

FM 3-04.126
February 2007

Attack Reconnaissance Helicopter Operations

DISTRIBUTION RESTRICTION: Approved for public release; distribution is unlimited.

Headquarters, Department of the Army

Attack Reconnaissance Helicopter Operations

Contents

	Page
Preface	vii
Chapter 1 Missions and Organization.....	1-1
Section I – Overview.....	1-1
Combined Arms.....	1-1
Fundamentals.....	1-2
Section II – Missions.....	1-4
Attack Reconnaissance Battalion.....	1-4
Air Cavalry Squadron	1-4
Section III – Organization	1-5
Attack Reconnaissance Battalion.....	1-5
Air Cavalry Squadron	1-9
Chapter 2 Command and Control.....	2-1
Section I – Command and Control	2-1
Command	2-1
Control	2-1
Command and Control Systems	2-2
Communications.....	2-2
Battalion Communication Nets	2-3
Section II – Battalion Command and Control	2-5
Battalion Command Group.....	2-5
Tactical Command Post	2-14
Main Command Post.....	2-15
Battalion Planning Considerations	2-21
Section III – Company Command and Control.....	2-26
Company Command Post	2-26
Company Planning Considerations	2-30
Section IV – Meetings and Briefings	2-34
Operations Order Brief	2-34
Air Mission Brief.....	2-34
Team Brief	2-35
Crew Mission Brief.....	2-35
Section V – Rehearsals.....	2-35
Rehearsal Sequence and Attendance	2-36
Rehearsal Question Resolution.....	2-37
Conflict Resolution at the Rehearsal	2-38

Distribution Restriction: Approved for public release; distribution is unlimited.

***This publication supersedes FM 1-112, 2 April 1997, and FM 1-114, 1 February 2000.**

	Additional Rehearsals	2-38
	Rehearsal Completion	2-38
	Section VI – End of Mission Debriefing and After-Action Review	2-38
	Debriefs	2-38
	After-Action Review	2-40
Chapter 3	Employment.....	3-1
	Section I – Introduction	3-1
	Section II – Team Employment.....	3-2
	Scout Weapons Team Employment	3-2
	Flight Modes and Movement Techniques.....	3-6
	Section III — Reconnaissance Operations	3-10
	Fundamentals	3-11
	Planning Considerations	3-13
	Capabilities.....	3-19
	Reconnaissance Methods	3-20
	Forms of Reconnaissance	3-21
	Section IV – Security Operations	3-30
	Fundamentals	3-31
	Planning Considerations	3-33
	Types of Security Operations.....	3-34
	Time and Space Considerations for Reconnaissance and Security Missions	3-54
	Screen Planning Examples (8-12 Hours)	3-54
	Screen Planning Calculations (8-12 Hours)	3-56
	Section V – Attack Operations	3-58
	Attack Forms	3-58
	Attack Missions	3-59
	Attack Employment Methods	3-64
	Engagement Area Development.....	3-71
	Holding Area Operations.....	3-84
	Attack By Fire/Battle Position Operations	3-85
	Section VI – Movement To Contact.....	3-87
	Search and Attack.....	3-87
	Section VII – Personnel Recovery Operations	3-88
	Section VIII - Stability and Civil Support Operations.....	3-95
	Overview	3-95
	Planning Considerations	3-96
	Special Considerations	3-97
	Rules of Engagement	3-98
	Rules of Interaction.....	3-98
	Section iX – Urban Operations	3-98
	Planning Considerations	3-99
	Operational Phases	3-109
	Aircrew Urban Threat Considerations.....	3-111
	Reconnaissance Operations.....	3-112
	Employment of Lasers	3-113
	Section X – Quick Reaction Force Operations	3-114
	Quick Reaction Force	3-114
	Section XI – Passage of Lines and Battle Handover.....	3-116
	Passage of Lines	3-116
	Battle Handover	3-118
	Section XII – Air Combat Operations.....	3-120
	General	3-120

