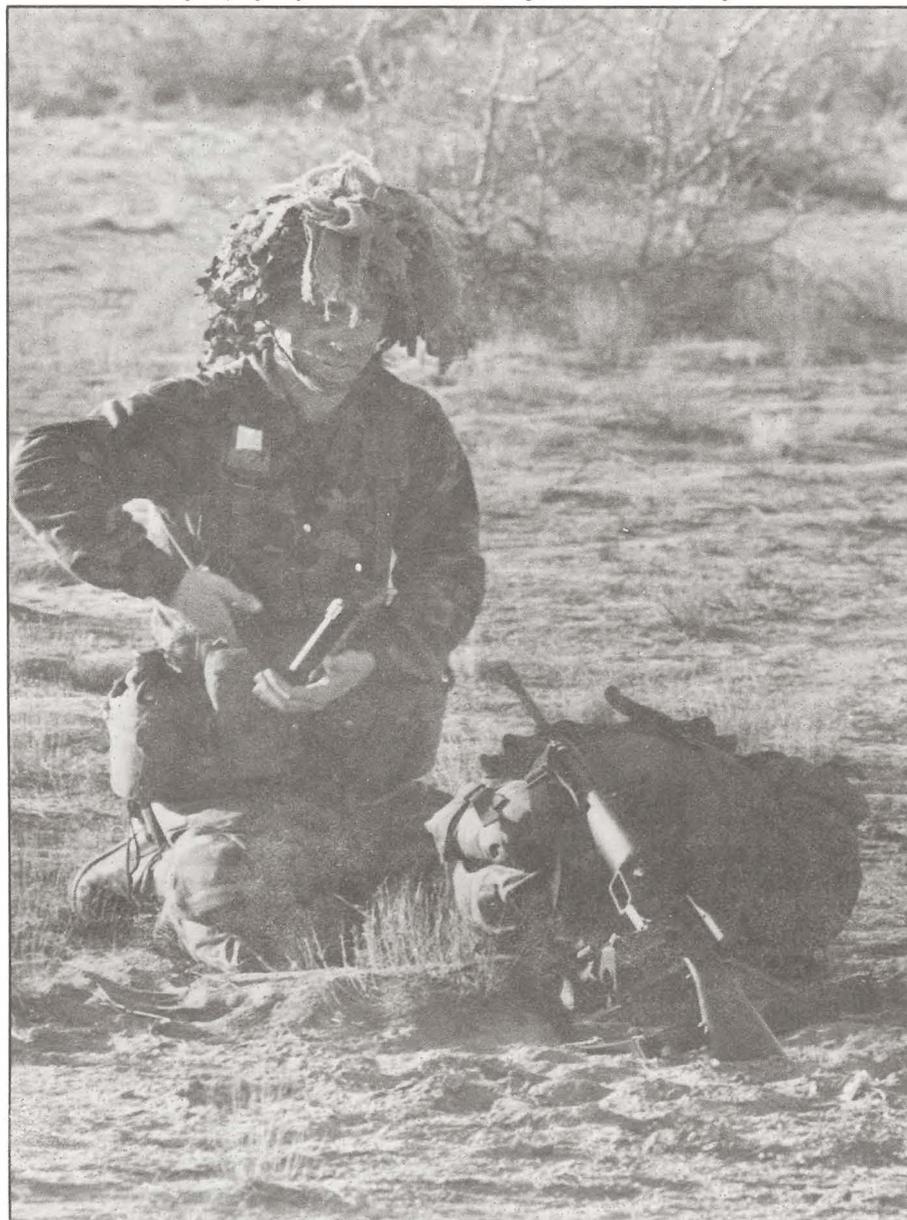
to the force, though the joint counterair operation will successfully defend the force from air attacks. While it is unlikely that a future enemy will be able to mount a successful air campaign, he will still attempt to employ aircraft in attacks against high payoff targets in the corps and theater rear. They will be most dangerous if used as a part of a coordinated, preemptive air and missile attack against the force while it is concentrated in the lodgement during early

entry operations. Army forces may be attacked at any time by small numbers of fixed-wing aircraft that successfully evade the defensive counterair operations of the joint air forces. Since many regional powers possess modern, technologically advanced aircraft armed with precision guided munitions, or possibly with weapons of mass destruction, even a single aircraft can inflict devastating damage on the force. Therefore, Army air defense forces,

while focused on the other types of air and missile threats, must always be prepared to protect the force from fixed-wing aircraft attacks.

The air and missile threat has changed, both in types of attack systems and in level of technical sophistication. Only a small portion of the threat is susceptible to attack by the joint air forces. The remainder, which is becoming more difficult to counter and increasingly more dangerous to the force, can only be countered by the surface-based air defense weapons of the Army, Navy, Marine Corps and coalition armed forces.

The Army is composed of high quality forces, able to rapidly deploy anywhere in the world to fight and win decisively.



### Implications of FM 100-5

In response to the new strategic environments and the diverse ground, air and missile threats, the Army has significantly revised its capstone doctrine. FM 100-5 fundamentally changes the way the Army thinks about war and operations other than war. Published in June 1993, FM 100-5 has provided focus and direction to doctrinal evolution throughout the Army. Its impacts on air defense have been massive. The requirements to accomplish the force projection, force protection and counter RISTA missions are impacting the development of air defense doctrine, changes in organizations and force structure, individual and collective training, leader development and materiel acquisition.

FM 100-5 describes an Army capable of full-dimensional operations, an Army that uses all available means to accomplish any mission assigned to it. The Army must be composed of high-quality forces, able to rapidly deploy anywhere in the world, to fight and sustain themselves, and to win decisively with minimum casualties. It must be prepared for the full range of operations, from war to operations other than war. In addition, FM 100-5 recognizes that the Army will always fight as a member of a joint, combined, U.N. or interagency force.

The Army achieves decisive victory through the application of overwhelm-

## ARMY FORCE PROJECTION



ing combat power throughout all dimensions of the battlefield. Combat power is created by combining maneuver, firepower, protection and leadership. Air defense forces contribute to all the elements of combat power, but make their greatest contribution to force protection. As stated in FM 100-5, "ground-based air defense artillery (ADA) units execute the bulk of the force protection mission."

Air Defense Artillery protects the deployed force and critical assets "by preventing enemy aircraft, missiles and remotely piloted vehicles and UAVs from locating, striking and destroying them." FM 100-5 describes the potential for catastrophic losses of soldiers, time or initiative if the force is successfully attacked by missiles armed with weapons of mass destruction. The po-

tential for such losses, and their impact on operational and/or strategic objectives, "requires a greater role for theater missile defense (TMD) when generating combat power." Since U.S. forces can't assume air superiority, Army air defense will also contribute to the joint counterair operations of the other services.

FM 100-5 establishes specific requirements for Army air defense:

- Tactical level air defense supports the objectives of divisions and corps.
- Operational level air defense protects the force and supports joint counterair.
- Air defense contributes to intelligence and electronic warfare by gathering and disseminating information on air order of battle.

— Air defense contributes to the deep battle by destroying enemy reconnaissance and command and control aircraft.

— Air defense provides data on TBM launch locations for attack operations.

Most of the requirements described in FM 100-5 aren't new to air defense. The branch has historically focused on protection of the force, from the company teams and battalion task forces fighting the close battle to the logistics complexes and air bases supporting the fight from the theater rear. Force projection and theater missile defense operations, while not new, have become higher priority missions for the branch since Operation Desert Storm. What is new in FM 100-5 is the requirement that air defense units must contribute to

## Joint Theater Missile Defense

Joint TMD protects the force against attack by air-to-surface, subsurface-to-surface and surface-to-surface missiles. Theater missiles include short-, medium- and intermediate-range ballistic missiles, and cruise missiles. Joint TMD integrates joint force and national capabilities to detect and destroy enemy theater missiles and enemy aircraft armed with air-to-surface cruise missiles. It also includes actions to destroy or disrupt theater missile launchers, command and control and logistics operations.

Joint TMD objectives are as follows:

- Prevent the launch of theater missiles against U.S. forces, U.S. allies and selected non-belligerent countries that must be protected for strategic reasons.

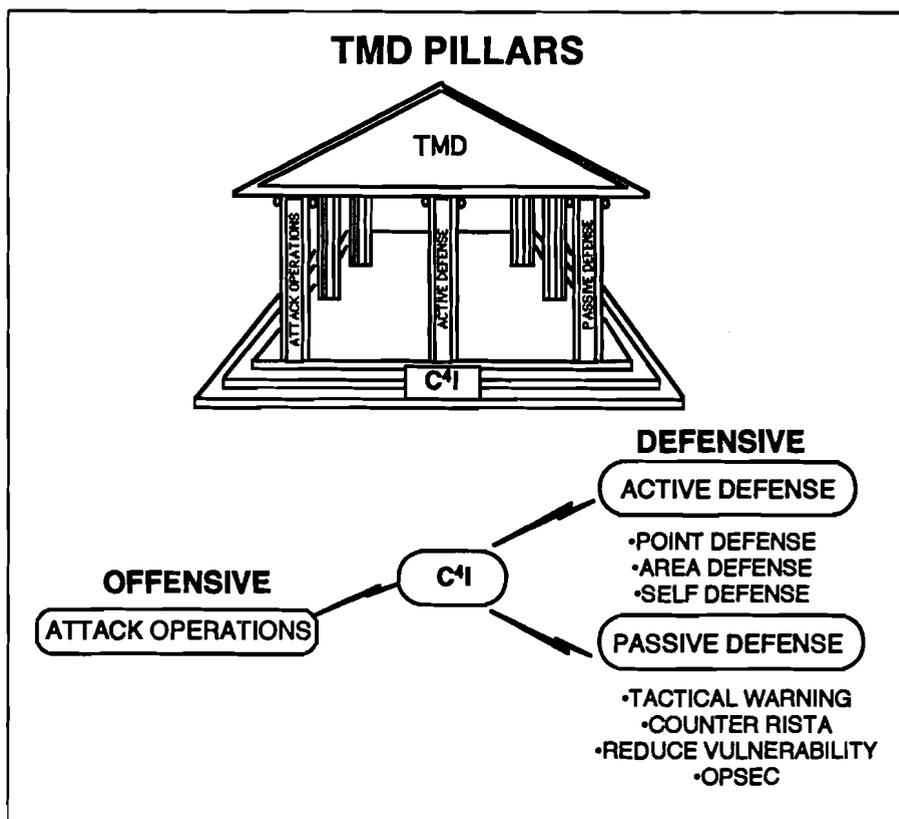
- Protect U.S. forces, U.S. allies and selected non-belligerent countries from theater missiles launched against them.

- Reduce the probability of, and minimize the damage caused by, a theater missile attack.

All members of the joint force contribute to TMD. At all echelons, the air defense organizations integrate and synchronize Army and joint force land component contributions to the four operational elements of TMD. These elements, also referred to as the four pillars of TMD, are passive defense, active defense, attack operations and command, control, communications, computers and intelligence (C<sup>4</sup>I).

*Passive defense* measures reduce the vulnerability of the force to attack by preventing targeting and by reducing the damage sustained by the force if attacked. Passive defense measures include tactical warning of theater missile launch, reducing targeting effectiveness, reducing vulnerability, and recovery and reconstitution operations after an attack. Army air defense forces plan passive defense measures and plan and provide tactical warning of attack at each echelon of command.

C<sup>4</sup>I provides tactical warning to the force, and plans and integrates the con-



tributions of the joint force components to the other TMD operational elements. Army air defense forces take the lead in planning and integrating Army and joint force land component TMD operations, and contribute battle management and C<sup>4</sup>I capabilities at each echelon of command.

*Active defense* operations protect priority forces and assets from attack by destroying theater missile airborne launch platforms and/or theater missiles in flight. Also included are actions to mitigate the effectiveness of targeting and delivery systems through electronic warfare against remote or on-board guidance systems. Army air defense forces contribute the majority of active defense capabilities to the joint force.

*Attack operations* consist of offensive actions intended to destroy and disrupt enemy theater missile capabilities before, during and after launch. Attack operations prevent the launch of theater missiles by attacking each element of the theater missile system, including

launch platforms, RISTA platforms, command and control nodes, missile stocks and infrastructure. Army air defense forces contribute targeting data on launch platforms and protect the force from surveillance by airborne RISTA platforms.

The joint force commander (JFC) exercises operational control of all the forces assigned to him. He develops a TMD plan that establishes TMD priorities, allocates forces and assigns areas of operations (AOs) to the components, and provides TMD weapons control procedures and rules of engagement. Component commanders plan and conduct all TMD operations within their assigned AOs. They allocate TMD forces to subordinate commanders, develop their own TMD priorities and integrate their TMD operations into the overall theater effort. Active defense forces are under the operational control of their component commanders, who employ them under the JFC-approved weapons control procedures and measures. Component commanders are



During operations other than war, air defenders make valuable contributions while simultaneously receiving outstanding training and experience. (Photo by Spec. Jeff Adams)

supported commanders for attack operations against enemy TMD targets within their AO. Outside the AOs of the component commanders, the joint force air component commander is the supported commander for attack operations.

#### Joint Theater Counterair Operations

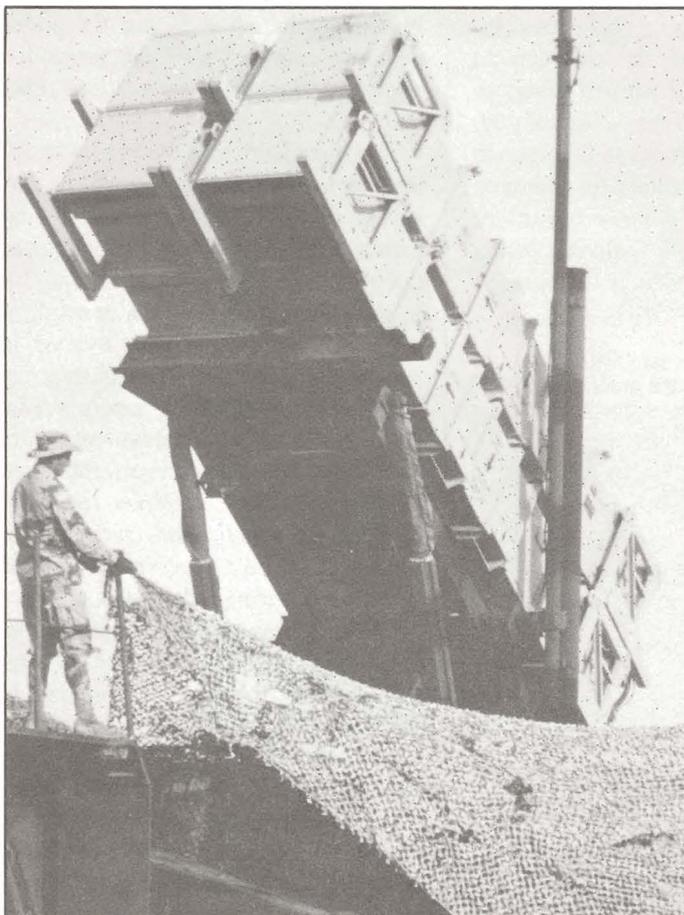
Joint theater counterair operations protect the force from attack or surveillance by manned fixed- and rotary-wing aircraft and UAVs. Joint counterair integrates the efforts of the components to detect and destroy aerial vehicles both in the air and on the ground, as well as their supporting command and control, logistics and base structure. Counterair operations are conducted to attain and maintain a desired degree of air superiority by the

destruction or neutralization of enemy air forces. Counterair operations include the use of interceptors, bombers, antiaircraft guns, surface-to-air missiles and electronic warfare to destroy the air threat both before and after it is launched, and to minimize the vulnerability of the force to air attack or surveillance. The operational elements of joint counterair operations include offensive counterair, defensive counterair (and its subelement passive air defense) and suppression of enemy air defenses.

*Offensive counterair operations* are mounted to destroy, disrupt or limit enemy air operations before they enter a friendly AO. They include the use of attack aircraft and bombers to destroy enemy aircraft on the ground and their command and control and support structure, and fighters to destroy air-

craft in the air before they can enter friendly airspace. Army forces use special operations, attack aviation and long-range rockets and artillery to destroy aircraft and helicopters operating from forward bases. Army air defense contributes to targeting information using air defense radars, and uses long-range surface-to-air missile fires to destroy enemy aircraft outside friendly airspace.

