FOSTER COPY

FM 100-5

DEPARTMENT OF THE ARMY FIELD MANUAL

Superseded by
FM 100-5
1 July 1976

RESTRICTED
FOR HISTORICAL USE ONLY

OPERATIONS

OF

ARMY FORCES IN THE FIELD

PROPERTY OF
QUARTERMASTER SCHOOL LIBRARY
U. S. ARMY QUARTERMASTER SCHOOL
FORT LEE, VA. 23801

PROPERTY OF
LIBRARY
FORT LEE 23801

HEADQUARTERS, DEPARTMENT OF THE ARMY

SEPTEMBER 1968

TAGO 5318A

CHANGE
No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *17 December 1971*

OPERATIONS OF ARMY FORCES IN THE FIELD

FM 100-5, 6 September 1968, is changed as follows:

1. This change substitutes a new Chapter 7, Air Movements and Airborne Operations, for the old Chapter 7, Airborne Operations. It changes the title of chapter 10 from Air Operations to Airspace Utilization and Coordination. Paragraphs 4-34.1 and 4-34.2 are added. Paragraphs 4-34, 5-25, 10-2, 10-3, and 10-5 are changed. Appendix A, References, is revised to delete some field manuals and to add others, and the index has been revised.
2. New or changed material is indicated by a star.
3. Remove old pages and insert new pages as indicated below.

Remove pages—	*Insert pages—*
i and ii	i and ii
4-11 through 4-14	4-11 through 4-14
5-9 and 5-10	5-9 and 5-10
7-1 through 7-8	7-1 through 7-11
10-1 and 10-2	10-1 and 10-2
A-1 and A-2	A-1 through A-3
Index-1 through Index-5	Index-1 through Index-9

4. File this change sheet in front of the publication for reference purposes.

By Order of the Secretary of the Army:

W. C. WESTMORELAND,
General, United States Army,
Chief of Staff.

Official:

VERNE L. BOWERS,
Major General, United States Army,
The Adjutant General.

Distribution:

To be distributed in accordance with DA Form 12-11 requirements for Field Service Regulations —Operations.

FIELD MANUAL
No. 100-5

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *6 September 1968*

OPERATIONS OF ARMY FORCES IN THE FIELD

			Paragraph	Page
CHAPTER	1.	STRATEGY AND MILITARY FORCE		
Section	I.	General	1-1—1-6	1-1
	II.	Nature of conflict	1-7—1-11	1-2
	III.	The nature of military power	1-12—1-15	1-3
	IV.	The nature and role of land forces	1-16, 1-17	1-5
CHAPTER	2.	THE OPERATIONAL ENVIRONMENT		
Section	I.	General	2-1, 2-2	2-1
	II.	Elements of the operational environment and their effects	2-3—2-7	2-1
CHAPTER	3.	COMMAND		
Section	I.	The commander	3-1—3-7	3-1
	II.	Chain of command	3-8—3-11	3-2
	III.	Command and staff relationships	3-12—3-15	3-2
	IV.	Decisionmaking	3-16—3-22	3-3
	V.	Planning and execution	3-23, 3-24	3-4
	VI.	Joint and combined operations	3-25—3-29	3-5
CHAPTER	4.	ORGANIZATION AND CHARACTERISTICS OF THE ARMY IN THE FIELD		
Section	I.	General	4-1—4-4	4-1
	II.	Organization of theater (area) of operations	4-5—4-12	4-1
	III.	Organization of Army forces	4-13—4-22	4-4
	IV.	Combat elements	4-23—4-26	4-7
	V.	Combat support elements	4-27—4-35	4-8
	VI.	Combat service support elements	4-36—4-41	4-13
CHAPTER	5.	THE PRINCIPLES OF WAR AND OPERATIONAL CONCEPTS		
Section	I.	Principles of war	5-1—5-11	5-1
	II.	Combat power	5-12, 5-13	5-2
	III.	Related factors	5-14—5-19	5-4
	IV.	Subsidiary and supporting operations	5-20—5-27	5-7
CHAPTER	6.	CONDUCT OF BATTLE		
Section	I.	General	6-1, 6-2	6-1
	II.	Comparison of nuclear and nonnuclear warfare	6-3—6-6	6-1
	III.	Offensive operations	6-7—6-18	6-5
	IV.	Defensive operations	6-19—6-26	6-13
	V.	Retrograde operations	6-27—6-32	6-18
	VI.	Rear area protection	6-33—6-39	6-21
	VII.	Battle under special conditions	6-40—6-49	6-23
	VIII.	Relief of combat units	6-50—6-52	6-29
	IX.	Operations during unrestricted scale of use of nuclear weapons	6-53—6-56	6-30
CHAPTER	7.	AIR MOVEMENTS AND AIRBORNE OPERATIONS		
Section	I.	General	7-1—7-6	7-1

* This manual supersedes FM 100-5, 19 February 1962, including all changes.

			Paragraph	Page
Section	II.	Organization and mission of airlift forces	7-7—7-10	7-2
	III.	Strategic air movements	7-11—7-13	7-4
	IV.	Basic planning considerations	7-14—7-26	7-5
	V.	Planning and conducting air movements and airborne operations	7-27—7-38	7-8
	VI.	Combat service support for airborne operations	7-39—7-43	7-10
CHAPTER 8.		AIRMOBILE OPERATIONS		
Section	I.	General	8-1, 8-2	8-1
	II.	Concept of Army airmobile operations	8-3, 8-4	8-1
	III.	Application of the principles of war to airmobile operations	8-5—8-14	8-2
CHAPTER 9.		AMPHIBIOUS OPERATIONS		
Section	I.	General	9-1—9-5	9-1
	II.	Organization and command	9-6—9-11	9-2
	III.	Intelligence	9-12, 9-13	9-4
	IV.	Plans and operations	9-14—9-20	9-4
	V.	Combat service support	9-21—9-25	9-7
CHAPTER 10.		AIRSPACE UTILIZATION AND COORDINATION		
Section	I.	General	10-1—10-3	10-1
	II.	Air superiority	10-4—10-6	10-1
	III.	Army participation in air superiority operations	10-7—10-11	10-3
	IV.	Air defense	10-12—10-22	10-3
	V.	Air traffic regulation	10-23, 10-24	10-6
CHAPTER 11.		UNCONVENTIONAL WARFARE		
Section	I.	General	11-1—11-6	11-1
	II.	UW in support of conventional military operations	11-7—11-12	11-1
	III.	Guerrilla warfare	11-13—11-23	11-3
	IV.	Evasion and escape	11-24	11-6
	V.	Subversion	11-25, 11-26	11-6
CHAPTER 12.		COLD WAR OPERATIONS		
Section	I.	General	12-1—12-5	12-1
	II.	Basic considerations	12-6—12-9	12-2
	III.	Intelligence and security	12-10—12-12	12-3
	IV.	Employment of forces	12-13—12-18	12-4
CHAPTER 13.		STABILITY OPERATIONS		
Section	I.	General	13-1—13-5	13-1
	II.	Employment of the U.S. Army	13-6—13-9	13-3
	III.	Military intelligence	13-10—13-13	13-5
	IV.	Combat service support	13-14—13-17	13-5
	V.	Civil affairs	13-18—13-20	13-7
	VI	Psychological operations	13-21—13-25	13-9
APPENDIX A.		REFERENCES		A-1
INDEX				Index-1