	Planning Considerations	3-120
	Section XIII – Deception Operations	3-120
	Feint.....	3-120
	Demonstration	3-121
Chapter 4	Sustainment Operations.....	4-1
	Section I – Introduction.....	4-1
	Section II – Logistics Fundamentals.....	4-1
	Logistics Characteristics.....	4-1
	Methods of Distribution.....	4-2
	Supply Operations	4-2
	Sustainment During Combat Operations	4-5
	Section III – Maintenance.....	4-6
	Principles.....	4-6
	Aviation Maintenance Operations	4-7
	Vehicle and Ground Equipment Maintenance and Recovery Operations	4-11
	Section IV – Battalion Sustainment Units.....	4-11
	Flight Company	4-11
	Aviation Maintenance Company.....	4-12
	Forward Support Company	4-13
	Headquarters and Headquarters Company	4-16
	Aviation Support Battalion	4-17
	Section V – Standard Army Management Information Systems.....	4-20
	Standard Army Maintenance System.....	4-20
	Standard Army Retail Supply System	4-23
	Integrated Logistics Analysis Program.....	4-24
	Defense Automatic Addressing System.....	4-25
	Aviation Life Support System	4-25
Appendix A	Aircraft Survivability	A-1
Appendix B	Army Aviation Air-Ground Integration	B-1
Appendix C	Joint Air Attack Team Operations	C-1
Appendix D	Briefings, Reports, and Formats.....	D-1
Appendix E	Aircraft Characteristics.....	E-1
Appendix F	Reference Library	F-1
Glossary	Glossary-1
References	References-1
Index	Index-1

Figures

Figure 1-1. Attack reconnaissance battalion/attack reconnaissance squadron organization	1-6
Figure 1-2. Attack reconnaissance battalion headquarters and headquarters company organization	1-6
Figure 1-3. Attack reconnaissance battalion/attack reconnaissance squadron staff organization	1-7
Figure 1-4. Attack reconnaissance company/attack reconnaissance troop	1-8
Figure 1-5. Attack reconnaissance battalion forward support company	1-9
Figure 1-6. Attack reconnaissance battalion aviation maintenance company ..	1-10
Figure 1-7. Air cavalry squadron	1-10
Figure 2-1. Military decisionmaking process	2-23
Figure 2-2. Troop leading procedures and key planning tasks	2-31
Figure 3-1. Formation separation	3-4
Figure 3-2. Combat cruise	3-5
Figure 3-3. Combat cruise right (depicted)	3-5
Figure 3-4. Combat spread	3-6
Figure 3-5. Inner/Outer Drill	3-18
Figure 3-6. Example of company route reconnaissance graphics	3-24
Figure 3-7. Example of company zone reconnaissance graphics	3-25
Figure 3-8. Example of company area reconnaissance graphics	3-28
Figure 3-9. Example of landing zone or pickup zone sketch	3-29
Figure 3-10. Screen locations	3-34
Figure 3-11. Stationary screen	3-37
Figure 3-12. Moving flank screen	3-39
Figure 3-13. Moving rear screen	3-40
Figure 3-14. Rear area incursion screen	3-41
Figure 3-15. Stationary flank guard	3-43
Figure 3-16. Moving flank guard	3-45
Figure 3-17. Attack reconnaissance company support of cordon and search ..	3-46
Figure 3-18. Standard convoy security technique	3-48
Figure 3-19. Butterfly pattern convoy security technique	3-49
Figure 3-20. Inverted "Y" aerial escort formation	3-51
Figure 3-21. Air assault planning stages	3-52
Figure 3-22. Attached escort landing zone reconnaissance	3-53
Figure 3-23. Screen with rapid response team	3-55
Figure 3-24. Maximum screen line option	3-56
Figure 3-25. Computing en route time	3-57
Figure 3-26. Computing ground unit movement time	3-57
Figure 3-27. Example of simultaneous and continuous attacks	3-65
Figure 3-28. Example of a 45-degree simultaneous attack	3-66
Figure 3-29. Racetrack pattern	3-67
Figure 3-30. Example of a cloverleaf pattern	3-67
Figure 3-31. Example of an L-attack pattern	3-68
Figure 3-32. Example of a static attack pattern	3-69
Figure 3-33. Low-level attack	3-70
Figure 3-34. Bump attack	3-70
Figure 3-35. High attack	3-71
Figure 3-36. Engagement area development steps one and two	3-73
Figure 3-37. Engagement area development step three (part 1)	3-74
Figure 3-38. Engagement area development step three (part 2)	3-74
Figure 3-39. Engagement area development step three (part 3)	3-75
Figure 3-40. Techniques of fire distribution	3-77
Figure 3-41. Engagement area development step four (part 1)	3-79