*Defensive counterair* provides force protection through destruction of enemy aircraft operating in or approaching friendly airspace. The joint air forces contribute fighter, surveillance, electronic warfare and command and control aircraft to defensive counterair operations against manned, fixed-wing aircraft. Army, Marine Corps and Naval forces protect the force using surface-to-air guns and missiles to defeat the en-



As illustrated by deployments to Southwest Asia and Korea, the Patriot missile system has become the nation's weapon of choice for show-of-force operations.

tire spectrum of enemy manned and unmanned aircraft. All units perform defensive counterair operations when they use combined arms for air defense while under attack or surveillance by enemy aircraft.

*Passive air defense*, a subelement of defensive counterair, employs measures to avoid targeting by enemy aircraft, and to minimize damage if attacked. Passive air defense measures include the use of operations security, dispersal, deception, mobility and hardening of assets. Air defense forces contribute to passive defense planning and provide early warning of air attack at all echelons of command.

*Suppression of enemy air defenses* includes all operations to destroy, disrupt or degrade enemy surface-to-air weapons and their supporting sensors and command and control. The objective is

to ensure that the joint air forces and Army Aviation are able to conduct operations in enemy airspace without interference from hostile air defense. Army contributions to suppression of enemy air defenses include the use of indirect fire, attack aviation and electronic warfare.

All air defense operations are integrated through weapons control procedures, coordination with adjacent air defense units and between joint force components, and through shared knowledge of the friendly and enemy air situation. Air defense forces assigned to corps, Marine amphibious forces or lower maneuver elements are under command and control of their echelon commander, who employs his assigned air defense units under the weapons control procedures and measures approved by the JFC. Positioning

and maneuver of those units in response to the supported commander's priorities and scheme of maneuver are reported to the area air defense commander to allow adjustments to the theater defense design and weapons control status. Air defense units assigned at EAC are under the operational control of the area air defense commander only when participating in counterair operations. As discussed earlier, when conducting TMD operations, these units remain under the command and control of the joint force land component commander.

#### **Army Air Defense Operations**

Army air defense forces are employed at the strategic, operational and tactical levels of war. When protecting geopolitical assets in a host nation, allied nation or neutral third coun-

try, air defense units conduct strategic operations. EAC air defense units protecting forces and assets in the theater base accomplish operational level missions. Corps air defense brigades and division air defense battalions conduct tactical operations.

At all levels of war, air defense commanders apply the employment prin-

ciples of mass, mix, mobility and integration, along with the employment guidelines of mutual support, overlapping fires, balanced fires, weighted coverage, early engagement and defense in depth. The fundamentals for planning and conducting air defense operations haven't changed. The challenge facing air defense commanders is to apply the

fundamentals while facing the added demands imposed by force projection operations in war and operations other than war.

Force projection is the ability to apply elements of national power in pursuit of national objectives. It is fundamental to Army and air defense doctrine. The eight stages of force projection operations follow a general sequence, though they often overlap in time and space. While the requirements and activities of mobilization, predeployment activity, deployment, entry operations, operations, war termination and post-conflict operations, redeployment and reconstitution, and demobilization differ, the focus of air defense operations during all stages of force projection remains on force protection.

*Mobilization* is the process for augmentation of the active component in preparation for force projection. It includes activation of some or all of the reserve components along with assembly and organization of personnel, supplies and materiel. Personnel shortages in air defense units are filled using augmentees from both the active and reserve components. Air defense brigades receive their National Guard round-out batteries and battalions, and include them in training and preparing for operations. Air defense staffs gather all available information on projected theaters of operations and begin the staff estimate process.

*Predeployment activity* includes force tailoring, operations and transportation planning, logistics preparations, personnel preparations and mission rehearsals. Air defense staffs perform a thorough, predictive air intelligence preparation of the battlefield and complete command and staff estimates. The joint force and component commanders prepare the theater campaign plans and establish the sequence of movement into the theater for air defense and other Army and joint forces. Air defense commanders at all echelons ensure that operations and movement plans provide for deployment and employment of the air defense forces

The first Army air defense forces to enter the lodgement will be the FAAD batteries and battalions assigned to the divisions conducting the entry.



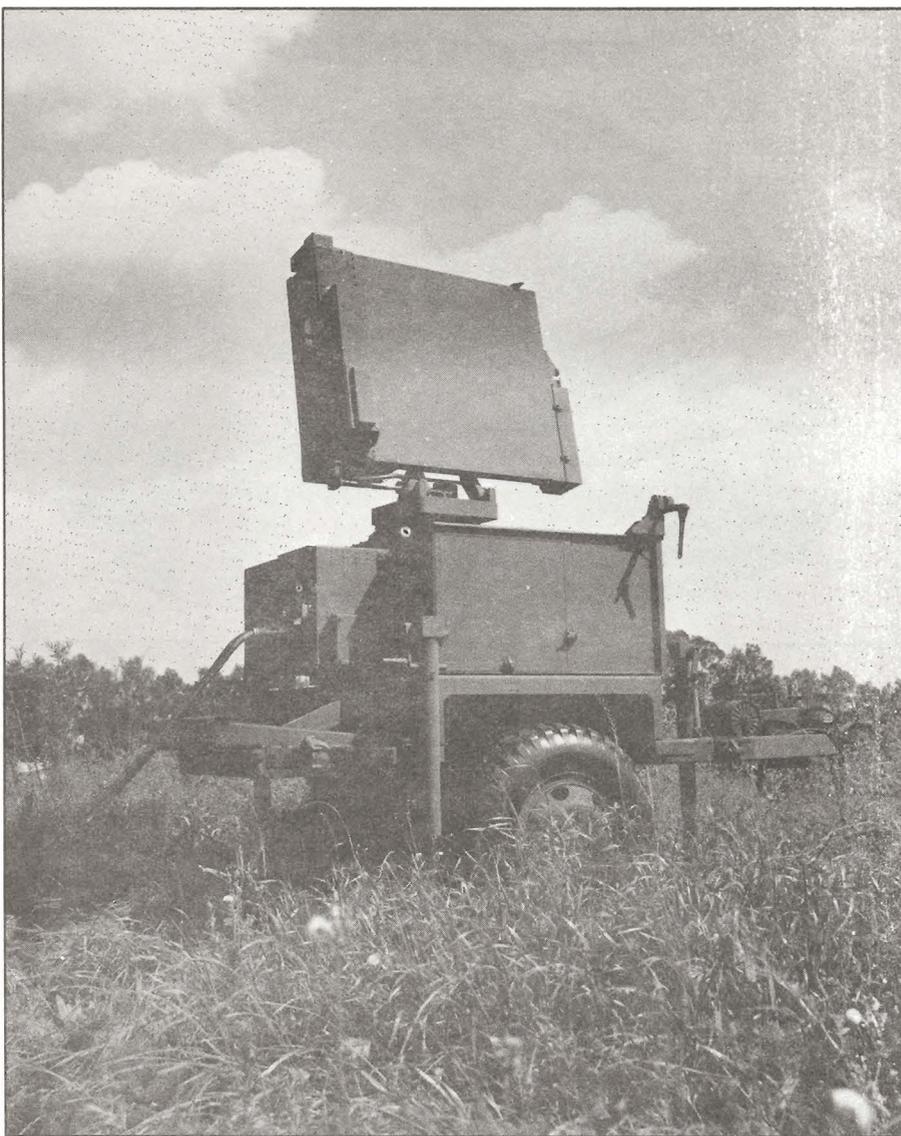
needed to protect the force. They complete and publish their own plans, and prioritize lift requirements consistent with the mission, enemy, troops, terrain and time available.

*Deployment operations* move the force to the theater by air and sea. The Joint Operation Planning and Execution System provides the structure for deployment of Army units. Planning tools provide the means to adapt rapidly to changes in the mission, tactical situation or available lift. Commanders balance the requirements of mission, enemy, troops, terrain and time available with available lift assets to determine the optimum composition of initial and follow-on entry forces. Air defense units provide force protection throughout the deployment. They tailor the air defense force to effectively defeat the missile, air and UAV threats expected upon entry into the theater. It may be necessary to sacrifice mobility, redundancy and sustainability to introduce the maximum firepower possible, given available lift assets.

*Entry operations* may be facilitated by host nation and/or forward-presence forces, or may be unsupported by either. Entry may be opposed or unopposed. Whenever possible, the joint force seeks unopposed entry. In either case, air defense units provide protection for critical forces and assets from the outset. "Forces are most vulnerable, and the success of the contingency operation at greatest risk, during initial entry." (FM 100-5)

Until adequate ground-based air defense forces are introduced into the lodgement, the joint force may be protected by the surface-to-air weapons of ships like the Navy's AEGIS-equipped destroyers and cruisers. Naval air defense systems provide limited inland coverage, however, so Army air defense forces must commence operations as quickly as possible. Throughout entry operations, the joint air forces protect the lodgement from attack by manned fixed-wing aircraft.

The first Army air defense forces to enter the lodgement will be the FAAD



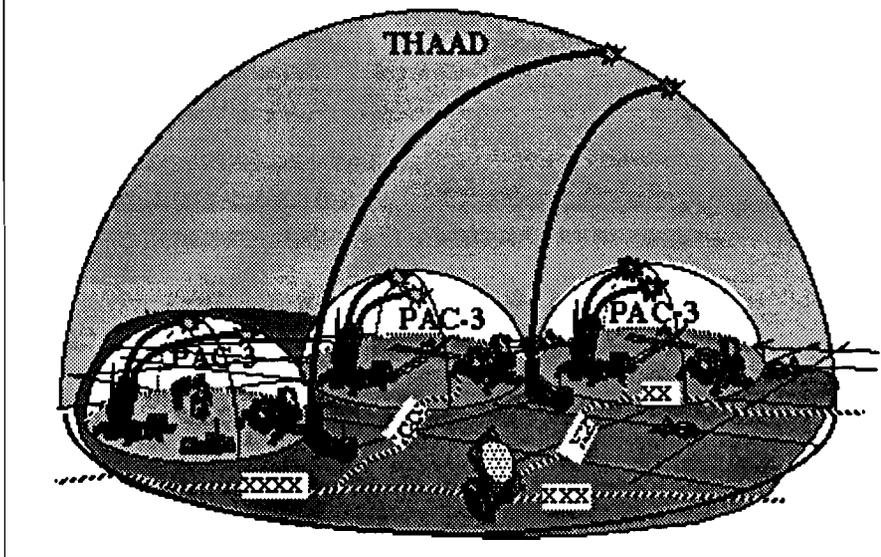
Early deployment of the ground-based sensor and FAAD C<sup>3</sup>I system is required for early warning, linkage with joint surveillance and cueing of FAAD weapons.

batteries and battalions assigned to the divisions conducting the entry. Their focus will depend upon the nature of the entry operation. Early deployment of ground-based sensors and the FAAD command, control, communications and intelligence system is required for early warning, linkage with joint surveillance systems and cueing of FAAD weapons.

If land combat is required to establish the lodgement, FAAD units must protect the force from attack by rotary-wing aircraft, cruise missiles and UAVs, while retaining the operational flexibil-

ity to destroy any fixed-wing aircraft that evade the counterair operations of the joint air forces. If the entry is not opposed, FAAD units focus on protecting the force from surveillance by RISTA UAVs and other airborne surveillance platforms. Maneuver units tasked to screen the joint force should be supported by sufficient FAAD capabilities to destroy any airborne RISTA platforms that approach the lodgement. As they arrive in the lodgement, corps and EAC FAAD battalions will augment division FAAD efforts to screen the lodgement from RISTA UAVs, or to

## DEFENSIVE ENCLAVE



destroy cruise missiles and other aircraft if hostilities have commenced.

As soon as an air or sea port of debarkation is secured, HIMAD units from either corps or EAC air defense brigade should enter the lodgement. The composition of initial entry HIMAD forces will depend upon the threat and available lift. The force may be composed of THAAD, Patriot, Hawk or a combination of the three systems organized into task forces. Early entry of either battalion or brigade command and control is essential for management of engagement operations, linkage with joint surveillance systems, and integration of Army air defense operations into the theater air defense system.

Whether from the corps or EAC brigades, initial entry HIMAD task forces will probably focus on defense of the JFC's theater-level air and missile defense priorities. They will be employed to protect forces and assets clustered within defensive enclaves. Typically, enclaves will use THAAD for long-range, high-altitude or "upper tier" engagements, while Patriot will provide "lower tier" point defense of priority forces and assets. Priorities may include the ports of debarkation, command and control and logistics facilities, Army

and air force aviation, troop concentrations and host nation geopolitical assets. Emphasis will be on protection against theater missile attack, though air defense units must be prepared to destroy attacking aircraft.

As the remainder of the corps and EAC brigades arrive in the lodgement, responsibility for theater level air defense will shift to the EAC brigade. Corps brigades will then shift to protection of their corps as they expand the lodgement, establish tactical assembly areas and build up combat power in preparation for decisive operations. Probable corps priorities will be protection of corps and division aviation, critical logistics and command and control, tactical assembly areas and choke-points. HIMAD forces will continue to focus on protection against attack by theater missiles, while FAAD battalions conduct counter-RISTA operations to screen unit movements and assembly areas.

*Operations* are intended to achieve the strategic objectives of the JFC. The joint force land component commander seeks decisive results by paralyzing the enemy and rapidly gaining the initiative. This is accomplished by simultaneously attacking the enemy throughout the depth and space of the battlefield

while preserving friendly combat power through force protection. The enemy is dominated through maneuver and massing of fires and effects at decisive times and places. Commanders also seek decisive results during operations other than war.

Air defense forces at division and corps support their maneuver commander's scheme of maneuver while protecting his air and missile defense priorities. EAC air defense protects the theater base so that it can support and sustain corps and division operations without interruption. Corps air defense brigade commanders may choose to provide additional FAAD support to subordinate divisions to weight the corps main effort.

Counter-RISTA operations become less important as the force conducts decisive operations; instead, the focus of air defense operations shifts to force protection against air and missile attack. FAAD units maneuver with the force and prevent attack by rotary-wing aircraft, cruise missiles and UAVs. HIMAD protects critical forces and assets against theater missiles. Both FAAD and HIMAD units destroy any manned fixed-wing aircraft that threaten the force.

*War termination and post-conflict operations* begin when the JFC or the national command authority determines that the strategic objectives of the operation have been achieved. Force operations focus on restoration of order, support to other government agencies, humanitarian assistance and reestablishment of host nation infrastructure. In addition, the force prepares for redeployment to home station. Since hostilities may resume, force protection remains an imperative. Air defense units continue to protect the force from the air and missile threat, while preparing soldiers and equipment for redeployment. Some units may be required to perform operations other than war in support of humanitarian assistance and other missions.

*Redeployment and reconstitution operations* return forces and materiel to

home station where they begin preparations for future operations. Since force protection remains an imperative, air defense units continue to defend the ports of debarkation, troop concentrations and other JFC priorities. Once units return to home station, they rebuild unit integrity, replenish logistics, account for soldiers and equipment, and train for future operations.

*Demobilization activities* convert units, individuals and materiel from an active status to a pre-mobilization state. Army Reservists and National Guardsmen return to their families and civilian jobs, and begin training and preparing for the next mobilization.

### Operations Other Than War

While training and preparing for war, Army units also have the versatility to perform a wide range of operations other than war. Air defense units join other Army units in performing humanitarian assistance, disaster relief, security assistance and a myriad of other missions. Air defenders have recently conducted humanitarian and peacekeeping operations in Somalia, have provided disaster relief in Florida and have fought forest fires in the Northwest.

Air defense units possess unique capabilities that make them particularly suited to some types of operations other than war (see story, page 23). The emergence of the TBM as a major regional threat to U.S. allies has made the Patriot missile system the nation's weapon of choice for show-of-force operations. Patriot deployments to Korea and Southwest Asia illustrate this point. Air defense units also contribute to counterdrug operations by providing surveillance of the nation's borders. In addition, air defense forces support U.N. operations to enforce no-fly zones, exclusion areas and safe havens. All of these operations allow air defenders to make valuable contributions to the nation, while simultaneously receiving outstanding training and experience. Whatever other missions they accomplish, the focus of air defense during operations other than war remains to

protect the force against air attack, missile attack and surveillance.

### Conclusions

In this era of regional instability, the United States has emerged as the world's only superpower. As a result, the potential for employment of the Army as an instrument of national power is now greater than ever. Proliferation of air and missile technology, along with weapons of mass destruction, will give regional powers the ability to inflict devastating damage on U.S. forces during power projection operations. Within this less certain, but more danger-

ous environment, protection of the joint force by Army air defense units throughout the theater is receiving greater emphasis in both joint and Army doctrine. In response to these changes, and to the new requirements established by FM 100-5, the air defense branch has developed a new conceptual framework for employment of air defense in war and operations other than war.

