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Preface

FM 44-100 is the Army Air Defense Artillery (ADA) capstone doctrinal manual for the air defense combat function. It explains the Army ADA contributions to joint and multinational counterair and theater missile defense operations. It also addresses the range of offensive and defensive actions to counter the air threat. This manual provides the doctrinal basis for integrating the air defense combat function into the planning and conduct of strategic, operational, and tactical levels of operations. FM 44-100 conforms to the doctrinal principles of FM 100-5 and Joint Pubs 3-01 and 3-01.5. The contents of FM 44-100 apply to Army ADA units worldwide. Army ADA forces must adapt this doctrine to the specific requirements of each theater.

FM 44-100 provides doctrinal guidance for ADA commanders, trainers, and leaders at all levels and is the basis for Army ADA service school curricula development. This manual also provides the doctrinal basis for the implementation of air and missile defense measures in all Army units. The tactics, techniques, and procedures in the 44-series of field manuals complement FM 44-100.

This publication implements the following international agreement: STANAG 3805 Doctrine and Procedures for Airspace Control in Times of Crisis and War (ATP-40 (B)). The proponent of this manual is Headquarters TRADOC. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commandant, US Army Air Defense Artillery School ATTN: ATSA-DOT-D, Fort Bliss, Texas 79916-3802.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.
Chapter 1

Introduction

This chapter describes the air defense (AD) combat function, relates the tenets of Army operations to air and missile defense operations, and defines the mission of air defense artillery (ADA). It also provides vignettes of successful air and missile defense operations.

AIR AND MISSILE DEFENSE IN THE THREE-DIMENSIONAL BATTLE

1-1. This field manual provides the doctrinal foundation for Army air and missile defense operations in joint and multinational operations. Air defense is one of the seven combat functions, which include intelligence, maneuver, fire support, mobility and survivability, combat service support, and command and control. Air and missile defense forces provide protection from enemy air and missile attack. They prevent the enemy from separating friendly forces while freeing the commander to fully synchronize maneuver and firepower.

1-2. The air defense combat function contributes to joint theater counterair operations and to joint theater missile defense. Theater counterair operations protect the force and critical assets from attack by fixed- and rotary-wing aircraft and unmanned aerial vehicles (UAVs). Theater missile defense protects the force and critical assets from attack by theater missiles, which include ballistic missiles, cruise missiles (CMs), and air-to-surface missiles (ASM). Air and missile defense includes both offensive and defensive actions.

1-3. The airspace of a theater is as important a dimension of joint operations as the terrain. Friendly forces use airspace for critical purposes including maneuver, delivery of fires, reconnaissance and surveillance, transportation, and battle command. Effective control and use of airspace directly influence the outcome of campaigns and battles. Commanders consider airspace and the apportionment of air power in planning and supporting their operations. They expect the enemy to contest their use of the airspace and must protect their forces from enemy observation and attack. Air and missile defense operations contribute to gaining and maintaining the desired degree of air superiority, provide force protection, and help win the information war.

1-4. Synchronization of ground operations with air operations is fundamental to the conduct of successful campaigns and battles. Friendly air forces, through such missions as counterair, air interdiction, and close air support, directly support the land campaign.

1-5. The Army’s part in the theater campaign is diverse and requires a combined arms force. Air and missile defense forces protect the combined arms team, and other priority forces and assets by preventing enemy aircraft,
missiles, and unmanned aerial vehicles from locating, striking, and destroying them.

**AIR DEFENSE ARTILLERY MISSION**

1-6. The mission of US Army Air Defense Artillery is to protect the force and selected geopolitical assets from aerial attack, missile attack, and surveillance.

**FORCES**

1-7. ADA commanders allocate forces based on the supported commander's priorities. In addition, the mission is broadly written to include protection of critical assets, installations, and facilities along with joint and multinational forces when required.

**GEOPOLITICAL ASSETS**

1-8. Geopolitical assets are nonmilitary assets that US, allied, or host nation civil authorities nominate for air and missile defense protection. These assets could be political, religious, ethnic, historical, or territorial in nature. Since protection of geopolitical assets may not directly support military operations, integration of geopolitical assets into the air and missile defense priorities list must be done at the highest levels. Geopolitical assets may include the territory of the USA.

**THREAT**

1-9. The threat is not limited to attack aircraft, helicopters, and ballistic missiles. The threat includes all aircraft, indirect fire surface-launched missiles, aerial surveillance platforms, large caliber rockets, and theater missiles. Chapter 2 provides more detail and information on the threat.

**CONSEQUENCES**

1-10. Successful air and missile defense is key to generating and sustaining combat power in force-projection operations. The ADA contribution to friendly efforts to counter threat reconnaissance, intelligence surveillance, and target acquisition efforts has gained greater emphasis. Current and future Army ADA capabilities, both active and reserve component, must synergistically combine with the AMD forces of other services to defeat the multifaceted threat. Army ADA participates in operations at all levels of war.