Figure 3-42. Engagement area development step four (part 2)..... 3-80

Figure 3-43. Holding area occupation 3-85

Figure 3-44. Example of a standard set 3-86

Figure 3-45. Example of a nonstandard set 3-86

Figure 3-46. Example of an area sketch 3-101

Figure 3-47. Example of a network “spider web” route structure 3-102

Figure 3-48. Example of running fire technique 3-103

Figure 3-49. Example of hovering fire technique 3-104

Figure 3-50. Example of urban targeting grid system 3-105

Figure 3-51. Example of objective area reference grid system..... 3-105

Figure 3-52. Example of target reference points technique 3-106

Figure 3-53. Example of building numbering convention 3-107

Figure 3-54. Example of floor and window lettering convention 3-108

Figure 4-1. Two-level aviation maintenance and sustainment..... 4-7

Figure 4-2. Aviation support battalion..... 4-18

Figure 4-3. Standard army management information system architecture 4-21

Figure A-1. Roles and functions A-3

Figure A-2. Example aircraft survivability equipment/electronic warfare mission brief format..... A-6

Figure B-1. Mission planning through execution cycle..... B-9

Figure B-2. Fratricide risk factors B-12

Figure B-2. Fratricide risk factors (continued) B-13

Figure B-3. Risk reduction and/or fratricide prevention measures..... B-14

Figure B-4. Maneuver brigade combat teams B-15

Figure C-1. Lateral/geographic separation..... C-9

Figure C-2. Altitude separation..... C-10

Figure C-3. Time separation..... C-11

Figure C-4. CAS check-in briefing..... C-12

Figure C-5. CAS briefing format C-13

Figure C-6. Example of combined attack C-15

Figure C-7. Example of a sectored attack..... C-16

Figure C-8. Night JAAT and associated control measures C-19

Figure E-1. OH-58D weapons loading **Error! Bookmark not defined.**

Tables

Table 1-1. Attack reconnaissance battalion’s role in Army warfighting functions	1-2
Table 2-1. Battalion internal radio networks	2-4
Table 2-2. Battalion external radio networks	2-4
Table 2-3. Example of main command post occupation timeline	2-21
Table 2-4. Munitions selection	2-25
Table 2-5. Example cell assignments matrix	2-32
Table 2-6. Sample mission debrief	2-39
Table 3-1. Team tasks	3-2
Table 3-2. OH-58D/AH-64 Scout weapons team tasks	3-3
Table 3-3. Flank security movement methods.....	3-36
Table 3-4. Example marking techniques for pickup zones	3-52
Table 3-5. Close combat attack checklist for ground commander	3-60
Table 3-6. Attack reconnaissance team response	3-62
Table 3-7. Engagement area checklist	3-76
Table 3-8. Personnel recovery terms.....	3-89
Table 3-9. Types of escort	3-92
Table 3-10. Voice battle handover information	3-119
Table 3-11. AH-64D Digital battle handover information	3-119
Table 4-1. Classes of supply.....	4-3
Table B-1. Individual actions on the detect, identify, decide, engage, and assess process.....	B-1
Table B-2. Methods of marking friendly and enemy positions.....	B-5
Table B-3. Brevity list	B-7
Table C-1. Joint air attack planning guideline.....	C-6
Table C-2. Comparison of firepower timing options	C-14
Table C-3. Laser operations example radio calls	C-20
Table D-1. Example for predeployment and pretemporary duty	D-1
Table D-2. Example for convoy precombat inspection	D-2
Table D-3. Example for precombat inspections.....	D-4
Table D-4. Example for personnel recovery planning	D-4
Table D-5. Example for cordon and search.....	D-7
Table D-6. Example rescue mission brief	D-8
Table D-7. Example landing zone survey	D-9
Table D-8. Example spot report.....	D-9
Table D-9. Example convoy status report.....	D-10
Table D-10. Example weather advisory/watch report.....	D-10
Table D-11. Example rail load status report	D-11
Table D-12. Example closure report.....	D-11