When FM 44-100 is published in early 1995, it will provide doctrine for air defense operations which has evolved and grown to meet the demands of the new political and military environments. Though expanding the range of missions assigned to air defense, and modifying the methods employed to accomplish those missions, FM 44-100 recognizes that successful air defense operations result from the application of time-tested principles and fundamen-

Army forces must be prepared to deploy anywhere in the world with little prior notice.



tals. The innovative concepts presented in FM 44-100 adapt the air defense combat function to the requirements of full-dimensional operations in support of the strategic, force projection Army, and provide a vision for air defense as a vital component of the Army as it evolves into Force XXI.

*Lt. Col. Kevin Silvia heads the Doctrine Division, Combined Arms and Tactics Department, U.S. Army Air Defense Artillery School, Fort Bliss, Texas. Silvia holds a Bachelor's of Science from the University of Michigan and a Masters of Science from Boston University. His military education includes the ADA Officers Basic and Advanced Courses and the Army Command and General Staff College.*

# PROTECTING THE FORCE

## Army Aviation & Theater Missile Defense

by Maj. Gen. Ronald E. Adams

*Theater Missile Defense (TMD): the integration of joint force capabilities to destroy enemy theater missiles in flight or prior to launch or to otherwise disrupt the enemy's theater missile operations through an appropriate mix of mutually supportive passive missile defense, active missile defense, attack operations and supporting command, control, communications, computers and intelligence (C<sup>4</sup>I) measures.*

*The location is Southwest Asia, February 1991. The time is 0230 hours on a moonless night. Bearcat 06 is an Apache company commander who has led his team on a zone reconnaissance approximately 80 miles into Iraq when he receives a call from an airborne warning and control system (AWACS).*

*"Bearcat 06, this is Tomahawk 02. Contact Predator 16 [a ground laser designation team] on FM 40.45 for possible Scud launcher target."*

*Bearcat 06, who has been briefed on the possibility of an anti-Scud contingency mission, acknowledges the call.*

*"Predator 16, this is Bearcat 06. Request SITREP. Over."*

*"Bearcat 06, this is Predator 16. I have eyes on target. Stationary enemy launcher behind a bunker. Grid NK 564426. Alpha code, call laser on."*

*"Bearcat 06, roger."*

*Bearcat 06 enters the grid in the doppler and the data entry keyboard and gets a range to the target of 12 kilometers. He decreases his airspeed and lines the Apache up for a Hellfire shot. At eight kilometers he spots a vehicle but is still too far away to make a positive target identification.*

*"Predator 16, this is Bearcat 06. Spot on for identification."*

*Predator 16 lases the target and Bearcat 06 has positive identification. The launcher is tucked in next to a cement embankment. This forces Bearcat*

*06 to maneuver the Apache closer to maintain adequate line of sight.*

*All of a sudden, the enemy launcher starts to move. Predator 16 announces: "I can no longer observe target." But it's already too late for the Iraqi ballistic missile crew.*

*Tracking the vehicle and staying as low as possible, Bearcat 06 has closed to four kilometers. He has a clear shot and lases the target. All constraints are met, and Bearcat 06 launches a Hellfire missile. Some 30 seconds later, the Hellfire slams into the target, setting off a huge explosion.*

*"Tomahawk 02, this is Bearcat 06. One Scud launcher destroyed. End of mission."*

The hasty engagement described above is an example of a TMD scenario; fictional, yet very plausible. A TMD engagement involving Army Aviation can be as simple as just described or a detailed, pre-planned joint precision strike mission.

When the public thinks of incoming tactical ballistic missiles (TBMs), it thinks first of Air Defense Artillery, a natural reaction to the television footage of Patriot missile battalions engaging Iraqi Scuds over Saudi Arabia and Israel during Operation Desert Storm. But soldiers know that TMD is a combined arms and joint forces mission, and that makes Army Aviation a partner

with Air Defense Artillery in protecting the force from the proliferating tactical ballistic missile threat.

It also makes TMD a much discussed topic these days. So far, the discussion typically produces as many questions as answers. Who are the players? What is the mission? Should we develop a separate TMD doctrine? These are just a few of the questions that revolve around this complex subject. One thing is certain: Army Aviation's versatility and mobility gives it an unparalleled capability to find, fix and destroy TMD threats.

The recent tensions in North Korea highlight the unmanned TBM threat. The risk from an enemy manned fixed-wing threat has decreased while the unmanned threat from TBMs, cruise missiles and other unmanned aerial vehicles continues to grow. Both TBMs and cruise missiles possess many dangerous capabilities. They have many employment options, offer various warhead choices that include nuclear, biological and chemical munitions, operate over extended ranges, and are relatively inexpensive. Cruise missiles pose a distinct threat. They can be a "poor man's" air force. If given \$50 million, any adversary could buy hundreds of off-the-shelf cruise missiles for the same dollars it takes to purchase four attack helicopters or one or two fixed-wing fighters. The bottom line is that the TBM and cruise missile threat is real

and modernizing at an accelerating rate. Consequently, the Army has been focusing its resources, force structure and doctrine on this increasing threat.

TMD is a joint issue. It is defined by four pillars: attack operations, active defense, passive defense and battlefield management and command, control, communications, computers and intelligence (BM/C<sup>4</sup>I).

Attack operations involve the use of sensors and weapons to detect and attack threat launchers, missiles, support facilities and C<sup>4</sup>I, with ground and air assets to prevent or reduce the number of threat missile launches. Along with Air Force F-15s, F-16s, long-range Army Tactical Missile Systems (ATACMS), national sensors and intelligence assets, Army Aviation plays a key attack operations role. It executes deep attack missions and armed reconnaissance missions. Our weapon systems operate with less target error than other attack assets, provide nearly immediate response, and can see, maneuver and shoot deep. The varied combined arms and joint forces weapon systems employed in attack operations complement each other. The strong attributes of one compensate for the weak attributes of another. As an example, a moving launcher may not be an appropriate target for indirect fire weapons, whereas it can be a valid target for Army Aviation.

Active defense is conducted to protect the force against theater missiles by acquiring and destroying missiles in flight. Air Defense Artillery is the predominant player in active defense. At the moment, Air Defense Artillery's Patriot battalions are the sole active defense against TBMs. The fielding of the Theater High-Altitude Area Defense (THAAD) and Corps SAM systems will greatly strengthen active defense.

Passive defense consists of the measures, such as camouflage, electronic countermeasures, chemical and biological countermeasures, and the defensive hardening of command and control assets, that friendly forces employ to deny enemy reconnaissance, surveillance

and targeting. It reduces the vulnerability of critical forces and supporting infrastructure by providing enhanced physical protection.

Battle management/C<sup>4</sup>I supports timely execution of the TMD mission. C<sup>4</sup>I must become the common base, or link, between the pillars of TMD. Currently, Army Aviation cannot provide C<sup>4</sup>I links to all joint assets, but in the future, communications materiel programs now in the development stage will eliminate this deficiency. The Army Airborne Command and Control System (AACCS) console on the UH-60 Blackhawk can serve as the critical link between various sensors and attack aircraft through digital links from JSTARS aircraft. Another important aspect of C<sup>4</sup>I is immediate and responsive airspace management. Integrating AACCS into joint airspace management is essential to successful employment of attack systems, including Army Aviation assets, ATACMS and unmanned aerial vehicle sensors.

The Army, Air Force and Navy, which are working to develop a joint TMD system, are still debating roles and missions. Make no mistake, to accomplish the TMD mission, we will have to rely heavily on other joint assets.

How about Army Aviation's role in TMD? Here's an example. There were 88 Scuds launched during the Gulf War, and about 4,859 sorties were flown against Scud infrastructures and forces. Until a few months ago, there were no confirmed kills of mobile Scud launchers; however, we now know that Army Aviation attack helicopters of the 160th Special Operations Aviation Regiment were responsible for the destruction of enemy Scud launchers. To kill them, somebody has to see them. Army Aviation can do this and confirm battle damage assessments.

Army Aviation has been a participant in recent TMD demonstrations and experiments, the sort of proactive efforts that we must continue. Upcoming TMD experiments, such as the advanced war-fighting experiment (AWE) that will be

incorporated into Exercise Roving Sands at Fort Bliss, Texas, in April 1995, are critical to the interservice cooperation and battle lab experimentation that will provide solutions to TMD shortcomings.

Some of the challenges facing Army Aviation are C<sup>4</sup>I integration of TMD assets, including airspace management, attaining and processing real-time targeting information, range of aircraft, and payoff vs. risk decisions involving mission requirements and funding. While the challenges are many, Army Aviation's AH-64D and Comanche bring significant range, lethality, connectivity and survivability enhancements to the TMD mission. As revealed by the opening paragraphs of this article, our digitization programs will provide an important in-flight divert capability to high-priority targets. Since the key to destroying a TBM is accurate and timely information, digitization will pay huge dividends.

The TBM threat is real and undeniable. Mass proliferation of TBMs poses a serious threat to our maneuver forces in contingency operations. Recent changes in our Army's force structure, mission and doctrine have affected the way we do business. TMD is an important aspect of these changes, and our leaders have placed a high priority on the TMD mission. New systems will enhance our TMD effectiveness, and we may change our tactics, techniques and procedures based upon METT-T; however, our deep attack doctrine provides a solid foundation for the TMD mission. There is no compromise for protecting the force, and Army Aviation has proven in peace and in war to be a major contributor in doing just that!

*Maj. Gen. Ronald E. Adams is the chief of Army Aviation. A slightly different version of his article on Aviation's role in theater missile defense appeared in the September-October issue of Aviation Digest, the professional journal of Army Aviation.*

# THEATER MISSILE DEFENSE

## *Advanced warfighting experiment top TRADOC priority*

by Capt. Daryl R. Youngman

The Theater Missile Defense Advanced Warfighting Experiment (TMD-AWE) is one of the U.S. Army Training and Doctrine Command's (TRADOC's) "center of gravity" efforts. Designed to increase U.S. warfighting capability across all battlefield operating systems, it will impact all of the battlefield dynamics. TRADOC has designated TMD-AWE as FY95's highest priority experiment. All TRADOC service schools, various project management offices and Department of Defense agencies involved in TMD are participating.

The TMD-AWE began in April 1994 with a 60-day "Manhattan Project," the first step in integrating the elements (often referred to as the "four pillars")

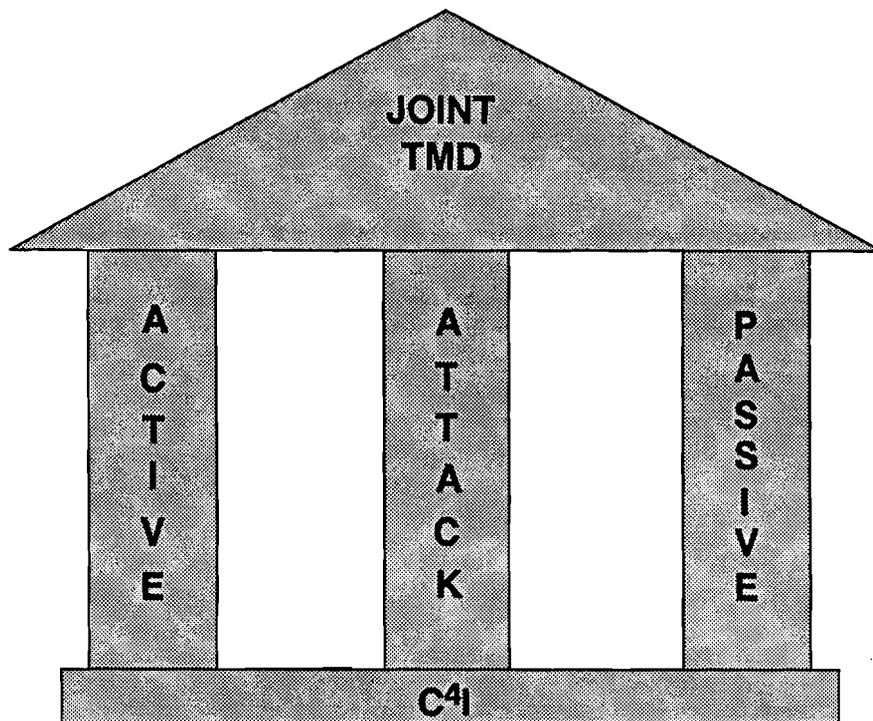
of TMD: active defense, attack operations, passive defense and command, control, communications, computers and intelligence (C<sup>4</sup>I) into a cohesive force. As a result of that effort, Gen. Frederick M. Franks Jr., the recently retired TRADOC commander, appointed Maj. Gen. James J. Cravens Jr., chief of Air Defense Artillery, as the TMD executor and directed him to conduct a full-scale TMD-AWE.

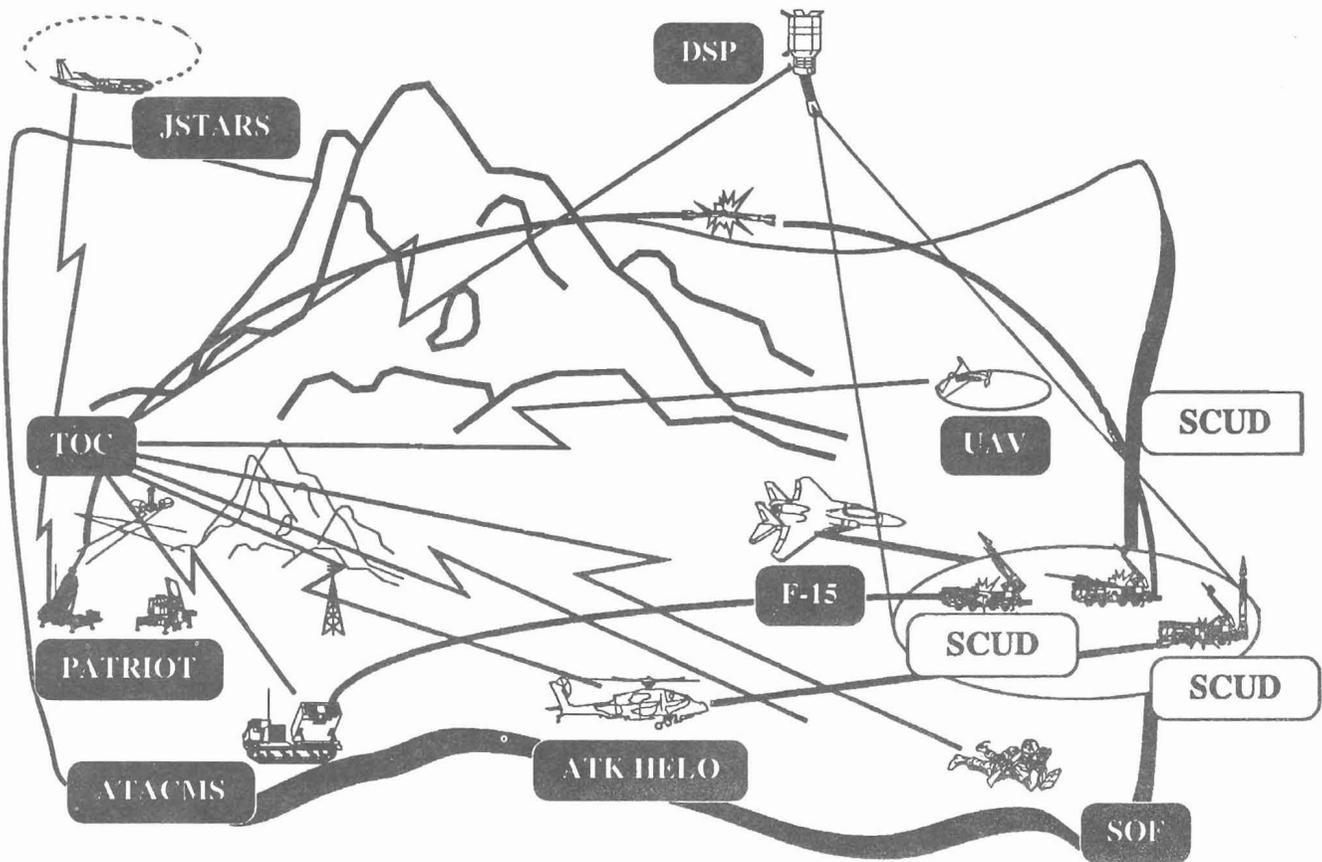
Joint Chiefs of Staff Publication 3-01.5, *Joint Theater Missile Defense Doctrine*, provides doctrinal guidance for the execution of joint TMD. It emphasizes that TMD operations are complex and that all elements of TMD should be integrated to maximize effectiveness in countering enemy missiles.