By Order of the Secretary of the Army:

W. C. WESTMORELAND,
General, United States Army,
Chief of Staff.

Official:
KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

Distribution:
To be distributed in accordance with DA Form 12-11 requirements for Field Service Regulation—Operations.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1968—345-502/5318A

CHAPTER 1

STRATEGY AND MILITARY FORCE

Section I. GENERAL

1-1. Purpose and Scope

a. This manual is a guide for operations of U.S. Army forces in the field. The doctrine contained herein applies to all levels of command in a theater of operations, and particularly to levels above division. Military operations are actions, or the carrying out of strategic, tactical, service, training, or administrative military missions. They encompass all combat activity, including movement, supply, attack, defense, and maneuvers needed to gain the objectives of any battle or campaign. The discussion of military operations is necessarily broad in scope but provides a basis for common understanding and the conduct of training. The procedures discussed herein are flexible.

b. The contents of this manual are applicable to the following levels of conflict—

(1) General war, to include consideration of the employment of and protection from nuclear, biological, and chemical (NBC) munitions; and operations in NBC environments.

(2) Limited war.

(3) Cold war, to include stability operations.

c. This manual is in consonance with the following international standardization agreements, which are appropriately identified by type of agreement and number at the beginning of each chapter in the manual: STANAG 2082, SEASTAG 2082, and SOLOG 49R, *Relief of Combat Troops;* STANAG 2083, SEASTAG 2083, and SOLOG 128, *Radiological Hazards;* STANAG 2088 and SOLOG 108, *Battlefield Illumination;* STANAG 2099 and SEASTAG 2099, *Fire Coordination in the Land/Air Battle;* STANAG 2101, SEASTAG 2101, and SOLOG 104, *Principles and Procedures for Establishing Liaison;* and STANAG 2104 and SOLOG 130, *Friendly Nuclear Strike Warning to Armed Forces Operating on Land.*

d. Users of this manual are encouraged to submit recommendations to improve its clarity or accuracy. Comments should be keyed to the specific page, paragraph, and line of the text in which the change is recommended. Reasons should be provided for each comment to insure understanding and complete evaluation. Comments should be forwarded direct to the Commanding General, U.S. Army Combat Developments Command Institute of Combined Arms and Support, Fort Leavenworth, Kansas 66027. Originators of proposed changes that would constitute a significant modification of approved Army doctrine may send an information copy, through command channels, to the Commanding General, U.S. Army Combat Developments Command, Fort Belvoir, Virginia 22060, to facilitate review and followup.

1-2. Terminology

Terms used in this text are in accordance with the Army, joint, and general dictionaries.

1-3. National Objectives

a. Each nation establishes broad objectives, the attainment of which further its national interest. These objectives serve as the bases for the formulation of policies designed to control governmental actions, including internal functions and external relations.

b. No two nations have precisely the same objectives. In a given set of circumstances each will react according to its needs. National objectives may bring a nation into conflict with other nations whose goals differ. Conversely, these objectives may lead a nation into alliances with other nations whose aims are similar.

1-4. National Strategy

National strategy is the long-range plan through which a nation applies its strength toward the attainment of its objectives. A national strategy, in its broadest sense, is applicable to either peace or war. It encompasses and employs all the elements of national power—political, economic, psychological, sociological, and military—and exploits other national assets, such as geographic location and spiritual and cultural attitudes. Although it is flexible and adaptable to the contingencies of the moment, a national strategy is basically stable. Its character rarely changes as long as it results in progress toward the ultimate objectives of the nation concerned.

1-5. U.S. National Objectives and National Strategy

In brief, the national objectives of the United States are to insure its security and freedom and to establish and maintain worldwide conditions of peace, security, and justice. U.S. national strategy is to attain these objectives through peaceful measures; it rejects aggression as an acceptable course of action. The United States emphasizes deterrence of war; however, it is capable of waging war at any level of conflict should deterrence fail.

1-6. Military Strategy

a. Military strategy is the art and science of using the armed forces of a nation to secure the objectives or the national policy by applying force or the threat of force. It directs the development and use of the military means that further national strategy through the direct or indirect application of military power. Military strategy is derived from and is an integral part of national strategy in either peace or war.

b. Because the purpose of war is to attain national objectives, military strategy must be geared to these objectives. Although military considerations enter into the development of national strategy, in the final analysis national objectives shape both national and military strategy. In consequence, a nation's military operations must complement and be compatible with its national objectives.

Section II. NATURE OF CONFLICT

1-7. Categories and Characteristics of Conflict

Conflicts between nations may vary from mere disagreements and conflicts of interest to basic and irreconcilable differences in national ideologies and objectives. The former are often subject to resolution by arbitration or concession and do not necessarily result in hostilities between the nations concerned. The latter type of conflict may be considered a form of war whether characterized by the employment of military force or by the application of national power short of military force.

1-8. The Spectrum of War

The spectrum of war encompasses the full range of conflict—cold, limited, and general war—and reflects the nature and magnitude of violence involved in each form. At one end of the spectrum is cold war, in which military force is employed up to the point of open armed conflict involving regular military forces. The other end of the spectrum is general war in which unrestricted military force is applied. The central portion of the spectrum is limited war in which the wide range of conflicts between cold war and general war occurs. The U.S. Army must be capable of conducting operations under each or all of these forms of war in all geographic areas of the world.

1-9. Cold War

Cold war is a state of international tension wherein political, economic, technological, sociological, psychological, paramilitary, and military measures short of overt armed conflict involving regular military forces are employed to achieve national objectives. Cold war includes the complete scope of actions, other than limited or general war, that can be used in a power struggle between contending nations or coalitions. The contending powers may seek an advantage in many ways, employing not only political, economic, and psychological

strengths, but military strength as well. Military forces have important cold war functions and can directly or indirectly contribute to the attainment of national objectives. Reserves may be mobilized or active forces deployed to deter another nation from use of force. Military forces may be used to encourage a friendly government in difficulty, to stabilize an unsettled area, to maintain or restore order, to assist in nation-building activities, or to protect personnel and property. Although the basic characteristic of cold war is the absence of overt armed conflict between the military forces of the contending nations, the dividing line between cold war and limited war is neither distinct nor absolute. Regular military forces may be required to conduct cold war operations that involve incidents.