Table D-13. Example aircraft slant report.....	D-11
Table D-14. Example personnel daily summary report	D-12
Table D-15. Example meaconing, intrusion, jamming, interference report	D-12
Table D-16. Example medical evacuation nine-line report.....	D-13
Table D-17. Example unexploded ordinance report	D-14
Table D-18. Example of a company/troop warning order	D-14
Table D-19. Example company/troop operation order.....	D-15
Table D-20. Example of flounder report.....	D-18
Table E-1. OH-58D characteristics	E-1
Table E-2. Typical OH-58D helicopter ordnance loads	E-3
Table E-3. Comparison of Apache specifications	E-4
Table E-4. AH-64D characteristics	E-5
Table E-5. AH-64D weapons loads, weights, and radius	E-7
Table E-6. Armed reconnaissance helicopter characteristics	E-8

Preface

Field manual (FM) 3-04.126, is intended for use by commanders, staffs, and United States military personnel expecting to operate and employ Army aviation attack reconnaissance units.

This FM is the Army's doctrine for how to fight and sustain attack reconnaissance helicopter battalions, squadrons, companies and troops. The operational concepts described in this manual are based on Army doctrine as established in FM 1, FM 3-0, and FM 3-04.111. Emphasis is placed on modular force structure and the enhanced operational capability provided by Army aviation transformation.

FM 3-04.126 applies to the Active Army, the Army National Guard/Army National Guard of the United States, the United States Army Reserve, and Army civilian employees across the spectrum of conflict, unless otherwise stated. It builds on collective knowledge and experience gained through recent operations, numerous exercises, and the deliberate process of informed reasoning. This publication is rooted in time-tested principles and fundamentals, while accommodating new technologies, and evolving responses to the diverse threats to our national security. This manual will also assist Army proponent schools in teaching attack reconnaissance helicopter operations.

FM 3-04.126 describes attack reconnaissance organizations, missions, command and control (C2), tactical employment and sustainment. It describes the responsibilities and duties of essential personnel during training, operations and combat. This manual is authoritative but not considered inflexible. Each situation in combat must be resolved by an intelligent interpretation and application of the doctrine set forth herein. Standardized battalion, squadron, company and troop operations are necessary for the effective employment of aviation battalion task forces. To this end, like companies and troops should follow similar operational and employment procedures. Appendixes A through D provide supplemental information on aircraft survivability, Army aviation air-ground integration, joint air attack team operations, and aircraft characteristics. A reference library is provided in Appendix E.

FM 3-04.126 furnishes a foundation for attack reconnaissance helicopter doctrine, force design, materiel acquisition, professional education, and individual and unit training.

The proponent of this publication is Headquarters, United States Army Training and Doctrine Command (TRADOC). Send comments and recommendations on Department of the Army (DA) Form 2028 (Recommended Changes to publications and Blank Forms) or automated link (<http://www.usapa.army.mil/da2028/daform2028.asp>) to Commander, United States Army Aviation Warfighting Center (USAAWC), ATTN: ATZQ-TD-D, Fort Rucker, Alabama 36362-5263. Comments may be e-mailed to the Directorate of Training and Doctrine (DOTD) at av.doctrine@us.army.mil. Other doctrinal information can be found on the Internet at Army Knowledge Online (AKO) or call defense switch network (DSN) 558-3551 or (334) 255-3551.