Prior approaches to TMD development in the Army had been stovepiped. The Air Force, Navy, Marine Corps and Army — and separate combat arms within the Army — tried to develop individual approaches to the four pillars of TMD and set about developing their own TMD doctrine and tactics, techniques and procedures. After reviewing *Joint Theater Missile Defense Doctrine*, the Army leadership recognized the need to develop a holistic (interactive rather than segregated) approach to TMD.

The TMD-AWE will integrate TMD efforts across services and branches (as shown on the facing page) to develop a cohesive TMD force. The TMD-AWE's hypothesis is: "If national, joint and Army capabilities are integrated into a cohesive tactical missile defense force that counters the enemy across multiple phases of operations (pre-attack, attack and post-attack) by melding attack operations, active defense and passive defense operations together, using a robust C<sup>4</sup>I system, then the synergy attained provides strategic-level effects allowing no sanctuary for conventional and unconventional tactical and ballistic missile operations, thereby enhancing force survivability and lethality while minimizing casualties."

In support of its hypothesis, the TMD-AWE is addressing five issues. The first issue is to find the preferred, holistic operational concept for an integrated Army TMD that supports Joint Chiefs of Staff doctrine and the specific tactics, techniques and procedures required to execute that concern. The next issue is to identify the interrelationships, interdependence and synergy amongst TMD operational elements.





The third issue is to determine the capabilities and shortfalls of Army TMD as they exist today and will exist at the expiration of Program Objective Memorandum (POM) FY96-01, the Army management tool that defines program parameters. The fourth issue is to identify doctrine, training, leader development, organizational design, material and soldiers solutions sets available now, or in the future, that could provide significant improvements in TMD capability if additional resources were provided. The final issue is to provide a strategy for investment in technology and equipment that will provide the greatest payoff in improved TMD, focusing on POM FY98-03.

The TMD-AWE is using a four-tiered approach to address the above issues. First, the TMD-AWE will build on prior and concurrent efforts by using insights and lessons learned from other AWEs and commander-in-chief's experiments by intellectually linking common TMD

objectives and issues. Second, the TMD-AWE will do a force and threat laydown based on current and projected U.S. and threat force structures. Third, the TMD-AWE will conduct an analysis using models and simulations to integrate all elements of TMD and to gain insights on current and programmed force structures. Finally, insights gained from the above will be assessed in Joint Project Optic Cobra 95-1, the U.S. Army Central Command TMD experiment that is overlaid on Roving Sands Joint Air Defense Exercise '95. The result of the live-fire exercise will then be fed back into the modeling and simulation effort to further refine their results.

The overall efforts of the TMD-AWE will result in three products approved by Gen. Gordon R. Sullivan, Army chief of staff. The first product will be an Army TMD operational concept that addresses "How the Army Ought to Fight TMD." The second product will be an integrated TMD tactics, tech-

niques and procedures handbook that will focus, in detail, on how the Army can fight now and in the near future, given the state of friendly TMD capabilities against the threat. The final product will be an integrated assessment of Army TMD that will provide input into the Army's investment strategy for POM FY98-03.

The TMD-AWE is a high-payoff endeavor that will increase TMD warfighting across all battlefield operating systems and impact all of the battlefield. Additionally, the TMD-AWE will enable informed decisions about future programmatic and roles and missions issues.

*Capt. Daryl R. Youngman is assigned to the Theater Missile Defense Advanced Warfighting Experiment Special Action Team, Directorate of Combat Developments, U.S. Army Air Defense Artillery School, Fort Bliss, Texas.*

# Congress Revives Roles & Mission Debate

by Maj. Steven M. Brouse

Next spring, a commission tasked to review roles and mission allocations will recommend whether the Army should surrender its national missile defense (NMD) and theater missile defense (TMD) missions to the Air Force. A final decision that favors the Air Force would send the Army's high- to medium-altitude air defense (HIMAD) systems to the Air Force, stripping Air Defense Artillery of all but its forward area air defense (FAAD) weapon systems.

Congress recently assessed the process that the Department of the Army uses to review service roles and missions and concluded that "it is difficult for any organization to reform itself." As a result, the FY94 Defense Authorization Act directed the Secretary of Defense to establish an independent commission. The Commission on Roles and Missions of the Armed Forces is tasked to accomplish three primary objectives. The first is to review the efficiency and appropriateness of current roles and mission allocations among the armed forces. Secondly, the commission is to evaluate and report on alternatives to the current allocation of roles and missions. Finally, the commission will recommend changes in the current definition and distribution of roles, missions and functions.

The 10-member commission convened in May 1994 to begin collecting information, including input from the services and the unified and specified commands. The commission will use the information to identify gaps and duplications in service capabilities. The commission's report is due to the Department of Defense and Congress in May 1995, with the final results due in August or September the same year. The report will be included in the chairman's of the Joint Chiefs of Staff Triennial

Report on Roles and Functions, a document that assigns roles and missions.

In October, the commission selected 25 specific issues to address. Two, both nominated by the Air Force, affect Air Defense Artillery. A third issue, also nominated by the Air Force, could indirectly impact Air Defense Artillery.

The first issue that impacts Air Defense Artillery is the assignment of responsibility for air and missile defense of the United States. The Air Force desires this responsibility; however, their position challenges the Army's traditional NMD role. Army anti-aircraft and surface-to-air missile (SAM) batteries defended America throughout the '50s and '60s. The Army fielded, then scrapped, the Safeguard anti-ballistic missile system in 1970 when treaty restrictions limited its deployment.

The second issue is: "How should we organize to do theater air and missile defense, and what is the correct balance between defense from, and offense against, theater air and missile threats?" The Air Force asserts that the increase in the Army's point and limited area defense capability; the Air Force's increased capability to suppress elements of air and missile threats at their source, or early in flight; and the Navy's extension of sea-based detection, cueing and active defense mechanisms creates significant overlaps and would hinder effective employment of these systems in wartime. The Air Force contends that multiple programs focusing on the tactical ballistic missile (TBM) have increased mission overlap, resulting in the potential for excessive duplication in capabilities. Additionally, the Air Force maintains that fragmentation of development efforts has resulted in a shortfall in the military's ability to deploy rapidly, kill cruise missiles and kill a TBM prior to booster burnout. Lastly, the Air Force asserts that equipment incompatibilities and training differences make it difficult for a joint force commander to integrate a near leak-proof theater missile defense without risking fratricide.

To solve problems they contend exist, the Air Force proposes the transfer of all HIMAD systems to the Air Force, including the Corps SAM and Theater High-Altitude Area Defense (THAAD) system, while leaving FAAD systems in the Army. The Army views this issue as an attempt to sacrifice the ground commander's ability to protect his forces and ensure their ability to maneuver in exchange for the Air Force's "freedom of maneuver." It would reduce airspace control restrictions and give the Air Force control of Patriot PAC-3, THAAD and Corps SAM funding. A major Army concern is that HIMAD, particularly Corps SAM, funding would be diverted to the development of boost phase intercept technology, a high-risk, unproven technology, but an approach to TMD that supports the acquisition and/or retention of airframes.

The third issue, which could indirectly impact Air Defense Artillery, is who should control the deep battle and command all deep-operations systems, including fighters, bombers and the long-range Army Tactical Missile System (ATACMS). Its resolution could degrade the Army's ability to execute integrated TMD. The Air Force maintains that the deep battle should be fought with Air Force and Navy assets. In support of its position, the Air Force contends the battlefield should be divided into high, deep, close and rear area battles. The Army contends that this approach segments the battlefield and places severe constraints and restrictions on the land component commander that would be unacceptable on tomorrow's dynamic battlefield.

The Army's arguments to retain its roles are based on joint doctrine that states that decisive victory will be achieved on land. Therefore, it is critical that the Army control the land battle and have the weapons it needs to protect its soldiers.

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# NON-TRADITIONAL SUPPORT

*The light division ADA battalion in non-traditional roles*

*by Maj. Martin N. Stanton*

ADA battalions in light divisions often find themselves the "odd men out" of a deployment to low-intensity conflicts (LICs) and operations other than war (OOTW) due to the lack of a substantial air threat. During the deployment to Somalia, however, the 10th Mountain Division used ADA assets in non-traditional roles, such as transportation augmentation to light infantry units and convoy security. The 10th Mountain Division's ADA battalion had also played a key role in the divi-

sion's earlier efforts during the Hurricane Andrew relief operation in South Florida.

Since the worldwide strategic situation practically ensures the future occurrence of LIC and OOTW missions involving light infantry divisions, light ADA battalions can expect to be assigned more non-traditional missions. Leaders in these battalions obviously need to consider how best their organizations can contribute to the division's missions.

## **Defining the Environment**

ADA units are oriented, as they should be, to their primary function of air defense. Air threats exist even in "low air threat" environments. However, many missions allocated to light divisions today involve a "no air threat" environment. The threat may consist mainly of groups of guerrillas or bandits, usually of a hundred men or less, armed with infantry small arms. They may be highly organized forces like those in El Salvador or Mogadishu, or

they may be loosely organized bandit gangs like those encountered in other places in Somalia. In either case, the division commander is left with a unit on his division troop list that has no use in its primary function.

The often-dispersed nature of LICs and OOTW demands a significantly greater number of motor transport vehicles than the number organic to a light division. They also require drivers who are skilled land navigators. LICs and OOTW require mounted (main supply route, roving patrol) and dismounted (fixed-site) security elements. The light division combat service support assets are too sparsely manned to provide their own security, and the Military Police company alone does not have sufficient strength to handle the rear security function. Infantry battalions often operate over extended areas with insufficient transportation, causing them to shuttle forces and forcing staffs to constantly juggle movement requirements with the availability of trucks. Hummers often prove invaluable (there are usually not enough to go around) for quickly moving troops into position for cordon and search operations.

The divisional ADA battalion, in many ways, is uniquely organized and trained to contribute to the division's LIC and OOTW missions. This battalion has inherent key equipment and organizations that make it invaluable even in a "no air threat" environment. Some of these assets are listed below:

- Hummers that can be converted to flatbed use.
- Firing batteries that can be dismounted for local security roles.
- An extensive array of communications equipment that can extend the division's capabilities or provide redundant communications.
- A complete battalion headquarters and staff that can be used for a variety of special missions.

— Highly trained combat arms soldiers who are skilled in mounted navigation and communications.

The division commander can choose to employ the ADA battalion as a self-contained tactical unit or cross-attach elements of the battalion to increase the capabilities of other divisional units. Before we consider either of these possibilities, let's identify how an ADA battalion would reconfigure for LICs or OOTW.

#### Reconfiguration

The Avenger/Stinger battalion will be somewhat more limited in the roles it can play due to the single-purpose

sights. Considering the number of Avenger/Stinger battalions in the Army, the number of weapons and sights required for this would be small and well within the current capabilities of equipment available from inactivating units.

#### Employment of the ADA Battalion

Employed as a single unit, the divisional ADA battalion would consist of two line batteries (security) and a headquarters and headquarters battery. The battalion missions would consist of the following:

- Main supply route and convoy security (mounted).
- Critical site security (dismounted).
- Rear area security (mounted and dismounted).
- Area of operations headquarters.
- Coordination of non-governmental organizations.

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### **Peacekeeping**

*The prevention, containment, moderation and termination of hostilities between or within states . . . using multinational forces of soldiers, police and civilians to maintain peace*

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nature of the Avenger platform. The weapon system cannot be dismounted, and deploying the Avenger on an OOTW operation simply to use the .50-caliber machine gun secondary armament in a ground role is impractical. However, the command and control functions the ADA battalion headquarters can provide are still applicable. Additionally, the headquarters and headquarters battery assets can still be used in a transportation augmentation and support role. The actual Avenger battery personnel would probably be best employed in installation security missions. The battery would leave its weapon systems at home but take all other vehicles.

The batteries would require augmentation in automatic weapons to provide firepower to the installation defense. A change should be made in the battalion's table of organization and equipment to reflect this secondary mission. The change should also include the requisite number of night

*Main Supply Route and Convoy Security.* ADA units could provide main supply route or convoy security in an LIC or OOTW environment when the threat is small or disorganized. Convoy escorts should consist of at least five or six vehicles, with 25 to 30 personnel and at least two M-60 machine guns. All vehicles should have radios and sandbagged floors. Main supply route security patrols should consist of two or three vehicles and 12 to 15 personnel. All vehicles should have radios, and patrol vehicles should have at least one automatic weapon. Each patrol or convoy escort should have at least one global positioning system and should tune radio communications to the command frequency at all times. ADA units would conduct short duration (one day or less) escort missions while the infantry and cavalry units would conduct the longer range and longer duration convoy escort missions. This would allow ADA escorts to operate safely in areas reaction forces could quickly reach.

More out-of-reach operations would go to more robust ground combat organizations with the firepower to take care of themselves for longer periods. ADA units would attempt to overwhelm only extremely small (squad-size or smaller) elements of enemy forces due to their light armament. ADA patrols that contact larger forces should report and maintain the contact until a more robust reaction force, comprised of infantry and attack helicopters, could arrive.

*ADA Battalion in Security Operations.* Because of the lack of enemy air or other weapons of mass destruction, base clusters in LICs or OOTW will often be large, consolidated affairs assembled with an eye toward security as opposed to dispersion. The ADA battalion could be task organized into two dismounted security batteries, with all soldiers carrying their individual small arms and selected vehicles per each battery to provide transportation. Deploying the battalion in this manner would augment the organic security elements of combat support and combat service support units. The ADA soldiers would provide perimeter security and assume local patrolling responsibilities for portions of the main base cluster elements of the division, such as aviation and logistics units. This would augment their efforts and allow division support command units to maintain a more effective tempo of support operations.

*ADA Battalion Headquarters as Rear Area Operations Center.* The ADA battalion tactical operations center could become the rear area operations center, providing the command and control of the defense of the base cluster area. The ADA battalion commander and his staff would organize base area security, integrating all tenant units into the defensive plan and working out contingency schemes of maneu-

ver. Ideally, this tasking would include integration of the ADA battalion into the overall rear area scheme of maneuver; however, the ADA battalion staff could perform this function even if all the vehicles and personnel of the batteries were cross-attached to other units.

Dedicating the ADA battalion commander and staff to this task frees the tenant agencies of the planning and coordination responsibilities of cluster defense and, at the same time, allocates the vital task of cluster defense to a mature field grade officer with a complete battle staff. The base defense operations net could be the ADA battalion net, thus freeing up the primary opera-

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### **Peace Enforcement**

*Military operations by sea, air or land forces as may be necessary to maintain or restore international peace and security, whether or not the belligerents are consenting to the intervention*

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tions nets for other-than-base defense operations. The base clusters in Somalia at the university and embassy and at the Mogadishu and Baledogle airfields were all crowded with units from many different services and nations. A single dedicated base cluster commander and staff, with no other duties, would have been most helpful. The ADA battalion commander and his staff would plan and monitor patrol operations in the immediate vicinity of the base cluster and the scheme of perimeter defense. The tactical operations center would collocate with the base cluster main command post to ensure full integration of security and support operations. If possible, a dedicated reaction force of infantry or military police would be placed under operational control of the ADA battalion commander for his dedicated reaction or patrolling force. If not, then security patrols would have to be constituted out of tenant units within the cluster, causing a corresponding drop in support efficiency.

*ADA Battalion Headquarters as Command and Control for an Area of Operations.* In LICs or OOTW, battalion headquarters element responsibilities may include a very large area of operations. 2-87 Infantry's area of operations in Somalia, for example, was twice the size of Rhode Island. The ADA battalion would supervise and control all tactical and humanitarian operations within the area of operations. These large areas of operation require a full-up battalion staff to run. The ADA battalion headquarters could form the basis for a task force that could include Infantry, Engineers, Military Police, Aviation and support units.

While it is unlikely that the ADA battalion would be employed for such a mission in active guerrilla warfare (i.e., Level 3 guerrilla warfare such as U.S. forces conducted against Viet Cong main force units in Vietnam), it could function well enough

under the lower threat environments of Level 1 guerrilla warfare and banditry encountered in Somalia.