1-10. Limited War

Limited war is armed conflict short of general war, exclusive of incidents, involving the overt engagement of the military forces of two or more nations. Limited war is characterized by conscious restraint on the part of the belligerents with regard to one or more of its aspects; e.g., objectives, weapons, locale, or participants. The scope, intensity, and duration of limited wars may vary widely, depending on the degree of restraint applied. The term "limited" does not imply that this type of war is small from the standpoint of geographic area or the number of military forces involved, or that the results of such a conflict are of minor consequence when viewed from a national or international level. It is impossible to locate with precision the point at which relaxation of restraints will transform limited war into general war. The upper limits of limited war are not exceeded until one belligerent concludes that it is in his national interest to discard all restraints.

1-11. General War

General war is armed conflict between major powers in which the total resources of the belligerents are employed and the national survival of a major belligerent is in jeopardy. It is characterized by a lack of restraints and may include the use of NBC operations against the homeland of the major belligerents. General war is the category of conflict most likely to be undertaken in response to a direct and immediate threat to national survival.

Section III. THE NATURE OF MILITARY POWER

1-12. General

Military power is that element of national power which is designed to apply force in the implementation of national policy and in the attainment of national objectives. The effectiveness of military power is measured by its capability to support the national objectives. Military power is subordinate to and must be compatible with national policies and objectives. Military forces, the operating element of military power, must be capable of exerting physical force in a manner and on a scale that will insure the attainment of these goals.

1-13. Characteristics of Military Forces

Military forces consist of men organized, equipped, and trained to conduct military operations. They reflect the objectives of their nation and its international commitments and the nature of the threat it faces. Thus, no two nations provide themselves with precisely the same types of forces or organize for combat in precisely the same manner. In nations where the predominant threat is internal, the forces may be organized principally to maintain order and promote stability. Allies and members of coalitions often attain some degree of standardization in weapons and materiel, in general organization, and in doctrine. They may even rely on one another for certain specialized functions; e.g., nuclear weapon support or logistic support.

1-14. U.S. Military Power

a. In the pursuit of its national objectives, the United States has worldwide commitments to other nations. As a consequence, its Armed Forces must not only be capable of insuring the security of the United States, but must also be designed to—

(1) Deter aggression at any level;

(2) Defeat aggression wherever and in whatever form it may occur; and,

(3) Support both military and nonmilitary programs of the United States and, selectively, those of its allies.

b. To meet these broad and complex requirements, the United States must maintain land, sea, and air forces that can—

(1) Defeat aggression short of general war in a manner that reduces the risk of the conflict expanding to general war. A portion of the forces that provide this capability is deployed overseas; the remainder is held in strategic reserve in the United States. The latter reinforces the deployed forces or intervenes rapidly in threatened areas where U.S. forces are not regularly stationed. Whether deployed or held in strategic reserve, all forces must be capable of operations with or without NBC weapons.

(2) Deliver devastating nuclear attack upon any aggressor, even after sustaining the first strike in a general war. Strategic nuclear strike forces are the primary offensive element of this capability; air defense forces, protecting the key population and production centers, are the active defensive element. To gain and maintain control over the people and land areas necessary to achieve U.S. objectives, balanced ground, sea, and air forces either in being or readily mobilized must be available to follow up advantages gained from the initial nuclear attack.

(3) Meet the logistic requirements created by the various forms of war by strategically positioning stockpiles of supplies.

(4) Sustain themselves in combat, building up rapidly to required levels by mobilizing high-quality reserve forces and employing a sound training base.

(5) Assist, through the Military Assistance Program, in developing military strength and economic and political stability of selected friendly nations.

1–15. Employment of Military Forces

a. General. Military force may be employed in any form of conflict. Force, or the threat of force, is common in relations between nations when major conflicting objectives are involved. However, military forces cannot effectively apply force, or credibly threaten to apply it, unless they can do so selectively. The type and degree of force available must be compatible with the nature and setting of the conflict at hand and the objectives sought. Forces, strategy, doctrine, and weapons should possess flexibility that enables them to serve national policy in any contingency and at any selected level of conflict. However, limitations on the degree of force applied do not diminish the force and vigor with which military operations are executed.

b. Flexibility and Adaptability in Employment.

(1) U.S. military forces must be able to operate effectively across the entire spectrum of war, in any area where conflict may occur, and under any foreseeable restraints, employing military power selectively in accordance with assigned missions and prescribed limitations. The force applied must be sufficient to achieve the assigned objectives. U.S. military forces must, therefore, be capable of operating concurrently and effectively throughout the world in one or more situations short of general war while retaining a capability for conducting general war. The forms of conflict involved in these situations may vary widely, as follows:

(*a*) Cold war situations in which tension or violence might at any time increase in scope to a more intense form of conflict.

(*b*) Limited wars in many combinations of locale, intensity, duration, and participants. These may be nonnuclear war, with little or no threat of nuclear conflict; nonnuclear war, in which nuclear operations are a clear and imminent threat; or limited, tactical nuclear war. In each case, U.S. military forces will be employed in a manner best calculated to achieve the national objectives and to prevent limited war from spreading to general war.

(*c*) General warfare growing from limited war, or initiated with a sudden nuclear weapon exchange.

(2) A wide range of political and military considerations determines the limitations on the use of military force in war. Normally, it

will be impossible to predict the precise nature of these limitations and to determine with certainty whether NBC weapons will be available to the military commander. It is impractical, however, to develop new types of forces or weapons after the enemy has initiated their use, or national authority has modified original restraints. U.S. military forces must be able to adapt to any form of conflict instantly. They must, therefore, have an existing multicapability. They must be organized, equipped, and trained for immediate and successful employment with or without NBC weapons. The following doctrine applies to the employment of multicapable forces:

(*a*) The disposition of any military force depends on the commander's assessment of the threat, to include the danger of nuclear attack, the requirements of the mission, and the means and time available to effect the disposition required. Evaluating the risks involved, the commander determines the extent to which the force will disperse, and the location and state of readiness required of his nuclear delivery means.

(*b*) Basic limitations on the use of military force, such as the use of NBC or other weapons, may be imposed at the national level. Nevertheless, within such limitations, field commanders are allowed some latitude. To exercise this discretion properly, these commanders should be thoroughly conversant with the national objectives underlying whatever restraints have been applied.

(*c*) Control of weapons capable of delivering nuclear fires is decentralized to the lowest level consistent with efficiency and in compliance with national restraints.

c. Readiness.

(1) The destructive power of modern weapons and the speed with which they can be employed have increased the importance of readiness. All active and reserve forces and their materiel must be maintained in a readiness condition commensurate with their assigned readiness capability.

(2) Accurate, complete, and timely intelligence is vital both to readiness and to success in military operations. Detailed intelligence on actual or potential theaters (areas) of war must be available to commanders at all levels and must include intelligence on enemy dispositions, composition, strength, recent and present significant activities, peculiarities and weaknesses, capabilities, and probable courses of action. Timely and thorough assessments of these factors are of particular importance in cold and limited wars. It is essential to avoid surprise by sudden changes in the scope, type, or intensity of conflict. Contingency planning should be complete and current, with particular attention given to base development in underdeveloped areas of the world.