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

This publication has been reviewed for operations security considerations.

Chapter 1

Missions and Organization

The attack reconnaissance battalion (ARB) and attack reconnaissance squadron (ARS) are organized and equipped to support joint, interagency, multinational and Army operations. These units conduct continuous combat operations throughout the depth and breadth of the operational environment. Although their organization and missions differ by parent division, their principal focus is similar. Each unit focuses on time-tested fundamentals to achieve success. This chapter discusses these fundamentals and outlines basic organization, principal mission focus, and capabilities of the ARB. The organization description for each unit is based on the official table of organization and equipment (TOE). Operationally, all units are resourced according to the modified table of organization and equipment (MTOE), so actual organizations may look different from the TOEs described in this FM.

Note: Throughout this manual, for readability, the term company includes troop, and battalion includes squadron. The terms troop and squadron may be used when specifically discussing air cavalry squadrons (ACs) or their respective subordinate units.

SECTION I – OVERVIEW

COMBINED ARMS

1-1. Combined arms is the synchronized and simultaneous application of the warfighting functions (WFFs) to achieve an effect that is greater than if each arm were used in sequence. It is the full integration of different capabilities in such a way that, to counteract one, the enemy must become more vulnerable to another. Combined arms employ all the WFFs and their supporting systems. Combined arms multiply the effectiveness of Army forces in all operations.

1-2. Employing combined arms is simple in concept. However, it requires highly trained Soldiers, skilled leadership, effective staff work, and integrated information systems. Combined arms operations must be synchronized so the effects of combat power occur simultaneously. *Synchronization* is the arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time. (FM 1-02) Through synchronization, commanders arrange WFFs to mass the effects of combat power at the chosen place and time to overwhelm an enemy or dominate the situation.

1-3. Combined arms are achieved through organizational design (standing organizations) and temporary reorganization (tailored and task-organized units). For example, units organic to brigade combat teams (BCTs) perform all WFFs. However, the BCT does not organically include Army aviation. When required, the capabilities are added through tailoring and task-organizing, temporarily subordinating elements of different units under one commander.

1-4. Aviation battalions plan, coordinate, and execute operations. They create opportunities for commanders to disrupt the enemy's decision-making process, forcing them to make decisions that disrupt

Contents	
Section I – Overview.....	1-1
Section II – Missions	1-4
Section III – Organization.....	1-5

initial plans. The battalion—through coordination, liaison, C2, situational awareness (SA), and situational understanding (SU)—helps set conditions for the force's success.

1-5. The ARB conducts full spectrum operations (FM 3-90) in support of their higher headquarters. The ARB supports offensive and defensive operations (reconnaissance, security, and attack) against armored or mechanized equipped threat forces, and against lighter equipped or insurgent forces. The ARB is less suited for stability and civil support operations based on organization, but can support these operations by providing security (area, route, and convoy) and quick reaction force (QRF) capability and reconnaissance through the supported unit's intelligence, surveillance, and reconnaissance (ISR) operations.

FUNDAMENTALS

- 1-6. All battalions should be able to—
- Plan and conduct strategic deployment.
 - Conduct administrative and tactical movements.
 - Coordinate with supported maneuver units.
 - Develop and maintain intelligence preparation of the battlefield (IPB).
 - Use the full spectrum of communications means to satisfy internal and external requirements for combat information.
 - Act as a battalion task force (TF) headquarters.
 - Conduct multiple simultaneous operations.
 - Plan multiple future operations.
 - Conduct liaison with adjacent and supported units.
 - Protect and sustain their forces.
 - Conduct air-ground intergration.

ARMY WARFIGHTING FUNCTIONS

1-7. Battalion commanders and staffs must be fully aware of the six Army WFFs (see field manual interim [FMI] 5-0.1). Table 1-1 gives examples of tasks the ARB may perform in support of each WFF.