*ADA Battalion Headquarters as Point of Contact and Coordinator for Non-Governmental Organizations.* The ADA battalion headquarters could serve as the single interface with all non-governmental organizations in any future humanitarian mission. This single point of contact approach would free up the joint task force headquarters from the parade of supplicants who were always present in the early stages of Operation Restore Hope. The battalion staff could organize all of the requests and coordinate them with the proper agencies.

Just exactly what missions the ADA battalion receives would depend largely upon the joint task force's overall mission, the amount of rolling stock the battalion was able to bring due to deployment space restrictions, the nature of the threat and the nature of the area of operations. For example, the area of

operations in Somalia was huge, and every Hummer was worth its weight in gold. A key consideration for employment of the vehicle-heavy ADA battalion would be mobile security operations, such as convoy or main supply route security. However, if space restrictions preclude the ADA battalion from bringing all its vehicles, then assigning main supply route security as a mission to the ADA battalion is impractical. Even with few vehicles the ADA battalion could have been useful in site security operations around such areas as the university compound or the airfield in Mogadishu.

A good rule of thumb for considering employment of the ADA battalion as an independent tactical entity in LIC or OOTW security roles is as follows:

— The lower the threat level, the greater the use of employing the ADA battalion as an independent mobile security force.

— The higher the threat level, the less use an independent ADA battalion has. Limit the roles for the ADA battalion in this environment to dismounted security of key sites and activities or transportation augmentation to infantry battalions.

— The ADA battalion is generally good for one of two missions: it can be left mounted to perform mounted security patrols, convoy security or main supply route security; or it can be dismounted to provide fixed-site security to key combat service support facilities. With less than 350 soldiers, it cannot perform both functions very well.

#### **Employing Subordinate Units**

In some circumstances it may be more advantageous to cross-attach elements of the ADA battalion to other units in the division. For example, restrictions on aircraft and ship space precluded deployment of the entire 10th Mountain Division to Somalia. But selected ADA units deployed because of their value in secondary roles. In other circumstances, the level of enemy threat would limit the use of independently operating ADA units due to their

lack of organic firepower for ground combat (i.e., no mortars or machine guns). ADA units would still have use in other missions, such as site security and transportation augmentation. Some considerations for employment of subordinate ADA units follow.

*Employment of Stinger platoons.* The Stinger platoons, with their high-vehicle and low-personnel densities, are perfect for augmenting light infantry battalions with Humvees. With missile racks removed and side racks replaced, they effectively add another section to the support platoon. As an added bonus, each has an FM radio that comes in handy when moving troops. The 12-vehicle Stinger section can motorize two (+) rifle company platoons with one squad per Stinger vehicle along with command and control and attached mortar elements. This exponentially increases the mobility available to the light infantry commander.

Additionally, there is the added bonus of having ADA personnel proficient in land navigation and radio communications with each vehicle. The Stinger section leader would, in effect, become a second support platoon leader who would remain in charge of his section and other attached vehicles, and who could direct the movement of vehicles once troops are dismounted. This would free up the infantry battalion support platoon leader to supervise other support aspects of the operation. Task Force 2-87 Infantry in Somalia had a Stinger section attached for almost the entire deployment. The extra vehicles and skills this section brought to the battalion were critical to the success of more than one operation against bandits and warlord forces.

If Stinger platoons deploy as an ADA package under control of the ADA battalion, each should leave half its vehicles behind to achieve a density of at least four troops per vehicle. The platoons could then conduct limited convoy security, patrol operations and dismounted security operations around base clusters.

Stinger platoons limited to one or two vehicles should dismount their AN/GRC-160 radios and use them as PRC-77s to facilitate static defense or local patrolling. Extra automatic weapons and grenade launchers would also help.

*Employment of Avenger Platoons.* Avenger platoons are more limited than Stinger platoons because the weapon system cannot be moved from the vehicle. Presently, the most practical use for Avenger units would be dismounted security. If, in the future, the Avenger gets a more robust gun armament (for example, a twin or quad .50-caliber machine gun), then the Avenger would have more use in LICs and OOTW.

#### **Summary**

With the number of maneuver battalions in the Army decreasing and the number of LIC and OOTW missions increasing, ADA units will often be assigned non-traditional missions. ADA units are more than up to this task. With little training and slight table of organization and equipment modifications, ADA units could provide further important service to their parent division, even in a "no air threat" LIC or OOTW environment.

*Maj. Martin N. Stanton wrote this article while assigned to 3-62 ADA, 10th Mountain Division (Light Infantry), Fort Drum, N.Y.*

# SOMALIA AMBUSH

by 1st Lt. Jack E. O'Savage

We were conducting a security patrol along the main supply route (MSR) outside of the town of Burr Leggo. Our security patrol consisted of one hardback gun truck, the commander's vehicle, a vehicle containing counter-intelligence personnel and an interpreter, my vehicle with five members of my platoon and another hardback gun truck, in that order.

A report from an MP checkpoint alerted us to activity in the area we were about to patrol. We then pulled over to let a Somali truck decoy the security patrol. We were operating in total blackout, and the Somali truck was unaware of our presence. We were following about 500 meters behind when the truck suddenly disappeared from the road. We could not locate it, even using thermal scopes.

We crept forward at about five miles per hour, until we were at the location where we last saw the truck. Until now we had heard no shots and detected no movement. As the lead truck approached this point, a sudden burst of automatic fire came from the brush, hitting our lead vehicle several times. Through my night vision goggles, I could make out the truck and numerous muzzle flashes.

The mounted M-60 gunner on our lead truck immediately returned fire, and my driver instinctively herringboned away from the hostile fire. We dismounted, assumed positions along the MSR, oriented ourselves toward the hostile fire and began to return fire. We were receiving fire from multiple locations, and visibility began to blur with all the tracer rounds and muzzle flashes.

Control was essential, so I established communication with my squad leader and team leader and told them to ensure they maintained a clear field of fire and that no one crossed in front of anyone else's fire. The gun truck behind my vehicle opened up into the brush, and shots from an unknown location began ricocheting off the road to our rear. I halted our movement toward the hostile fire because I had no idea of the exact location or number of bandits in the brush.

Our commander then radioed for my vehicle to move to the front of the patrol. By this time, all firing had ceased. The commander ordered me to take my five men and clear and secure what I'll call the objective. I told my men to stay in Ranger file and maintain visual contact with the person in front of and behind them — easily achieved because we all were wearing AN/PVS-5s with the infrared light on. We came abreast of the Somali truck and readily saw that many people were either critically wounded or killed; what was not obvious was whether they were the bandits or civilians riding on the truck. Our patrol thoroughly searched each body, dead or alive. This was a difficult task; the M-60 fire unleashed at close range had a devastating effect. Many of the bodies had multiple wounds. About 15 meters past the truck we encoun-

tered a wounded Somali groveling on the ground. The thick brush made it difficult to determine whether or not the individual was armed. My squad leader sent the other fire team around to the right side of the body, and we slowly began to move toward the Somali. No weapon was openly visible, but the Somali was oddly positioned, as if he were hiding something — perhaps a weapon or grenade — under his arm. With the fire team providing cover, two members of the squad searched the wounded Somali. We discovered that the obscure position of his arm was due to the fact that it was only attached by a very small fragment of skin. This painted a bleak picture of the reality of the situation. Our attention was suddenly redirected by a considerable amount of movement to our front.

We left two men to cover the wounded Somali, because we did not know whether or not he was a bandit. As we moved on, our designated gunner discovered numerous blood trails in the objective area, and we began to slowly follow them. They led to a set of tire tracks that, not surprisingly, resembled tracks that might have been made by a small pickup truck. We continued the patrol until we cleared about 100 meters out from the Somali vehicle and determined that the bandits must have escaped in the truck. Upon returning to the Somali truck, we found numerous expended AK-47 brass but no weapons. The surviving civilians began to inform the interpreters of the situation.

Ten or 12 armed Somalis had been looting vehicles in the area. The civilians pointed out that the Somali with the dismembered arm was one of the bandits. We assisted the wounded civilians by applying whatever aid possible. The commander requested a MEDEVAC and we selected and cleared a landing zone while my combat lifesavers continued to apply IVs and other medical attention. When the quick reaction force platoon arrived and established security, my men and I focused our attention on assisting the medics. After the wounded passengers were treated, we carried in the wounded bandit. His blood loss collapsed his blood vessels; we could not administer an IV and he died.

Being an air defense platoon leader of Vulcan and Stinger soldiers, I hadn't visualized myself in such a situation. The instinctive soldier skills that each member of my platoon possessed enabled us to survive and ward off an attempted ambush. The soldiers on that patrol demonstrated courage and valor. For most of us, this was our first time under fire. The incident proved that only effective training and dedication to mission accomplishment allows us to survive and win.

*1st Lt. Jack E. O'Savage was the leader of 1st Platoon, B Battery, 3-62 ADA, Fort Drum, N.Y.*

# ADA DIGEST

## COMBAT TRAINING CENTERS



## STINGER AMBUSH!

Many battery commanders who arrive at the Joint Readiness Training Center (JRTC) intermediate staging base or who deploy to the mythical island of Aragon say they want to stage a Stinger ambush, undoubtedly the most difficult mission a Stinger team will ever execute.

What is a Stinger ambush? An air defender will be hard pressed to find any written doctrinal guidance on this proven technique, although FM 44-64 (*FAAD Battalion and Battery Operations*) will provide some guidance when it is published, probably during the second quarter of FY95. FM 44-100, *U.S. Army Air Defense Operations*, somewhat addresses the question in terms of "attacks and raids." It states the two "are conducted to create situations that permit seizing and maintaining political and military initiative and normally executed to achieve specific objectives or to demonstrate U.S. capability and resolve to achieve a favorable result. Raids are usually small-scale operations involving swift penetration of hostile territory to secure information, temporarily seize an objective or destroy a target." FM 44-100 states that Stinger units are ideal for these types of operations because they provide force protection and defend critical assets in support of the raiding or attack party.

The Stinger ambush certainly has the characteristics described above, but it entails much more. A Stinger ambush is the offensive use of a Stinger team deployed well forward of the line of departure (LD) or line of contact (LC) in a predetermined position or area to destroy enemy aircraft.

How do we get to the predetermined position to destroy enemy aircraft? Successful accomplishment of this mission requires intensive planning, preparation, coordination and precise execution. Unfortunately, many leaders and teams routinely forget, neglect or wish away many key items, a habit that produces a destroyed Stinger team and mission failure and permits unimpeded enemy air activity in the targeted region.

Describing planning, preparation, coordination and execution in detail may help clarify the critical actions and activities that should occur to greatly enhance the likelihood of a successful mission. These actions and activities are not position specific, because this operation is METT-T driven and depends upon whether a platoon or battery is planning, preparing and coordinating the ambush.

### Planning

The aerial intelligence preparation of the battlefield (IPB) serves as the starting point. The initial IPB must include an evaluation of the battlefield area and the threat. An analysis must include the effects of weather and terrain on the

enemy. Using historical track information combined with salute reports (usually provided by special operations forces operating deep within the area of interest) will validate or invalidate the initial or templated aerial IPB.

Armed with the latest intelligence, the air defense officer (ADO) must integrate his concept with the supported task force. Nearly every member of the brigade or battalion staff should be involved, because each of them will support the operation in some fashion. Following is a list of the staff members and some of the coordination and integration that should be accomplished to further increase the chances of a successful Stinger ambush.

S-1. Coordinate casualty assistance. (What is the brigade or battalion casualty evacuation plan? Where is the nearest casualty evacuation point?)

S-2. Obtain the latest intelligence from the intelligence summaries and salute and spot reports. (What are the current and anticipated enemy activities? What are the most probable, most dangerous enemy courses of action?) Review the reconnaissance and surveillance plan. (Within the planned Stinger ambush area, where are the nearest friendly elements operating?) Obtain current weather and light data.

S-3. Obtain the current disposition of friendly forces. (Does the Stinger ambush support the brigade's or battalion's current and planned operations?)

S-4. Determine the availability of required supplies.

*Fire Support Officer.* Review the fire support plan. (Who or what can range the planned Stinger team position? Is naval gunfire or close air support available? What are the locations of the pre-

planned targets, including the family of scatterable mines?)

**Air Liaison Officer.** Confirm close air support availability, pre-planned targets and anticipated aircraft station times and locales.

**Aviation Officer.** Determine the availability of aviation resources (lift) for insertion and extraction of the Stinger team. Seek assistance in determining likely landing and pickup zones (gun camera tapes may be available — ask). Determine the availability of attack helicopters; they may be required for an emergency extraction of the Stinger team.

**Special Operations Command and Control Element.** Determine the locations of any friendly elements operating within the anticipated area of operation. Outline any additional information on enemy activities within the anticipated area of operations.

**Civil Affairs.** Identify local population centers and the attitude of the populace.

**Signal Officer.** Offer advice on a workable communications plan. Obtain additional frequencies, if required.

While the above list is probably not all-inclusive, the information obtained from each of these staff officers will provide a solid starting point and will enable the ADO to refine his concept into a plan for a successful Stinger ambush.

During the development of the plan, several areas will require the ADO to consider and analyze multiple courses of action, and then determine the best course of action to accomplish the Stinger ambush. These critical areas will require a significant investment in time and detailed coordination to ensure successful execution. These areas include the plan for the insertion of the Stinger team, the communications plan and the extraction plan. Unfortunately, these are the areas most often neglected or uncoordinated.



Preventive maintenance checks and services should be a part of all pre-combat inspections.

**Insertion Plan.** Aviation provides a swift, relatively secure (through the use of false insertions) means of transporting the Stinger team into the designated area. However, potential challenges may arise due to weather, helicopter maintenance or crew endurance requirements. Armored vehicles have successfully transported Stinger teams to an objective rally point in the vicinity of the ambush site. However, like the helicopter support, the armored vehicles are highly susceptible to maintenance failure, are routinely overtasked and present a large signature. A final possibility for getting the Stinger team into position is to have them dismount and make their own way. Obviously, distance to the site and time available become major factors for consideration with this option. While each of the above methods or some combination thereof offers a potential solution, the key to success remains thorough planning and rehearsals.

**Communications Plan.** What will be the distance involved? Will FM radios

work? In many cases, only AM (man-pack) radios will cover the distances between the team and the ADO. What is the backup plan in the event of lost communications? Predetermined frequencies and times to come up on the net offer a possible solution. What is the early warning plan? Most probably, due to distances and the soldiers' load considerations (only deploying with one radio), the controlling ADO will direct early warning. Again, the key to success lies in determining a plan, developing contingency responses and rehearsing the plan.

**Extraction Plan.** What is the criteria for executing the extraction? On the outside, 48 hours has generally been the maximum time Stinger teams have operated in an ambush. But what if the team is successful, or has been compromised, or has to abort the mission? ADOs must plan for these contingencies. Establish pickup zones or linkup locations, friendly recognition markings, radio frequencies and call signs. Failure to plan could very well result in the loss of the Stinger team.

After refining the plan the ADO must wargame his plan, ensuring that all contingencies are addressed. The ADO must issue the plan, keeping in mind the 1/3, 2/3 rule that will allow the subordinate elements to properly prepare to execute the mission. Equally important in the timeline is allowing adequate time to rehearse the plan.

#### **Preparation and Coordination**

Afford Stinger teams the maximum time available to prepare for and coordinate the ambush. The ADO must adjust his air defense design to ensure that coverage of air defense priorities remains in place while teams are brought in to prepare for the Stinger ambush.

A detailed PCI will ensure that the Stinger team takes only those mission essential items needed to conduct the ambush. ADOs must pay close attention to the soldiers' loads and the distribution of weight and equipment between them. For example, is there a need to carry the IFF? Certainly not, based upon the mission and the commander's intent. Is there a need to take FM radio? Again, based upon METT-T and the distances involved, probably not. Evaluate all equipment that is typically carried, determine its usefulness and, if it will help you accomplish the mission, take it.

During the PCI, conduct preventive maintenance checks and services (PMCS) on all the equipment. It won't do the Stinger team much good to arrive at the ambush site only to discover they have carried a bad Stinger round or that the radio will not transmit. Numerous missions have failed due to a PMCS oversight.

One final portion of the PCI: doublecheck the team to ensure they have no graphics, statements of intent or orders. An all-too-common

occurrence involves the Stinger team having such documents (with no reason) and becoming casualties or getting captured. The result is a serious operations security compromise that ultimately damages the supported unit.