**NATIONAL MISSILE DEFENSE OPERATIONS**

1-11. National Missile Defense is a joint service program to develop a fixed, land-based system to protect the United States against limited, long-range ballistic missile attacks. The US Army Space and Missile Defense Command (USASMDC) has responsibility for publishing National Missile Defense (NMD) doctrine.
AIR DEFENSE IN RELATION TO ARMY TENETS

1-12. Air and missile defense operations are inherently joint operations, multicomponent, and embody Army doctrine. ADA forces are versatile, agile, and fight throughout the depth of the battlefield. Through aggressive planning and fully orchestrated execution, ADA allows the commander at any level to seize and maintain the initiative. Commanders integrate air and missile defense operations into campaigns fought at the operational level, and battles and engagements fought at the tactical level.

VERSATILITY

1-13. ADA units meet diverse mission requirements. They require discipline, high standards, and thorough preparation. Commanders need to shift focus, task-organize, and move from one role or mission to another quickly and efficiently. ADA units are multifunctional, able to defeat several different air threats while operating at the strategic, operational, and tactical levels.

AGILITY

1-14. Agility is as much a mental quality as a physical one. ADA units anticipate and counter enemy actions and react rapidly to changes in the situation. ADA forces must quickly change from offense to defense, entry operations to decisive operations, and counterair to theater missile defense. Concentrating coverage and fires, or screening the flanks from attack and surveillance, are tasks routinely accomplished by ADA units.

DEPTH

1-15. ADA systems see deep into enemy airspace to contribute to the commander's situation awareness and defeat air, missile, and surveillance threats at maximum range. They achieve defense in depth using a systems approach technique, which gives multiple opportunities to defeat the enemy aerial threat. Depth also includes staying power, which is the access to adequate resources to continue the fight.

SYNCHRONIZATION

1-16. Synchronization requires controlling the tempo of operations as well as weighting and shifting air and missile defense efforts. ADA units counter the entire aerial threat spectrum by integrating a system of systems. Commanders integrate their operations horizontally with all battlefield operating systems and vertically with both higher and lower ADA units.

INITIATIVE

1-17. ADA units take the initiative by participating in planning for both offensive and defensive counterair and theater missile defense operations. ADA commanders recommend enemy airfields, missile launch sites, command and control nodes, and logistics for deep attack. They contribute to winning the information war by destroying threat aerial reconnaissance platforms.
AIR DEFENSE IN FORCE PROTECTION

1-18. Commanders seek to apply overwhelming combat power to achieve victory with minimum casualties to their forces and assets. Combat power combines the elements of maneuver, firepower, protection, and leadership. Overwhelming combat power is the ability to focus sufficient force to ensure success and deny the enemy any chance of escape or effective retaliation. Commanders apply overwhelming combat power by bringing all combat elements to bear at the optimum time and place, giving the enemy no opportunity to respond effectively. Commanders integrate and coordinate a variety of functions with the elements of combat power. As a result, they convert the potential of forces, resources, and opportunities into actual capability through violent, coordinated action at the decisive time and place. They attempt to defeat the enemy’s combat power by interfering with its ability to conduct reconnaissance, maneuver, and apply firepower.

1-19. While contributing to all four elements of combat power, ADA makes its greatest contribution to force protection. Protection conserves the fighting potential of a force so that commanders can apply it at the decisive time and place. It includes active and passive actions units take to preserve combat power and deny the enemy the ability to successfully attack the force. Force protection has five components:

- Air and missile defense operations
- OPSEC/deception operations
- Health/morale of soldiers
- Safety
- Avoidance of fratricide

1-20. The first component of force protection is air and missile defense operations. Offensive counterair and Theater Missile Defense (TMD) attack operations attempt to defeat or suppress enemy capabilities to launch air and missile attacks. Defensive counterair and TMD active defense destroy enemy aircraft and missiles that threaten the force.

1-21. The second component of protection combines operations security (OPSEC) and deception operations, to help keep the enemy from locating friendly units. Proper dispersion helps reduce losses from enemy fires, as does the use of camouflage, discipline, counter-reconnaissance, security operations, and fortified fighting positions. Air defense contributes to counter-reconnaissance by destroying UAVs and aircraft conducting reconnaissance, surveillance, and target acquisition (RSTA) operations against the force. Frequent moves disrupt the enemy RSTA cycle. These measures help commanders protect their force from enemy observation throughout the conduct of operations.

1-22. The health and welfare aspect of force protection keeps soldiers healthy and maintains fighting morale. Commanders and leaders at all levels take care of their soldiers' basic health needs. They consider the welfare and spirit of soldiers as they build cohesion and unit esprit de corps.

1-23. Safety is the fourth component of protection and is a part of all operations. Commanders and leaders embrace safety as a principal element