(3) The readiness of combat forces for deployment can be increased by prepositioning certain items or complete unit equipment in strategically advantageous locations.

d. Employment in Combined Military Actions.

(1) In combined military actions, two or more nations commit their military and other strengths to the attainment of a common objective. These objectives are generally similar to, if not identical with, the national objectives of the participating nations.

(2) The success of combined military actions depends on mutual purpose, mutual confidence, and sound organization and planning. These require the existence of flexible and diverse military power. Both membership and particularly leadership in multinational actions normally require the commitment of military forces that can contribute materially to meeting the threat under any of a wide variety of circumstances.

Section IV. THE NATURE AND ROLE OF LAND FORCES

1-16. General

Land forces are organized, trained, and equipped for sustained combat operations in the land environment. This environment consists of the earth's land surfaces and the contiguous water boundaries and layers of air. Land forces, therefore, include ground units and cer-

tain ground/air systems and waterborne elements.

a. The Department of Defense is organized on the premise that land, sea, and air power are interdependent elements to be applied under unified direction and command toward the attainment of U.S. objectives.

b. Land power is the power to exercise direct, continuous, and comprehensive control over the people living on the land. In peace, land power is the basis of the stability and internal security essential to a free society. In war, the ultimate and decisive act occurs when one nation imposes its will on another. The ultimate aim of both sea and air power is to influence the situation and operations on land; land power makes permanent the otherwise transient advantages gained by air and naval forces.

c. The nature of the environment in which a military force operates has a marked effect on its philosophy and doctrine. The land is a surface of infinite variety that is complicated by vegetation, by climatic extremes, and by the presence of man. The problems of land combat, therefore, are not susceptible to simple solution; no formula or rule of thumb can be applied in all circumstances. There is, therefore, no simple dogma or slogan that captures the essence of land power. Planning for land operations is inevitably complex, detailed, and hedged with provisions for various contingencies. Similarly, the tactics and organization of land forces are complicated and cannot readily be evaluated by mathematical methods. An effective military force must be adaptable to the environment in which it operates, to the enemy it faces, and to the national policy it serves.

1-17. The Role of U.S. Land Forces

The fundamental purpose of U.S. military forces is to preserve, restore, or create an environment of order or stability within which the instrumentalities of government can function effectively under a code of laws.

a. Cold War.

(1) Worldwide stability, law, and order are important to the attainment of U.S. national objectives. The nonmilitary foreign assistance programs of the United States are designed to foster freedom in such an atmosphere. U.S. Armed Forces support these programs by conducting complementary military assistance, operations, and military civic action or by assisting host countries in such activities.

(2) Land forces are particularly adaptable to establishing and maintaining stability, to handling disorders, and to providing support of legal authority. Land forces in oversea areas are a real and credible deterrent to war and a means by which the United States can assist its allies in dealing with disorders inspired and directed by hostile states. Over and above their physical contribution, these forces play an important role in the psychology of deterrence. The presence of armed and disciplined men inhibits violence as no other manifestation of national power can. These forces are also a tangible, visible guarantee that the United States honors its international commitments. U.S. land forces deployed under collective security arrangements are a visible example of this mutual trust and confidence upon which collective security—an essential ingredient of U.S. security—depends. A strategic reserve of land forces must be available to perform similar functions in areas where U.S. land forces are not regularly stationed or to supplement those already located in oversea areas.

(3) U.S. land forces also play a predominant part in the U.S. military effort to encourage and assist indigenous armed forces in their nation-building role. The armies of most emerging nations are not merely security forces, but are forces in the forefront of the modernization process within their countries. Such programs assist in the prevention and suppression of insurgency. In those nations not faced with a real external threat, this may be the primary mission of the national armed forces concerned. U.S. land forces organize advisory and support efforts for such armies accordingly and assist in the planning and execution of military civic action and other aspects of internal development programs.

b. Limited War. Limited aggression presents a double problem. On one hand, aggression must be opposed promptly and forcibly. On the other hand, force must be applied in a manner that reduces the risk of the conflict expanding

into general war. Military objectives always stem from national objectives; thus, military operations must be conducted within the limits established by national policy. The flexibility and versatility of land forces offer the United States a variety of military measures from which to select a course of action both appropriate to the aggression and compatible with the national security interests. From a reinforced company to a force of several Army corps, a land force can field self-contained units organized for the tasks that may face the United States and its allies. These forces can be provided any of several major capabilities and may be—

(1) Basically armor or infantry.

(2) Heliborne, airborne, or amphibious assault forces.

(3) Provided nuclear fire support to supplement their conventional fires.

(4) Provided the combat support and combat service support that make them capable of sustained combat operations.

c. General War.

(1) General war normally is conducted in two phases. Either phase may precede the other or both may be initiated concurrently. One phase involves unrestricted nuclear weapon exchange. The other consists of operations in which each belligerent attempts to impose his will on the enemy by consolidation and exploitation of any advantage to bring the conflict to conclusion on his own terms.

(2) The United States and its allies must be prepared to fight a general war and to conclude it on terms most advantageous to the free world. This requires equal attention to both phases, for while effectiveness in the nuclear exchange is important, it is the consolidation and exploitation phase that will be conclusive. Any advantage gained in the nuclear exchange phase would be dissipated should the United States and its allies be unable to capitalize on it. Also, and equally serious, a potential enemy might come to believe, to the detriment of the deterrent, that he could recoup or counterbalance losses caused by the nuclear exchange through unopposed conquest in the subsequent phase.

(3) Land forces play a significant part in deterring a general war. For example, the U.S. Army's air defense weapons reduce U.S. vulnerability to enemy long-range strike forces. The Army's deployed forces, in conjunction with allied forces, stand between potential aggressors and critical resources, serving notice that there will be no easy conquests following a nuclear exchange. The strategic reserve of land forces lends weight and authority to the deterrent effect of U.S. and allied land forces throughout the world.

(4) In the event of general war, the military forces of the United States and its allies must be capable of devastating retaliation against the aggressor, while at the same time minimizing domestic damage and aiding in the process of recuperation; of withstanding conventional aggressor forces in their inevitable surge toward key strategic areas; and of undertaking military operations that will establish the degree of control over hostile populations necessary to conclude the conflict on terms compatible with U.S. and free world interests. In all these actions, armies will play a major role and in some they will be the decisive force. Air defense forces will reduce damage to key control, population, and production centers. Both active and reserve forces will aid and support civil authority in national recuperation. Armies will provide the backbone of the defense of the free world perimeter, denying to the aggressor and securing for the free world those resources that will later facilitate decisive operations. This initially defensive mission is all important, for control of residual resources of the post-strike world, natural and manmade, will be essential to survival. In combination with control of strategic areas and routes, these resources will give the decisive advantage to whichever belligerent controls them. Land forces provide a means of insuring that required resources, routes, and areas are available to the United States and its allies.