Detailed rehearsals will greatly improve the probability of success. Rehearsals should not only focus on the entire operation, they should also be walked through phase by phase. This will enhance every team member's understanding of the mission and will assist in the synchronization of the plan. Rehearsing small details, such as entering and exiting the aircraft, communications plans and emergency destruction of equipment, may mean the difference between mission failure and success.

Coordination takes many forms, but clearly the focus must be on reconfirming previous planning and arrangements. Final coordination should involve obtaining any last-minute changes or updates such as intelligence.

#### **Execution**

Execution of the Stinger ambush can be broken into the following areas: infiltration, target engagement, post engagement actions, exfiltration and the debrief.

Infiltration into the area of operations is routinely more successful when accomplished at night. The team must move quickly and quietly away from the insertion point into a hide position. Ideally, the hide position should be close (100 to 200 meters, depending on cover and concealment) to the firing position. Determination of the hide position must also be made based upon the ability to reach the firing position with sufficient time to engage the enemy aircraft. Keep in mind, the only early warning that may be available

may be based solely on the sound of the aircraft in the event directed early warning is ineffective.

When operating from the hide position, the Stinger team must continue to practice strict noise and light discipline. Equally important is the need to maintain security at all times. The old cliché of "stay alert, stay alive" remains sound advice.

Upon receiving early warning or responding to the aircraft noise, leave the hide position and move along a predetermined route to the firing position. Upon visually identifying the aircraft as hostile, conduct the engagement and shoot the second round, if needed. If multiple targets are presented, shoot the most threatening target first. After a quick assessment of the results of the engagement, the need to displace for survivability becomes paramount.

During post engagement activities, immediately return to the hide position, assess the threat and, if conditions are favorable, move to an alternate hide position. If the team has an additional round, prepare to execute another ambush. If the team is out of missiles, execute the exfiltration plan.

During the exfiltration phase, move to the previously arranged pickup zone or pickup point. Occupy a hide position in the immediate area, maintain security and continue to practice good noise and light discipline while awaiting pickup. One final consideration that should have been previously determined is the marking of the pickup zone or the friendly recognition signal. Planning for this will eliminate confusion, speed up the extraction process and reduce the possibility of fratricide.

Upon the completion of the exfiltration, the Stinger team should link up with the ADO and provide a detailed debrief of their mission, specifically

addressing the degree of success, possible enemy activities noted and any potential targets.

The Stinger ambush represents a new approach in destroying enemy aircraft. As has been illustrated, it is a very complex operation that requires a methodical approach in planning, preparation and execution. However, the benefits that can be attained from a successful ambush provide the maneuver commander with a new capability and will contribute to the success of the supported unit.

MAJ. JAMES OMAN

## WORKING TOWARD SUCCESS

Traditional air defense employment doctrine for the Stinger weapon system has cast Stinger teams in a strictly defensive role. However, in a post-Cold War environment dense with unmanned aerial vehicles (UAVs), helicopters and fixed-wing leakers, Stinger teams will frequently abandon traditional roles and employ their weapon systems offensively. One such technique is the Stinger ambush. The Stinger ambush is not described in current doctrinal manuals, as are traditional defense roles, but if studied, planned, coordinated, rehearsed and skillfully executed, the Stinger ambush offers maneuver commanders an additional dimension and can contribute significantly to the overall success of the task force.



Ambush teams must move quickly away from insertion points into hide positions.

I was first introduced to the concept of the Stinger ambush after hearing of its success from the 1st Battalion, 509th Infantry (Airborne), the opposing force (OPFOR) unit against rotational player units at the JRTC. The concept appeared sound, very aggressive, and you could not argue with its success.

Detailed steps and additional planning went into a successful ambush, for the formula for success was being mastered by the air defenders of the 1/509th. OPFOR air defenders used strict discipline and carefully honed combat skills to execute successful ambushes. They first located an aviation assembly area, laager site or forward arming and refueling point, then conducted a detailed map and ground reconnaissance of the area to determine the threat level and to locate adequate overwatch firing positions. Next, they effected coordination, using code words, with a support platoon and mortar crew. They then inserted a squad that consisted of an SA-14 team (Gremlin/

Stinger) with at least five rounds and a mortar crew. The OPFOR squad then positioned itself in a suitable overwatch position, at least 800 meters from the target, and maintained a security element of two or more soldiers. Next, they called for a 10- to 15-round suppression fire mission on the target, or marked the target with smoke and called in close combat air support aircraft. Then, as the aviation asset executed their scatter plan, the Gremlin/Stinger teams killed the fleeing aircraft. After expending their missiles and creating havoc and destruction, the squad executed its own scatter plan.

Once the ambush team received a basic load resupply, it selected new positions along ingress and egress routes from which to attack surviving aircraft still in the area. The Gremlin/Stinger teams and OPFOR squads would then aggressively conduct reconnaissance and search their assigned sectors to locate and capture Blue Force (BLUFOR) Stinger teams and missiles. Rotation after

rotation, the OPFOR's organic air defenders refined and executed these steps.

Visiting JRTC task forces quickly realized the benefits of air ambushes, and BLUFOR Stinger teams began imitating their OPFOR counterparts, but not with equal results. The successful employment of the Stinger ambush requires detailed coordination, planning, rehearsals and individual discipline at all levels. If a Stinger ambush is not properly planned and executed, you not only risk losing the teams and weapon systems, but all of your efforts will amount to nothing.

The Stinger ambush is an aggressive tactic that requires the battery commander and platoon leaders to break the traditional employment mindset. Air defense officers and NCOs, in general, are not familiar with or prepared to execute Stinger ambushes, a tactic that relies heavily upon the survivability skills of the Stinger team chosen to execute the mission. Many missions were called Stinger ambushes by the BLUFOR, but they amounted to nothing more than a team positioned forward within sector to achieve early engagement. The intent of the task force commanders was to conduct ambushes, but all planned ambushes would fail to materialize for a number of reasons.

The many Stinger ambushes that were attempted exposed numerous shortcomings at all levels. Leaders did not consistently plot historical data or collect enough tracks to validate their initial air intelligence preparation of the battlefield. This significantly affected the positioning of teams on suspected flight paths. Plotting and compiling the early warning tracks passed over the division early warning net would have provided the needed historical data.

Cross talk with the S-2 and reviewing updated intelligence summaries seldom occurred. If a plan was to go forward with a Stinger ambush, the 1/3, 2/3 rule for planning was often violated. Simple warning orders notifying the teams of their pending mission change failed to make their way down to the teams. Teams that did not receive warning orders were denied the opportunity to go through troop-leading procedures or conduct pre-combat inspections (PCIs). As a result, teams did not have needed information and were unaware of the commander's intent.

The Stinger ambush requires proper preparation and rehearsals because the mission is a decentralized autonomous operation. While observing task forces trying to accomplish an ambush, it soon becomes readily apparent whether or not air defenders have conducted home station training. Many times teams selected for an ambush revealed that they had never heard of such an operation or had never trained to execute one.

Even if a team is not trained on a Stinger ambush, the opportunity to venture from the traditional defensive role motivates the teams selected to go forward. The motivation and excitement is often reduced when news comes to the teams that they will be in the dismounted mode. The missed opportunities of conducting PCIs and rehearsals take their toll on the teams when they attempt to keep pace with dismounted infantrymen. Teams usually carry an excessive amount of nonessential equipment, and neglect to pack essential items needed to conduct a sustained decentralized operation. Weaknesses in a team's survivability skills become evident as it maneuvers in the dismounted mode with the infantry.

Land navigation is usually the first weakness exposed. The need to move

under the hours of darkness compounds the land navigation problem. Teams also find it difficult to interact with their infantry security element to conduct proper coordination. Teams frequently lost contact with their security elements on occasions when the teams did not know the movement plan or what actions to take upon contact with the enemy.

Upon arrival at the selected overwatch positions, teams must practice good noise and light discipline and remain concealed until a suspected enemy aircraft is broadcast and plotted in their sector. This requires the teams to accept resupply and cache Class I and V materiel at night. A disciplined sleep plan, with continuous active security and radio watch, must be coordinated and conducted. A contingency plan and the flexibility to modify the plan when needed must be discussed.

Teams that successfully arrive at their overwatch positions have won only half of the battle. They must remain undetected, sometimes for several days, to get a shot at supply aircraft. The hardships and stress of the mission sometimes cause the teams to neglect the basics, like noise, light and litter discipline. Failure to practice these basics keys the OPFOR to their position.

The Stinger ambush puts air defenders on the offensive and is doctrinally sound. It places new demands on our abilities to properly prepare and train Stinger teams for ambush missions. Avenger teams must also be prepared to execute degraded Avenger operations. The key to meeting this challenge rests with incorporating offensive operations in local tactical standing operating procedures, then training our soldiers at their home stations.

SFC KEVIN B. MCGOVERN

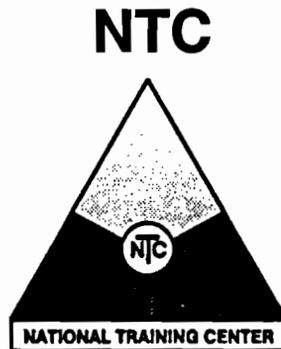
In this issue I'll discuss three subjects that should be of interest to any ADA unit supporting maneuver forces. First is development of the commander's intent statement in paragraph 3 of the ADA Operations Order. Second is ADA unit survivability on the battlefield and factors that contribute to survivability. Last is all-arms air defense (AAAD) and the role air defenders have training non-ADA units in AAAD.

### Commander's Intent

Most ADA battery commanders understand the importance and purpose of expressing a commander's intent. However, many have difficulty forming a clear and meaningful intent that focuses subordinates on the mission. The reason is that many commanders simply do not know how to develop an intent. Not knowing what to say, they will formulate a "check the block" type statement that repeats standard ADA doctrine, but lacks any METT-T analysis. The result is meaningless verbiage.

The following is a typical "check the block" type intent: "I want ADA weighted forward to engage aircraft early, thus allowing freedom of maneuver." Recognize the ADA verbiage? The problem with this intent is that it said nothing about what must be done and how to do it.

Successful commanders know that their intent is the foundation of their plan. As such, it should contain two essential elements: what must be done to be successful (task and purpose) and how to do it. A technique that can help commanders develop their intent is to draw up two lists. From the mission analysis phase of planning compile a list of friendly critical events. Don't focus on ADA events yet. This list should be based



## TRENDS

on the supported unit's mission. Next list the enemy's critical events from the IPB. From these two lists look for specified and implied tasks for air defense. For example, if the mission is a deliberate attack, that implies the enemy has prepared defenses. A breach force would be required to breach these defenses. ADA could have the task of air defense of the breach force and the chokepoint created by the breach lanes. From deliberate attacks we have identified two potential tasks for ADA.

The next step is to list ADA tasks. Analyze the task list and identify those tasks that seem most critical. You now know what ADA must do. The next step is to describe how these tasks are to be accomplished. The "how" portion may be a simple statement of tasks that will be assigned to general support and direct support air defense. You may divide the operation into phases and assign tasks by phase. At this point it is easy to fall into a detailed description of the operation. Remember that the commander's intent is a broad general description of how the commander wants to fight the battle. It is not paragraph 3 of the operations order.

A good commander's intent, combined with a wargamed course of

action, provides the framework for the ADA plan. When completing the ADA plan, refer to the commander's intent. See if you have met the commander's intent and have covered all of the critical tasks. Then fill in the needed details of the "how" portion of the intent. If you can do this without any major changes, you had a good intent.

### ADA Unit Survivability

Survivability can and must be built into ADA plans. Units with high rates of battlefield survivability have cited three contributing factors. First is a complete understanding of the plan through detailed rehearsals and coordination. Second is battlefield awareness, obtained through reports and coordination. Third is careful route and position selection and improvements.

Understanding the ADA and maneuver units' plans is key to reducing fratricides. ADA fire unit movement and positions must be coordinated with other friendly units at all levels. For example, the Bradley Stinger Fighting Vehicle squad leader moving on the left flank of the task force must talk with tank crews. He needs to tell them, "I'll be moving 200 meters to your left flank, don't shoot me." ADA leaders must ensure that all units in the area are aware of the ADA positioning plan. Combined arms orders briefs, backbriefs and rehearsals offer opportunities to explain the ADA plan. Pre-positioned Stingers covering a route should not be a surprise to units moving on that route.

Unfortunately, leaders often think that coordination between battery and company commanders is sufficient. It must go deeper. Too much information stays in the command

post and never gets down to the trigger-puller level. Leaders from battery commander down to tech chief must make every effort to coordinate and deconflict their plans with the plans of the supported unit.

Rehearsals and direct face-to-face coordination are good tools for ensuring that everyone understands the plan. Early coordination during the planning process is also very useful. However, it takes proactive leaders at all levels to make it happen.

Battlefield awareness begins in the planning process. The IPB and the S-2's template must be briefed to every leader moving on the battlefield. Soldiers must know when and where to expect hazards and then take action to reduce the risk. Templated enemy positions or routes, chemical agents and locations of enemy and friendly obstacles must be given to every leader. Leaders must then make sure that their subordinates understand the importance of the information provided. Planners must consider these battlefield hazards when selecting routes and positions.

Battlefield information is a two-way street, and it must flow freely in both directions. During execution air defenders moving on the battlefield need to know where and what the hazards are. Cross talk, vertically and horizontally, is an essential tool for providing this information. The Stinger team that spots an enemy tank needs to pass the spot report not only up but across to the other teams. Tactical operations centers and command posts receiving information must realize the purpose of the information. It should not just be logged in or posted on a map; the real purpose is to warn others.

In addition to hazards, battlefield awareness includes knowing where to obtain support. Teams and squads must have the locations of ambu-

lance exchange points, aid stations, decontamination points and collection points.

Routes and positions must be planned with survivability in mind. Dead ADA is the same as no ADA. Avoid known or templated hazards. Consider likely enemy artillery fires and TRPs. Many hilltops make ideal communications sites, observation posts and air defense positions. They also attract enemy interest for the same reasons. Try to avoid easily identified terrain for ADA positions or rally points — they make good artillery reference points. Good survivable positions or rally points can often be found within a few hundred meters of the perfect, but dangerous, position.

Look at how ADA units move with the supported maneuver unit. Normally the best air defense is provided from the flanks of the formation, while enemy artillery tends to attack the center of mass of the formation.

Once a position is selected it must be improved. That means digging in to standard and properly using camouflage. Alternate and supplemental positions must also be determined. Lastly, standard operating security procedures must be enforced.

#### All-Arms Air Defense

Units that have demonstrated strong AAAD have four elements in common. First, their supporting air defenders preached all arms air defense. Secondly, AAAD has been incorporated into live-fire training programs. Third, units had standardized air-attack drills. Fourth, the units had an effective air-attack early warning system.

Although air defense is a commander's responsibility, few are effective at integrating ADA, AAAD and passive air defense into an overall air defense plan. Effective in-

tegration requires an air defense expert, the ADO. ADOs must advise commanders on all things related to air defense. They, as the air defense special staff officers, must help develop air attack drills and push AAAD training for non-ADA units.

Units that included engagement of aerial targets in their live-fire training programs had a faster reaction time and a higher volume of fire against enemy aircraft. Aerial target ranges for non-ADA units help dispel the idea that engaging attacking aircraft is for ADA only.

Most units have some sort of air attack drill described in their training standing operating procedure, but few train them. Effective AAAD does not just happen. AAAD is a trained drill with specific actions executed at the appropriate time. Drills fall into two categories: those that are executed upon receipt of air attack early warning, and immediate action drills executed while under air attack. Units must have and train on both types of drills. The ADO should be the proponent for the development of these drills. However, it is ultimately a commander's responsibility to see that his unit is trained and prepared to meet an air attack.

Effective drills are linked to an early warning system. Those units with effective AAAD had systems that rapidly passed air attack information as flash traffic over command nets to all units. Air-attack drills were triggered by audio and visual signals and alarms.

Soldiers who belong to ADA units that stress the components of survivability — understanding the plan, battlefield awareness and careful route and position selection and improvement — will not only win but will live to fight another day.

LT. COL. DALE EIKMEIER

## ACS PROGRAM

The FY95 Advanced Civil Schooling (ACS) Program will have more than 450 Masters or PhD level school quotas for company-level branch qualified officers and warrant officers. The fully-funded ACS Program affords officers the opportunity to obtain graduate degrees with all the books, fees and tuition paid by the Army. Upon completion of the degree, officers must serve a three-year utilization tour in an Army Education Requirement System position. (In some cases, the tour can be deferred to allow the officer to become field grade qualified or to attend resident Command and General Staff College.)