Table 1-1. Attack reconnaissance battalion's role in Army warfighting functions

Army Warfighting Function	ARB's Role
Movement & Maneuver	<ul style="list-style-type: none"> ● Engage enemy forces decisively through attack operations. ● Shape the operational environment through aggressive IAs, reconnaissance, and security operations.
Intelligence	<ul style="list-style-type: none"> ● Assist commander and staff in conducting IPB. ● Provide higher headquarters SA. ● Confirm or deny elements of the ISR plan and priority intelligence requirements. ● Conduct reconnaissance to allow commander to make informed decisions, delegate authority, and synchronize the WFFs. ● Conduct reconnaissance to find bypasses, adequate sites and routes, and provide overwatch for ground operations.
Fire Support (FS)	<ul style="list-style-type: none"> ● Designate for laser-guided artillery or other service munitions. ● Conduct counterbattery fires to find and target enemy mortars and artillery. ● Synchronize indirect fires to delay, disrupt, or destroy enemy forces, systems, and facilities.
Sustainment	<ul style="list-style-type: none"> ● Generate combat power in support of ground operations. ● Perform reconnaissance to identify routes and provide pickup zone (PZ), landing zone (LZ), or convoy security. ● Provide security for air movement of personnel, supplies, and equipment in support of

Table 1-1. Attack reconnaissance battalion's role in Army warfighting functions

Army Warfighting Function	ARB's Role
	ground forces, refugees, or disaster victims.
C2	<ul style="list-style-type: none"> • Provide backup radio communications with supported forces.
Protection	<ul style="list-style-type: none"> • Provide direct fires and/or call for indirect fires to cover obstacles. • Provide security for ground movement, assembly area (AA), and fixed based operations.

DECISIVE, SHAPING, AND SUSTAINING OPERATIONS

1-8. The ARB may operate over a dispersed area of operations (AO) supporting their higher headquarters through decisive, shaping, and sustaining operations (FM 3-0).

Decisive Operations

1-9. The battalion participates in decisive operations to find, fix, and destroy enemy forces (especially moving forces), and to confirm intelligence. Decisive operations do not require the presence of overwhelming forces; they simply require the ability to mass overwhelming firepower and other effects at the time and place where the enemy's assets and strengths are most vulnerable. The battalion may be tasked to perform movement to contact or attack operations including close combat attack (CCA), interdiction attack (IA), or a raid. ARBs also support decisive operations by conducting reconnaissance to confirm intelligence.

Shaping Operations

1-10. Shaping operations establish conditions for success of the decisive operation by setting the battlefield to our advantage. Shaping includes lethal and nonlethal operations that make the enemy vulnerable to attack, impede or divert its attempts to maneuver, provide combat support to facilitate the maneuver of friendly forces, enhance deception, or otherwise dictate the time and place for decisive battle. Through shaping, commanders gain the initiative, preserve momentum, and control the tempo of combat. Shaping operations may occur with, before, or after initiation of decisive operations and may involve any combination of forces.

1-11. Some shaping operations, especially those that occur simultaneously with the decisive operation, are economy of force actions. If the available force does not permit simultaneous decisive and shaping operations, the commander sequences shaping operations around the decisive operation. A shaping operation may become the decisive operation if circumstances or opportunities dictate. In that case, the commander weighs the new decisive operation at the expense of other shaping operations.

1-12. In addition to finding, fixing, and destroying enemy forces and confirming intelligence, the battalion can facilitate shaping operations by—

- Conducting reconnaissance and surveillance (R&S) operations to complement other maneuver forces.
- Orchestrating joint air attack team (JAAT) operations.
- Providing security for air assault and air movement operations.
- Conducting feint and/or demonstration operations.

Sustaining Operations

1-13. Sustaining operations generate and maintain combat power. Failure to sustain normally results in failure of the overall effort. Sustaining operations at any echelon are those that assist the decisive and shaping operations by ensuring freedom of action and continuity of operations. Sustaining operations include base security, maintenance, sustainment, movement control, terrain management, and protection of lines of communications (LOCs) and headquarters.