CHAPTER 2
THE OPERATIONAL ENVIRONMENT

Section I. GENERAL

2-1. Scope
This chapter deals with the operational environment confronting military forces in a theater (area) of operations and the elements that shape and influence it. The specific areas discussed include national policy, the operational area, local government and population, the opposing forces, and weapon systems.

2-2. Basic Considerations
a. The operational environment is a composite of the conditions, circumstances, and influences that affect the employment of military forces and that bear on the decisions of the commander. Major elements comprising the operational environment include—

(1) National objectives sought through conduct of operations and the supporting national policy considerations that influence the manner of accomplishing these objectives.

(2) The military objectives of the operation.

(3) The physical features of the operational area and the characteristics and attitudes of its government and people.

(4) The composition and missions of the opposing forces.

(5) The weapon systems employed or contemplated.

The operational environment not only influences the manner in which military forces are employed, but also the size, composition, and command and organizational structure of these forces.

b. The elements comprising the operational environment involve a wide range of conditions and circumstances within which military forces must be capable of operating effectively. It is the intangibles in or resulting from the wide environmental spectrum that make it impossible to reduce the conduct of military operations to a series of precise axioms and simple directions.

c. The operational environment imposes certain limitations on the freedom of action of commanders at all levels. These restrictions are normal and occur in all forms of military operations. The restraints imposed in general war, however, are less frequent and less specific than those imposed in limited or cold war.

d. While subsequent chapters of this manual set forth broad principles and concepts for the conduct of military operations, the application of these principles and concepts is qualified by the operational environment that prevails at a given time. Their application requires employment of sound professional military knowledge and judgment.

Section II. ELEMENTS OF THE OPERATIONAL ENVIRONMENT AND THEIR EFFECTS

2-3. National Policy
a. National policy translates national objectives into broad courses of action. It affects assignment of objectives to military forces, the size and composition of the forces, the resources with which the forces are provided, and the manner in which they are employed, to include the constraints within which they operate. National policy also influences relations with allied military forces, the command and organization of combined forces, and relations with local populations and governments.

b. National policies are frequently tempered by international coalitions, alliances, and

agreements and by the additional influence of opinions and attitudes of neutral nations. The influence of these extranational factors may be reflected in confinement of the theater (area) of operations, limitations in military objectives, or restrictions in the employment of certain weapons.

2–4. The Theater (Area) of Operations

a. The physical features, population density and distribution, climate and weather of the theater (area) of operations affect the organization and composition of military forces and the manner in which they are employed.

b. The size, composition, and organization of forces are affected by the size and configuration of the theater (area) of operations, which may vary from an island or archipelago to a large, continental landmass. Closely allied to size and configuration are the resources available in the theater; the existing highway nets, rail systems, port facilities, and airfields; and the length of lines of communications. Other important factors include the density and distribution of the population and the number and location of critical areas that must be held to insure control. These interrelated factors determine the number of troops that can be employed and sustained, as well as the proportion of combat to combat support and combat service support forces. This, in turn, affects the organizational and command structure. The configuration of the terrain and the extent and type of vegetation in the operational area influence the type of forces assigned, especially where these factors present difficulties in the operation, support, and maintenance of heavy equipment or require that special equipment be issued the troops.

c. Such factors as natural obstacles and extreme conditions of weather and climate reduce the operational capabilities of troops and increase the difficulty of supporting them. For this reason, modification of the operational concepts in chapter 5 and the tactical principles in chapter 6 is frequently necessary to meet local conditions. Paragraphs 6–40 through 6–49 contain a detailed discussion of battle under special conditions.

2–5. Local Government and Population

The local government and population in the theater (area) of operations exert considerable influence on the operational environment and their attitudes, actions, and capabilities facilitate or hinder military operations. The requirements of the population for food, medical support, and assistance in rehabilitating the government and reestablishing municipal operations, such as water supply, sanitation, and power must be planned. Where the population is actively sympathetic to the enemy, it may become necessary to commit a significant number of combat troops to rear area security. Civil affairs and psychological operations units provide the commander with additional means of controlling and influencing the population.

2–6. Opposing Forces

a. Missions. The missions assigned their respective military forces by opposing belligerents may be similar or widely divergent. Each may seek the ultimate subjugation of the other and the destruction of his warmaking potential. In general war, there is relatively little restraint in the means employed by the belligerents. In situations short of general war, one belligerent may seek the destruction of the other, or seek to restore some prior situation, such as location of an international boundary; or each belligerent may seek to gain control of a limited area or to deny the area to the other. In other situations, where dissident elements in a country are supported covertly by an external power in their attempts to overthrow the government, military forces may be employed to maintain internal security and to help eliminate the root causes of disaffection among the population. The threatened government may seek military assistance from other nations; this assistance may be provided unilaterally or by an international organization. In every situation, the means employed by military forces and the manner of conducting operations are influenced by the missions assigned the opposing forces.

b. Strength and Composition.

(1) Enemy forces may consist of loosely organized bands of irregular forces, massive

formations of paramilitary forces provided with minimal equipment and marginal combat and combat service support, highly trained armed forces with ample combat and combat service support, or combinations of any of these. To operate effectively against the specific enemy force encountered, U.S. forces must have a high degree of flexibility to permit changes in tactics, organization, and procedures.

(2) U.S. forces assigned to an area may vary from relatively small advisory organizations or task forces to large land, sea, and air forces. The U.S. Army element in the friendly force structure may vary from a division or less to one or more army groups with the necessary combat, combat support, and combat service support. The command and organizational structure will vary directly in complexity with the size of the force and the extent of participation by other Services and allied forces.

2–7. Influence of Weapon Systems

a. Nuclear, biological, and chemical weapon systems exercise an intensive influence on the conduct of operations. When the authority to employ these munitions is granted, the combat power available to commanders is increased tremendously. Nevertheless, the concept of coordinated fires and maneuver continues to apply, and sufficient troops must be in place to exploit the advantages of these munitions. The results of an engagement may be determined in far less time than would otherwise be required. These factors, moreover, dictate special measures to reduce the vulnerability of friendly forces and installations and of civilian populations. Dispersion, mobility, decentralization of control, rapid exploitation, and reduction of reaction time are primary considerations.

b. The availability to either force of nuclear weapons (often referred to as mass-destruction weapons) and biological or chemical agents, which may affect personnel over large areas, exercises considerable influence on the operational environment. The degree of influence depends on the imminence of employment. In some situations, the likelihood of employment may be of major concern in the development and execution of operation plans. Again, the threat may be so remote that it is of small concern. Operation plans must be based on the situation at hand with due regard to probability of a sudden change in the operational environment brought about by the decision to initiate nuclear warfare or to employ biological or chemical munitions.

c. Further discussion of the effects of mass-destruction and mass-casualty weapons on the operational environment is contained in paragraphs 6–3 through 6–6.

CHAPTER 3
COMMAND
(STANAG 2101, SEASTAG 2102, AND SOLOG 104)

This chapter addresses the subject of command and covers the relationships and responsibilities inherent therein. The sections below discuss the commander, the chain of command, command and staff relationships, decisionmaking, planning and execution, and joint and combined operations.