Officers interested in the ACS Program should contact their career managers for specific details.

PERSCOM

## GOOD NEWS FOR PATRIOT SYSTEM MECHANICS

For many "First to Fire" NCOs, the pending implementation of a new Patriot concept is about to turn a deadend street into a highway to promotion.

MOS 24T (Patriot System Mechanic) sergeants first class have long been ineligible for promotions within MOS 16Z (Air Defense Senior Sergeant). This policy has greatly limited their promotion opportunities.

Beginning late in FY95 or possibly in early FY96, concurrent with the implementation of the Patriot Enhanced Operator Concept, MOS 24T sergeants first class will be allowed to compete for promotions in MOS 16Z.

OFFICE, CHIEF OF ADA

## COLONEL COMMAND SELECTION BOARD

The FY95 Colonel Command Selection Board marked the first time garrison commanders were centrally selected. The addition of 46 garrison commands to the FY95 slate helped to keep the total number of available commands at approximately the same level as FY93 and FY94. The overall selection rate of 12 percent represents a sharp improvement in command opportunity rates — the highest in the last three years.

There was also a significant increase in minority and female officer selections. Thirty-two percent of the eligible female officers were selected for command, compared to the Army average of 11.9 percent. The overall selection rate of 21.3 percent for minority officers exceeded the Army average of 11.9 percent.

The addition of 46 garrison commands helped to reverse the downward trend in command opportunities that began in FY92, when severe cuts in personnel and force structure resulted in a 7.1 percent selection rate.

PERSCOM



Photo by Spec. Jeff Adams

UNIT NEWS





## MISSION MIX

While other air defenders provided humanitarian relief in Guantanamo refugee camps and helped restore democracy to Haiti, Patriot battalions from the 11th Air Defense Artillery Brigade, Fort Bliss, Texas, were poised to perform more traditional air defense missions in South Korea and Saudi Arabia.

In April, 2-7 ADA (facing page) deployed to South Korea amid heightened tensions while 3-43 ADA deployed to Saudi Arabia to take its turn in the rotation of Patriot units to Southwest Asia that began shortly after the end of Operation Desert Storm in 1991. (Photos by Spec. Jeff Adams, 11th ADA Brigade Public Affairs Officer)

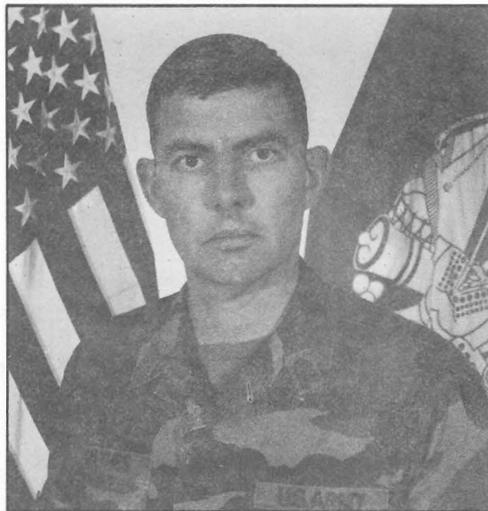
# Column Write

According to AR 611-201, Military Occupational Classification and Structure, responsibilities for military classification fall primarily to the Deputy Chief of Staff for Personnel (DCSPER) and to the Commanding General, U.S. Total Army Personnel Command. The DCSPER will

- establish occupational classification structure policy and provide appropriate guidance to PERSCOM, and
- develop instructions to ensure uniform and timely classification of soldiers and positions in authorization documents.

The Commanding General, PERSCOM, will —

- develop and maintain the enlisted career management fields and military occupational specialties;
- establish a methodology for review, analysis and implementation of classification structure changes;
- maintain viable military career progression patterns and responsive standards of grade that are consistent with DCSPER objective force guidelines; and
- evaluate, coordinate and furnish recommendations to U.S. Army Training and Doctrine Command, DCSPER or personnel proponents regarding addition, revision or deletion of occupational identifiers.



More good news for ADA soldiers! Three proposals from personnel experts at the U.S. Army Air Defense Artillery School will ensure that ADA soldiers continue to receive the training and promotion opportunities they deserve.

## New MOS in the Works

Branch leaders have recognized that the ADA arena overflows with positions unrelated to any specific MOS, particularly in the management of operations and intelligence. The U.S. Army ADA School has formed a joint working group to create a new MOS for high- to medium-altitude air defense.

The proposed MOS 14L may include missions currently associated with AN/TSQ-73s, theater high-altitude area defense (THAAD) systems, battalion tactical operations centers and joint tactical ground stations (JTAGS). Creating the new MOS will offer new career opportunities to at least 400 soldiers — more than enough to maintain a new MOS and create promotion potential.

According to one proposal, soldiers with MOS 25L (AN/TSQ-73 ADA Command and Control System Operator/Maintainer), soldiers holding positions in battalion and brigade tactical operations centers, and soldiers who have already attended JTAGS training would convert to MOS 14L. The branch

would also convert soldiers who choose to voluntarily reclassify to MOS 14L.

## THAAD Proposal

The branch expects to have a User Operational Evaluation System (UOES) THAAD battalion headquarters and battery on the ground at Fort Bliss as early as January 1995. About 55 Patriot soldiers will train to man the UOES THAAD battalion headquarters and battery. But when all of the THAAD battalions and batteries are fielded early in the next century, the branch cannot just use its Patriot soldiers to fill the slots. Instead, experts are studying the creation of a THAAD MOS or the use of an ASI. In either case, THAAD will offer opportunities to air defenders: about 380 positions for launcher soldiers and about 310 positions for engagement controllers.

## New Bradley Crews

Currently, a BSFV crew consists of two 14S (Stinger) and three 14R (BSFV) crew members. The branch's plan is to add man-portable air defense training to the MOS 14R soldier's tasks and create a five-man MOS 14R BSFV crew. This will increase the diversity inherent to the MOS 14R position while making the BSFV crew more self-sufficient. Any member of the BSFV crew will be able to command or drive the Bradley, shoot the Bradley weapons as well as the Stinger missile and, if need be, dismount and lead a Stinger team.

MOS 14S crewmen may opt to go back to the Avenger, or can submit a DA 4187 asking for reclassification to MOS 14R. As always, reclassifications are based on the needs of the Army.

The foresight and long-term solutions offered by personnel experts at the school continue to reinforce ADA soldiers' confidence in their branch of choice. Look forward to updates on these and other innovative developments in future issues.

CSM James E. Walthes  
Command Sergeant Major

# GERMAN ARMY AIR DEFENSE

by Lt. Col. Dirk Engels

The post-Cold War German Army, like the U.S. Army, is reorganizing, step-by-step, to a new structure. Undertaken following German unification and the collapse of the Soviet Union, the reorganization, which will be completely implemented in 1995, sets a peacetime ceiling of 340,000 men for all German forces, including roughly 235,000 for the Army. The reorganized force will be equipped and trained to cope with challenges arising from the new worldwide security environment.

New risks and threats on one hand, and new strategy and structure of the NATO alliance on the other hand, have led to new missions and tasks for the German Armed Forces in general and the German Army in particular. A new mission package, established in detail in the *Defense Policy Guidelines*, reflects Germany's new role and new responsibilities in the world.

The German Federal Armed Forces will —

- protect Germany and its citizens against external danger and political blackmail,
- promote military stability and the integration of Europe,
- defend Germany and its allies,
- contribute to world peace and international security according to the U.N. Charter, and
- help in disaster situations, rescue in emergencies and support humanitarian operations.

The main mission of the Federal Armed Forces will continue to be NATO Alliance-wide defense, which entails the protection and effective support of the allies within the scope of an extended national defense.

While the former Army structure was mainly tailored to the ground defense plan needs of the forward defense of the NATO Central Region's old "layer cake" defense, the new structure (*Heeresstruktur 5*) is not limited to

the defense of the Central Region alone. It also incorporates components for crisis management and humanitarian aid operations on the NATO flanks and, after parliamentary decision, worldwide missions under U.N. control.

Like its predecessors, the future Army structure will be a compromise between missions and requirements, technological options and limited resources. The major changes and innovations built into the new Army structure include a new command organization, the merger of the field and territorial army, a significant reduction in the number of units, and the categorization of the force into mission-oriented components. Furthermore, two of the three corps created by the reorganization will be multinational.

The Army reorganization (next page) includes an Army staff at the Ministry of Defense and creates a new command level consisting of an Army Operations Command, Army Support Command and Army Office with Army schools and other offices. These new commands are evolving from the existing Army Office and Headquarters III (GE) Corps at Koblenz.

We will have three corps. IV Corps will remain the national formation in the East. I Corps will be a bi-national Netherlands/German corps, which will later become a multinational corps; II Corps will be a bi-national German/U.S. Corps, in close partnership with V Corps (a U.S./German corps). There will be eight military districts merged with eight Army divisions. The structure will encompass an Airmobile Forces Command, 24 combat brigades and 19 mechanized brigades in different states of readiness. One mountain and three airborne light infantry brigades and a French/German mobile infantry brigade will round out the force.

The brigade structure will not change very much, but two-thirds of the brigades will be semi-active; i.e., they will be manned at approximately 60-percent wartime strength and will depend on mobilization.

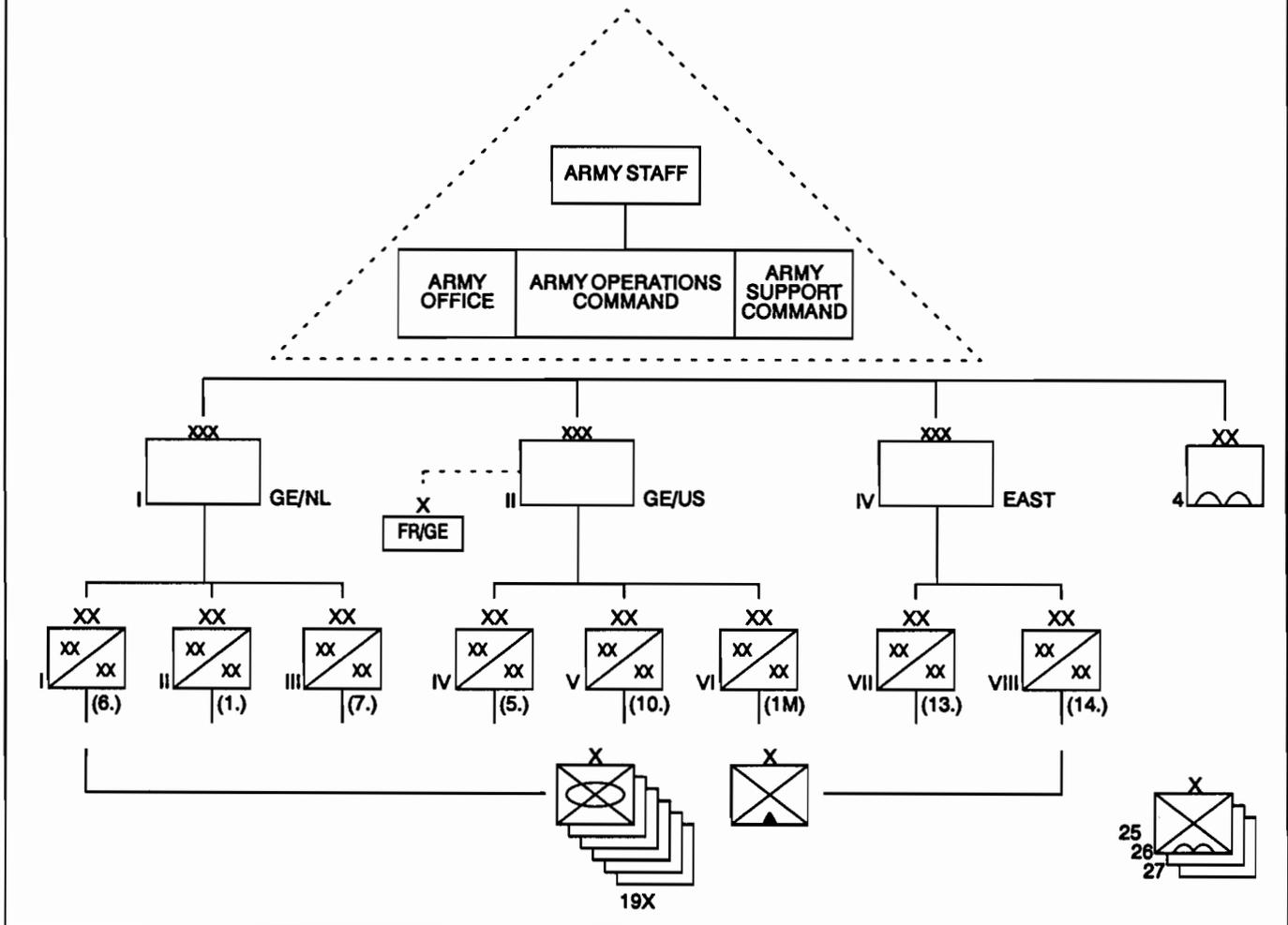
As previously stated, one of the reorganization's innovations is the categorization into mission-oriented components: Crisis Reaction Forces (KRK), Main Defense Forces (HVK) and Basic Military Organization (MGO). Categorization defines the appropriate links between the NATO structure and equivalent national components and permits the Army to set priorities for Crisis Reaction Forces as agreed within the NATO Alliance. It also enables the Army to identify, train and equip units for specific missions and maintain them at a high state of manning and readiness while maintaining mobilization units at a lower state of readiness due to limited resources and manpower.

Crisis Reaction Forces are dedicated divisions, brigades, combat support and combat service support units drawn from the bulk of Army formations. In peacetime, Crisis Reaction Forces are an integral part of the overall Army structure. Elements of the Reaction Forces are kept at the highest state of readiness so they can be employed for peacekeeping or humanitarian aid operations on short notice, if approved at parliamentary level. The Army Crisis Reaction Forces will be capable of meeting all NATO requirements, such as rapid deployment, high state of readiness, modern equipment, interoperability with allied formations and sustainability.

Main Defense Forces include all other corps, divisions, brigades and their subordinate units with a lower state of readiness.

Basic Military Organizations include all schools, elements of medical/logistics brigades and other offices.

# PEACETIME ARMY STRUCTURE



In the German armed forces, air defense is a joint service operation. The Air Force, with its fighters and ground-based surface-to-air missile systems, and the Army, with its ground-based air defense systems, contribute to this overall task.

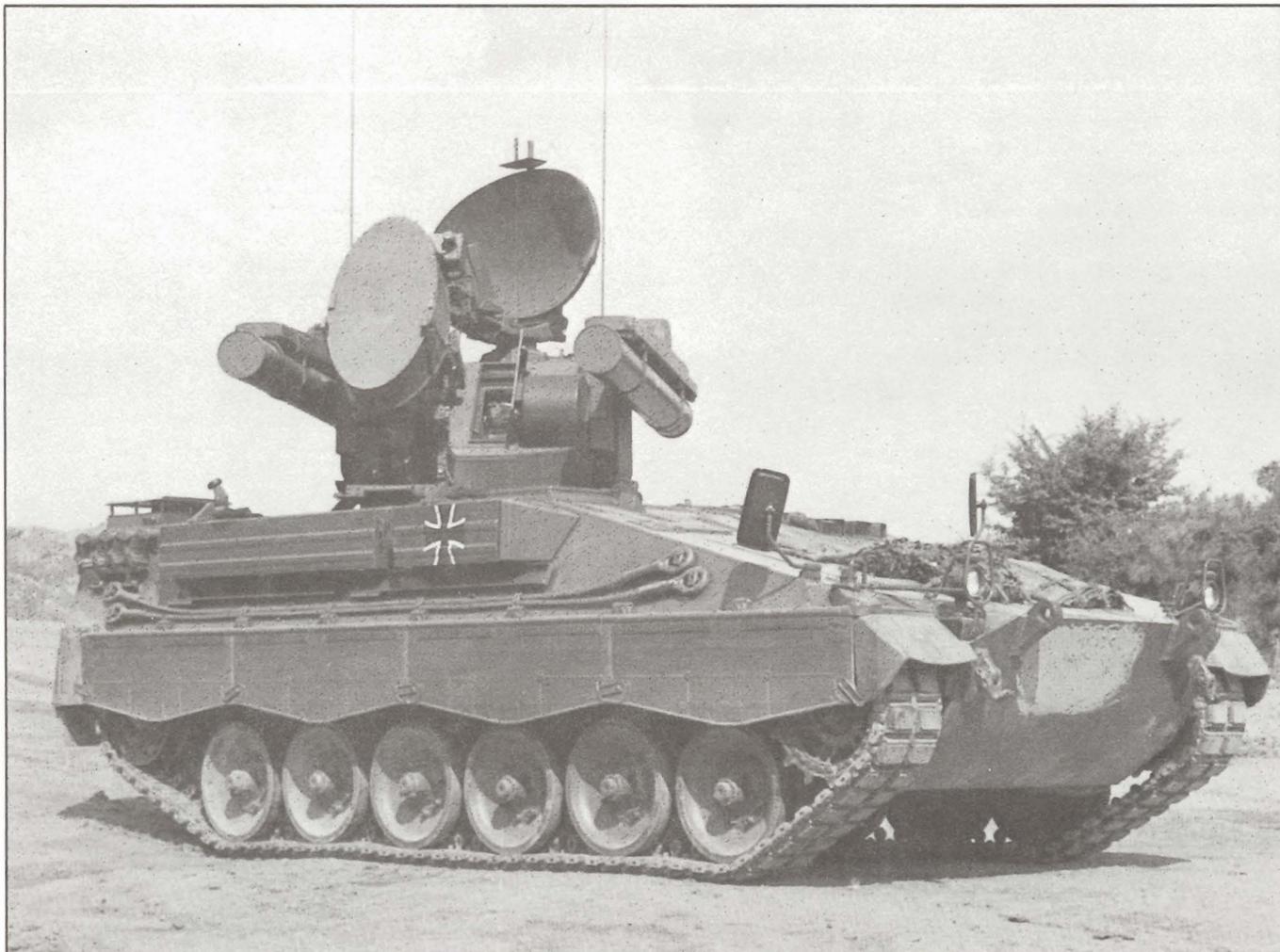
While the joint service concept is based on the principle of the division of labor, missions sometimes overlap; therefore, coordination is required. It is the Army's position that the division of labor between the two services contributes to the overall task and will continue to exist in the future. The Air Force, with its high-to-medium altitude surface-to-air missiles, will continue to focus on area protection, while the Army will continue to focus on point defense.

Consequently, it will be the job of the Army Air Defense Artillery (ADA) to provide immediate protection of mechanized and light Army troops.

The mission of the Army ADA is to combat low- to medium-level aircraft and to protect troops, their installations and vital facilities against reconnaissance and attack from the air. This predominantly asset-oriented effort contributes to wearing down the air threat and, thus, supports the overall mission of air defense. We expect this mission to continue in the future, notwithstanding changes in the air threat, evolving operational and tactical concepts of the Army, and the fielding of new equipment and weapons to the troops we are tasked to protect. This mission requires

equipment allowing the Army Air Defense Artillery an appropriate response to sophisticated air threats, meeting the requirements of the updated Army doctrine and tailored to the equipment of the troops to be protected — mechanized or light and airmobile.

Army ADA must move and protect troops going into and during battle. The accomplishment of this mission, above all, consists of protecting units in contact when they are most vulnerable to the air threat, particularly attack helicopters. But the mission also requires us to protect troops in the rear area and the installations and facilities vital for the conduct of operations; for example, bridges and road intersections. Despite the blurring between different missions,



Each German armored air defense missile regiment is equipped with 42 Roland air defense systems.

a distinction can be made between escort missions and static operations to highlight the essential characteristics of the Army ADA's contrasting mission profiles.

The escort mission is driven by the key factors of terrain and situation, which result in specific characteristics. Positions are scouted hastily and occupied in a hurry. Visibility and range of sensors and weapons are restricted, frequently resulting in limited situational awareness, a condition that, in turn, adversely affects combat effectiveness against unexpected threats at shorter distances that require short response times.

Conditions similar to those prevailing on escort missions exist in hastily

occupied positions, in an assembly or defense area, or on missions in broken and predominantly covered terrain. Therefore, an essential requirement for escort missions is the capability to fight at shorter ranges with short response times.

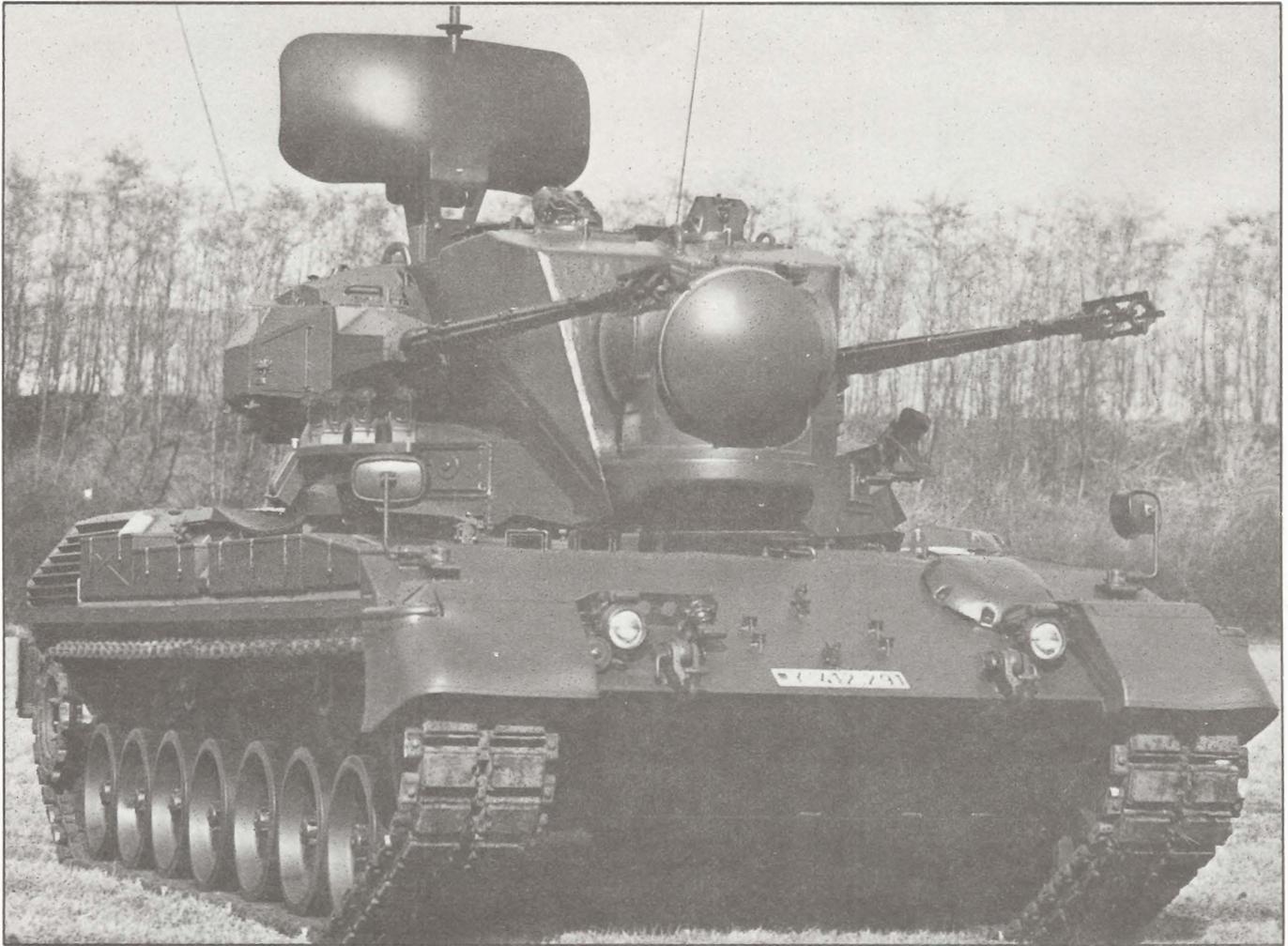
Static operations are characterized by —

- the selection of favorable positions that allow air defense soldiers to fully exploit the ranges of reconnaissance, command and control, and weapon systems;

- the availability of time for reconnaissance, threat analysis and fire control; and

- the possibility of timely weapons employment at long ranges.

Consequently, an essential requirement for static operations is the capability to fight over longer ranges with maximum firing precision. We account for these diametrically opposed mission profiles of mechanized air defense through different weapon systems: the tube weapon (the self-propelled, armored Gepard gun system) is optimized for the first objective, while the missile weapon (the self-propelled, armored Roland missile system) is optimized for the second. Both are all-weather capable weapon systems with an electronic friend or foe identification feature and the capability to operate autonomously. Operation mixes permit them to respond effectively in a variety of tactical situations.



The self-propelled, armored Gepard air defense gun system fills the requirements to fight in escort missions.

As a general rule, the just-described mission profiles also apply to the protection of light, airmobile and highly mobile forces, their installations and the facilities vital for their conduct of operations. However, priority must be given to the general protection of the troops and facilities in an area; the main concern is not close linkage and coordination with mobile combat forces. Furthermore, adapting the air defense force to the requirements of the light, airmobile character of the troops to be protected is absolutely essential; only light, airportable air defense assets with adequate weapons range and response times, adequate mobility and the capability to thicken mechanized air defense can accomplish this mission.

As an expedient, the German Army ADA currently uses the manportable air defense systems Stinger and IGLA to protect light and highly mobile forces.

For both mechanized and light Army air defense forces, the rule applies that they will only achieve the required degree of combat effectiveness through an overarching air defense reconnaissance, command and control, and fire coordination system. At the moment, air reconnaissance assets in service consist of an air surveillance radar, a wide-area radar with a range of 100 kilometers and a surveillance altitude of 10 kilometers, and the low-level surveillance TPS 1E radar, which will have to be phased out by the end of this century.

However, it is the Army's position that only a combined air defense system that incorporates all elements of reconnaissance, command and control, and fire control for both light and mechanized air defense forces will enable the Army ADA to successfully meet its future mission requirements. This requires the introduction of the developmental Army Air Defense Reconnaissance and Battle Management System, an extension of the in-service life of the Roland and Gepard weapon systems coupled with upgrading measures designed to preserve their combat effectiveness, and the fielding of a new light air defense system.

The Army Air Defense Reconnaissance and Battle Management System

will supplement, thicken or even replace reconnaissance capabilities organic to air defense weapon systems and will contribute to the jamming resistance and survivability of the weapon systems. The system will also support air threat identification, facilitate threat assessment and allow target assignment, hence fire coordination.

The Army Air Defense Reconnaissance and Battle Management System is comprised of two components: a reconnaissance component and command and control component. The air surveillance radar is in service as part of the reconnaissance system component. A data-link system to exchange air situation data between radar sets and with allies and Air Force air defense forces, transmit target data to the weapon system and execute fire control will begin in 1998. The development of a radar set to replace the TPS 1E for low-level air surveillance missions and to supplement the air situation data provided by the air surveillance radar has been initiated.

The command and control system component will be fielded concurrently with the reconnaissance equipment. It will ensure the interoperability and capability of the Army ADA to conduct multinational missions and provide the required data-based information exchange within air defense units.

The German Army ADA will be able to procure the light air defense system beginning in 1998. The new system will include a command and control component, an air defense reconnaissance component, a fire control component, a weapon carrier and a guided missile. It will be procured on the basis of individual elements already in service or about to be fielded in the Federal Armed Forces.

A medium-range radar covering approximately 20 kilometers will provide light air defense system reconnaissance. To the extent possible, command and control and fire control will be based on Army Air Defense Reconnaissance and Battle Management System software and hardware. There will be

three light air defense system batteries comprised of three platoons, each with 15 Stinger teams.

In the event of war, armored air defense regiments, each equipped with 42 Rolands, will be employed, along with independent, light surface-to-air missile batteries, currently equipped with manportable air defense systems, at corps level; that is, with the I, II and the future IV Corps. For the division level, Gepard regiments, each equipped with 42 self-propelled armored air defense gun systems, are envisaged. All regiments will be identically structured with one headquarters and service battery and two armored air defense detachments with three armored air defense batteries, each equipped with seven weapon systems.

In peacetime, four divisions will command partly active armored air defense gun regiments. Three divisions will command mixed air defense regiments with Gepard and Roland battalions. These battalions will be expanded into armored air defense gun and armored air defense missile regiments.

The forces Army ADA will contribute to Crisis Reaction Forces will be drawn from the peacetime structure of the mixed air defense regiments.

The Army Air Defense School based at Rendsburg and Todendorf/Putlos trains Army ADA leaders and soldiers from across the services in air defense, and supports and advises the air defense units regarding gunnery training with their main weapon system. The school has set up a gunnery/training center at Todendorf for gunnery training on the armored air defense gun system. Thirty Gepards assigned to the Air Defense School are available at the center for unit training. The units arrive with their soldiers, draw the required number of armored air defense gun systems, conduct their firing practice, turn in the Gepards and return to their home station. This training methodology, in use since January 1993, has proven its worth. Every year the Roland will fire at the NATO Missile Firing Installation on the Mediterranean isle of Crete.

The Air Defense School structure is in line with the mission; however, its current status is unimportant, since — along with the other branch schools of the Army — it will be restructured at the beginning of 1995. It will then command the three Rendsburg-based elements consisting of the headquarters section, a leader development division, a combat development division and a division responsible for running the Gunnery Training Center at Todendorf/Putlos.

The German Army Air Defense School will, in the future, also be responsible for the further development of the branch, in much the same way that the U.S. Army Air Defense Artillery School, Fort Bliss, Texas, is responsible for the development of American Air Defense Artillery.

In the foreseeable future, the mission of the German Army ADA branch will continue to be that of fighting low- and medium-level threat aircraft and protecting troops, their installations and the facilities vital for the conduct of operations. It will thus contribute to wearing down the air threat.

To accomplish this mission, one of the required steps on the road toward a combined air defense system is the modification of our equipment through measures extending the in-service life of presently fielded mechanized weapon systems as well as the fielding of the still lacking components of the Army Air Defense Reconnaissance and Battle Management System and a new light air defense system. These measures have been initiated and will be realized to a large extent in the near future.

Both German Army ADA units and the Army Air Defense School are structured with mission accomplishment in mind, allowing them to meet their peace and wartime missions appropriately.

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# ADA ASSOCIATION

*Association membership approaches 6,000 mark*

*by Col. Charles W. Hurd Jr.*

As your newly elected Executive Director, I would like to bring you up to date on the ADA Association's status. Since our membership drive started in 1985, we have recruited 5,865 individual life members — more than 800 of those have joined since July 1993. We also have 60 corporate members and four business partners. While we have made great strides in expanding our membership, less than 50 percent of our career soldiers and very few of our retirees are members. We need to do better at encouraging air defenders to join the association. I would like to see all of our career-minded soldiers become lifetime members. A very nominal fee of \$30 buys a lifetime membership in an organization that contributes in many ways to making Air Defense Artillery the best, most closely knit branch in the Army.

Here are a few things your association does. The association maintains a gift shop in the ADA Museum at Fort Bliss, Texas. We use revenues from the gift shop and dues to provide gifts to new members, for ANCOC and BNCOC awards, to provide *ADA Yearbooks* to members, to make donations to charitable organizations, to provide T-shirts to our soldiers on wartime deployments (such as we did in Operation Desert Storm) and to support many other projects, such as NCO of the Year and Soldier of the Year competitions across the branch. We have

given away more than \$96,000 in gifts since we started in 1985.

We have been working over the past few years to promote our branch's heritage through artwork. The first venture was the "First to Fire" painting by Don Stivers depicting the 200th Coast Artillery in defense of Clark Field on Dec. 8, 1941. Most recently the association printed the painting of the Omaha landing by El Paso artist John Paul Jones that appeared in the *1994 ADA Yearbook*. Both prints are available through the association gift shop.

Our ongoing and biggest project to date is to raise approximately \$8 million for a new museum for our "First to Fire" branch. Brig. Gen. (Ret.) Ernie Roberts has been working hard and successfully at raising funds from corporations for the building. Although we are doing well with the corporate world (we expect most of our financial support will come from that sector), it will be important for our battalion- and brigade-level units to "show the flag" by demonstrating support, even if only a small amount. What we all recognize as important will never happen if we can't generate support from the field. By the way, thanks go to the 3rd Battalion, 4th Air Defense Artillery, Fort Bragg, N.C., for donating a substantial amount toward our building fund this past March.

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A campaign to raise \$8 million for the construction of a new ADA Museum at Fort Bliss, Texas, is the Air Defense Artillery Association's most ambitious project.