Section I. THE COMMANDER

3–1. General
The authority vested in an individual to direct, coordinate, and control military forces is termed "command." This authority, which derives from law and regulation, is accompanied by commensurate responsibility that cannot be delegated. The commander alone is responsible for the success or failure of his command under all circumstances.

3–2. Authority
In discharging his responsibility, the commander exerts authority to direct those actions and to establish those standards that insure accomplishment of his mission. In so doing, the soundness of his judgment and the principles and techniques that he employs determine the effectiveness of his leadership.

3–3. Leadership
Leadership is a personal and intangible quality that is a combination of example, persuasion, and compulsion. It is an extension of the commander's self, his personality, and his character. In exercising leadership, the commander must devise means to project his character and personality to create a positive impression on the individuals and units of his command. The basic concept of leadership envisions a leader guided by a continuing consideration of leadership traits and principles, his own strengths and weaknesses, individual and group characteristics of subordinates, and the circumstances and physical environment that prevail.

3–4. Personal Characteristics
High moral purpose is an indispensable characteristic of leadership in the American system. Leadership characteristics and traits include bearing, physical and moral courage, decisiveness, dependability, endurance, enthusiasm, initiative, integrity, judgment, justice, knowledge, loyalty, tact and unselfishness. The commander's demonstration of these characteristics and traits in his daily activities helps to inspire and to earn the respect, confidence, willing obedience, and loyal cooperation of his command.

3–5. The Human Element
Despite advances in technology, man remains the most essential element on the battlefield. The commander must be acutely sensitive to the physical and mental condition of his troops, and his plans must take account of their strengths and weaknesses. He must make allowance for the stresses and strains the human mind and body are subjected to in combat. His actions must inspire and motivate his command with the will to succeed under the most adverse conditions. He must assure his troops that hardship and sacrifice will not be needlessly imposed and that their well-being is of primary concern to him.

3–6. Employment of Subordinates
The accomplishments of the command are the sum of the accomplishments of its component elements. Each subordinate commander and

staff member is an effective instrument in the hands of the commander. The degree of skill and understanding with which the commander employs his subordinates is reflected in the operations of his command. Subordinates must be carefully trained and motivated, and full advantage must be taken of their individual qualities and capabilities.

3-7. Techniques

a. The successful commander insures mission accomplishment through personal presence, observation, and supervision. However, he does not oversupervise. While his direct personal touch with subordinates is essential to effective command, he must establish policies within which his staff can take action during his absence. He fosters initiative and self-confidence in subordinate commanders by permitting them appropriate latitude within the scope of their responsibilities.

b. Modern warfare demands prompt action, decentralization, and a high degree of individual initiative. Detailed instructions must frequently give way to broad direction that subordinates can interpret and implement.

Section II. CHAIN OF COMMAND

3-8. General

The successive commanders through which command actions are channeled form the chain of command that extends downward from superior to subordinate. Effective military operations demand strict adherence to the chain of command. Violation of the chain of command usurps the prerogatives of the intermediate commander concerned and abrogates his authority without a commensurate lessening of his responsibility.

3-9. Bypassing the Chain of Command

Under unusual or extreme conditions, such as the imperative need for speed of action or when communication with intermediate units is lost, the commander may bypass echelons of the chain of command. The senior commander bypassing the chain of command assumes responsibility for the order he has given to a subordinate commander. In such an event, the normal chain of command must be reestablished at the earliest opportunity and the intermediate commanders informed of the action taken.

3-10. Initiative

On occasion, the loss of communications may preclude a subordinate commander's receiving specific orders or direction. In this event, he is expected to deduce the action required based on his knowledge of the existing situation and act on his own initiative.

3-11. Continuity of Command

Commanders at all echelons must make adequate provision for uninterrupted perpetuation of the chain of command. The succession of command must be prescribed for all contingencies, ranging from the temporary absence of the commander to the loss of the commander and staff.

Section III. COMMAND AND STAFF RELATIONSHIPS

3-12. Purpose of the Staff

The staff provides advice and assistance to the commander in his exercise of command. For detailed discussion of staff organization and procedures, see FM 101-5.

3-13. Staff Functions

a. The staff embodies no authority within itself. Its authority derives from the commander and must be exercised in his name.

b. Details belong to the staff. The commander addresses his attention to the broad essentials critical to the problem at hand. He relies on his staff to develop the detailed considerations required for his estimates, plans, and orders.

c. The staff acts within the policies and concepts established by the commander. In the absence of policy, the staff refers to the commander for guidance. If the commander is una-

vailable to provide guidance, the staff bases its actions on an interpretation of what the commander's policy would be.

d. The advice provided the commander by his staff is calculated solely to further accomplishment of the mission. Complete honesty of opinion and frankness of presentation are essential. Staff recommendations must carry the courage of conviction until the commander makes his decision. Thereafter, full and complete staff effort is devoted to supporting the decision.

3–14. Staff Relationships

a. Maximum efficiency is achieved when the commander and his staff function as a single entity in an atmosphere of mutual confidence and respect. In establishing this relationship, however, the commander must preserve his identity. He must remain sufficiently detached to retain his perspective and to insure prompt response to his orders.

b. In its relations with subordinate commands, the staff operates in a spirit of service, cooperation, and assistance. It translates the commander's decision into timely, concise, and understandable directives. It keeps abreast of the situation, circumstances, and problems confronting the command and advises the commander accordingly. By so doing, the staff serves the troops as well as the commander. In establishing the relationship between his staff and subordinate commanders, the commander must insure that prerogatives for direct dealing by subordinate commanders are not usurped by the staff.

c. Proper staff relations with higher and adjacent headquarters contribute materially to operational efficiency. Frequent contact and full exchange of information among staffs assist in mutual understanding, in keeping commanders abreast of the overall situation, and in apprising the commanders of future plans on which they can take timely and appropriate action.

3–15. Liaison

a. Liaison is that contact or communications maintained between elements of the Armed Forces to insure mutual understanding and unity of purpose and action. It is often aided by exchange of personnel since this facilitates exchange of information. Liaison also is maintained to insure cooperation and understanding between commanders and staffs of headquarters or units that are working together and to insure tactical unity and mutual support of adjacent combat units.

b. Liaison can be achieved by one of the following or a combination thereof:

(1) Personal contacts between commanders and staffs.

(2) Exchange of liaison officers or liaison detachments.

(3) Agreement on mutual support between adjacent units.

c. Establishment of liaison is facilitated by planning, by assignment of boundaries and determination of responsibility for the boundaries themselves, by definition of points where physical or visual contact will be established, and by agreement on positioning of reserves.

d. Liaison should, when possible, be reciprocal between higher, lower, and adjacent units. Liaison must be reciprocal when a unit is placed directly under the command of a combined headquarters, or a headquarters of a different nationality, and when units of battalion size or larger of different nationalities are adjacent.

e. When liaison is not reciprocal, responsibility for establishing it is governed by the following principles:

(1) From left to right.

(2) From superior to subordinate.

(3) From supporting to supported.

(4) From national command not assigned to a combined command to field army or other major tactical command as applicable.

Section IV. DECISIONMAKING

3–16. General

Decisionmaking is a fundamental responsibility of command. All military operations are based on decisions. The sequence of activities

of the commander and his staff in making military decisions is delineated in FM 101–5. Sound decisions contribute to successful operations. While decisions are required in all areas of military activity, this section addresses itself only to major decisions incumbent on a commander under operational conditions.

3–17. Bases for Decisions

Decisions are based on the requirements of the mission, the courses of action open to the commander, and consideration of the factors that bear on the two. Certain of these factors may be clearly defined while others may be clouded by inaccurate, incomplete, or even a total lack of information.

3–18. The Mission

In arriving at a decision, the commander's basic consideration is the mission. The mission is usually stated in terms sufficiently broad to permit the commander considerable freedom in determining his course of action. As the operation progresses, modifications and changes in mission may be anticipated. As the situation becomes more fluid, the mission may be correspondingly broadened, with increased reliance placed on the initiative of subordinate commanders.

3–19. Other Considerations Affecting the Decision

As they relate to the mission, other important considerations affect the commander's decision. Among these are characteristics of the operational area and dispositions and relative combat power of opposing forces. (Further discussion of combat power is contained in paragraphs 5–12 and 5–13.) In developing the information required to evaluate these considerations, the commander relies on the advice of his staff. His staff provides him detailed information obtained from higher, lower, and adjacent units.

3–20. Intangibles of Battle

In arriving at a decision, the commander is confronted with certain intangibles. Among these are troop morale, unit effectiveness, and the enemy's capability and will to resist. Although no precise method exists for gaging these factors, they have a direct bearing on the commander's decision.

3–21. A Decisionmaking Process

a. The process by which the staff evaluates the pertinent factors of the mission and the situation, formulates possible courses of action, and presents a recommendation to the commander is termed "the staff estimate of the situation." The process by which the commander applies his own knowledge and considers the recommendation of his staff in arriving at a decision is termed "the commander's estimate of the situation."

b. The decision must be reevaluated constantly and changed in the light of new directives or instructions, additional information, and other factors that are developed as the battle progresses. Thus, the estimate of the situation by both the commander and his staff is a continuing process.

c. For detailed discussion of the estimate of the situation, see FM 101–5.

3–22. The Decision

The commander's decision is the result of a subjective analysis of all factors involved. Its soundness is a reflection of the commander's professional competence, experience, intelligence, perception, and strength of character.

Section V. PLANNING AND EXECUTION

3–23. Planning

a. When the commander's decision is made, plans are prepared to implement it. These plans provide guidance or form the basis for appropriate orders to subordinate commanders.

b. Planning is a progressive and continuing process. During the course of the current operation, plans and alternate plans are developed for future operations, as well as plans for all foreseeable contingencies. The planning process must not, however, interfere with the conduct and supervision of the current battle.

3-24. Execution

Intelligent and diligent execution is essential to the plan's success. Once undertaken, the execution of the operation assumes paramount importance and must receive the close and immediate attention and supervision of both the commander and his staff. The commander must sense critical actions as the battle progresses and bring to bear thereon the full effect of his leadership and authority.

Section VI. JOINT AND COMBINED OPERATIONS

3-25. General

a. Joint operations are those in which two or more Services of the Department of Defense participate. Combined operations are those in which the armed forces of two or more allied nations participate. Both types of operations may be embodied in a single operation.

b. The successful conduct of joint and combined operations requires coordination of effort and sound direction of participating forces. The principles of command and organization for joint forces are contained in JCS Pub. 2, *Unified Action Armed Forces* (*UNAAF*). The command and organizational structure for combined forces is determined by international agreement between the nations concerned (DA Pam 310-35 and DA Pam 310-36).

3-26. Unity of Effort

The requirement for unity of effort in joint and combined operations is best achieved by the designation of a single commander. This commander must be provided authority and resources commensurate with his responsibilities.

3-27. Command of Joint and Combined Operations

a. Joint and combined forces are characterized by certain inherent differences that exist in the military systems of the component forces. Among the Armed Forces of the United States, certain divergencies exist in doctrine, techniques, and customs. Similar variations are encountered in combined forces. Differences in political systems, religion, language, cultural backgrounds, and philosophies add complexity to the operations.

b. The commander of a joint or combined force must recognize and appreciate those divergencies and variations that may cause misunderstandings and differences of opinion. He must combine tact with determination and patience with enthusiasm to insure maximum operational efficiency of the force. If necessary, he must subordinate his methods and procedures to the common unity. In combined operations, the commander must also insure that limited interpretations of national interests are not permitted to prevent proper decisions. He must insist on the exercise of command through established channels regardless of the difficulties imposed by procedural differences and language barriers.

3-28. Staff for Joint and Combined Forces

a. Commanders of joint forces are provided a joint or augmented staff in accordance with the provisions of JCS Pub. 2.

b. In combined forces, a combined staff may be established, or the staff of the commander of the largest allied force may be augmented to give balanced representation to the other allied forces assigned.

3-29. Combat Service Support for Joint and Combined Forces

a. Combat service support for Service components of a joint force is primarily the responsibility of the parent Service. The degree of combat service support provided one Service component by another is directed by the Secretary of Defense, the Joint Chiefs of Staff, a unified or specified commander, or as mutually agreed among the component Services concerned. A component commander may provide all, or part, of the common combat service support for all theater components.

b. Combat service support for national forces is a responsibility of the nation concerned. Within the provisions of U.S. national policy and international agreements, allied forces in a theater (area) of operations may be provided U.S. combat service support. Within these agreements and policy, the theater commander specifies the degree of support to be provided and the procedures to be followed.

CHAPTER 4

ORGANIZATION AND CHARACTERISTICS OF THE ARMY IN THE FIELD

Section I. GENERAL

4–1. Scope
This chapter deals with the Army in the field under operational conditions and in a theater (area) of operations. The Army in the field includes all elements of the Department of the Army organized, equipped, and trained for deployment to a theater (area) of operations. It does not include headquarters, commands, installations, or activities located in the continental United States (CONUS), except as the United States may become a theater (area) of war.

4–2. Doctrinal Basis
The doctrine in this chapter is based on JCS Pub. 2 and JCS Pub. 3.

4–3. Territorial Organization
a. Theater (Area) of War. The theater (area) of war is that area of land, sea, and air which is, or may become, involved directly in the operations of war. It is subdivided in accordance with the nature of the operations planned or in being.

b. Theater (Area) of Operations. The theater (area) of operations is that portion of a theater (area) of war necessary for military operations, either offensive or defensive, pursuant to an assigned mission, and for the administration incident to such military operations. More than one theater (area) of operations may comprise a theater (area) of war. The geographic limits of a theater (area) of operations are established by the President, through the Secretary of Defense, and with the advice and assistance of the Joint Chiefs of Staff.

c. Zone of Interior. The zone of interior is that part of the U.S. national territory not included in the theater (area) of operations.

d. CONUS. CONUS is the U.S. territory, including the adjacent territorial waters, located within the North American continent, between Canada and Mexico.

e. CONUS Armies. The CONUS armies are basically territorial commands charged with primary functions associated with the development and employment of the national mobilization and training bases. Included in these primary functions are organization, training, and equipping of Army forces for the conduct of sustained combat operations. Additionally, the CONUS armies must plan for and conduct operations, as required, in ground defense, civil disturbances, disaster relief, and civil defense survival and recovery operations.

4–4. Employment of Army Forces
Army forces may be employed in operations involving only the Army, in operations involving two or more of the Armed Forces of the United States (joint operations), in operations involving the armed services of two or more allied nations (combined operations), or any combination of the above.

Section II. ORGANIZATION OF THEATER (AREA) OF OPERATIONS

4–5. General
a. While there is no standard organization for a theater (area) of operations, the theater is normally divided geographically into a combat zone and a communications zone (COMMZ). The combat zone is that area required by combat forces for the conduct of operations. It is the territory forward of the field

army rear boundary. The COMMZ is the rear part of a theater (area) of operations that is behind and contiguous to the combat zone. The COMMZ contains the lines of communications, establishments for supply and evacuation, and other agencies required for the immediate support and maintenance of the field forces. Initially, a theater (area) of operations may consist of a combat zone, with combat service support provided by facilities and installations in the zone of interior or offshore bases.

b. A theater (area) of operations may be under the command and control of a combined headquarters formed by coalition agreement. Another method of providing command and control is through either a unified or specified command established by the United States.

c. The authority that establishes a theater (area) of operations will designate the commander, assign the mission, determine the force structure, assign or direct the assignment of forces, designate the area of responsibility or function, and may designate a second-in-command.

d. The organization of the theater (area) of operations may require the establishment of subordinate commands by the theater commander. When this is required, areas of responsibility of subordinate commands should be clearly delineated.

4–6. Organizational Considerations

a. The task of organizing a theater (area) of operations may be complicated by differences in national policies of the nations involved and by differences in concepts between the U.S. Service components assigned. The staff organization established must include personnel with wide knowledge and experience in their own Service and thoroughly familiar with the methods, capabilities, and characteristics of other Service or national forces assigned.

b. The command structure established must be simple and must insure a manageable span of control with a minimum number of command echelons. While a single individual may frequently act concurrently as commander of a uni-Service force, a joint force, and/or a combined force, a U.S. unified commander may act also as the commander of a Service component or subordinate unified command when authorized by the establishing authority.

4–7. Organizational Principles

a. The command structure established must insure centralized direction of the entire operation, but must also insure the maximum degree of decentralized execution to provide flexibility and freedom of action to subordinate commanders.

b. Clear lines of control and positive delineation of command responsibility should be established in the theater (area) of operations.

c. Operational commands should be organized to accomplish specific tasks without duplication of effort and overlapping of functions.

d. The organizational structure of combat service support units should be oriented on and designed to support combat operations.

e. Combat service support should be organized to provide maximum common, joint, or cross-servicing within a national force.

f. Combat service support of national forces should normally be provided on a national basis.

4–8. Organization of Subordinate Commands

a. To accomplish its assigned mission, the major command may require subordinate commands.

b. When the mission assigned a subordinate command requires the capabilities inherent in more than one U.S. Service, it is essential that unity of command be insured by the designation of a single commander. The organization under this commander may take the form of a subordinate unified command or a joint task force. When the capabilities of the armed forces of more than one nation are required, a combined command may be established or coordinated operations may be conducted.

c. Unity of effort in subordinate commands should be insured by the provision of clear-cut direction from the theater commander to Service components thereof by the theater commander upon their assignment, and by agreement by all services. The staffs of subordinate

unified commands should include appropriate representation from all represented Services.

4–9. Organization of the Combat Zone

a. The combat zone should include sufficient maneuver area to permit deployment of all elements of the major combat force and establishment of essential combat service support facilities without congestion.

b. The forward limits of the combat zone should extend to the distance necessary for the commander to exploit fully all means under his control.

c. Major force commanders must be provided the means and authority to direct land, sea, and air operations against the enemy and to control the population in their operational areas. Procedures and facilities must be provided to regulate air traffic over the combat zone and ground traffic in the combat zone.

4–10. Organization of the COMMZ

a. The COMMZ contains the principal combat service support installations and lines of communications facilities for the theater (area) of operations. It provides the connecting link between the combat zone and the zone of interior.

b. Combat service support activities frequently have combat support aspects; conversely, some elements whose major function is combat support, such as air defense artillery units, may be located in the COMMZ. The COMMZ should include sufficient area for the location, without congestion, of required installations or units. It may be located on the same landmass as the combat zone or in whole or in part on an offshore base.

c. Routine details of combat service support not involving theater policy are handled directly by the Service components with their support structure in the zone of interior.

d. Port and air terminal operations normally are assigned to uni-Service commands, with necessary augmentation from other Services.

e. For detailed discussion on joint logistics see JCS Pub. 3.

4–11. Mutual Support

a. General. Army field forces operate as a team with other U.S. and allied forces of the theater (area) of operations. Economy and efficiency dictate minimum duplication of effort among Services. Functions that can be performed by one Service for the other Services should normally be performed by that Service. Service cooperation is in accordance with the policies announced by the Secretary of Defense, the Joint Chiefs of Staff, and commanders of unified commands or joint task forces.

b. Army Support. Army support to other forces in the theater (area) of operations includes long-range artillery and missile fires, operations against land objectives, intelligence, rear area protection, air defense, communications, combat service support, and civil affairs and other support as directed by the commander.

c. Naval Support. Naval support includes air support from carrier striking forces and land-based Navy or Marine aircraft; air defense by manned aircraft or surface-to-air missiles; assault shipping; antisubmarine protection, minesweeping, maintenance of sea lines of communications, and surface protection of coastal flanks; naval gun fire and missile support; Marine Corps combat support; and combat service support as directed by the theater commander.

d. Air Force Support. Air Force support includes close air support, interdiction with missiles and aircraft, reconnaissance, battlefield illumination, air defense, intertheater and intratheater airlift, weather service, and combat service support as directed by the theater commander.

4–12. Support From Other Government Agencies

a. State Department. A State Department political adviser is sometimes provided for the staff of the senior commander in a theater (area) of operations. In those situations in which the State Department has primary responsibility for policy concerning political activities and civil affairs, the U.S. ambassador exercises these responsibilities. For additional information, see FM 41–5 and FM 100–20.

b. Other Agencies. The senior military commander also normally receives support from the Central Intelligence Agency; Agency for International Development which exercises continuous supervision and general direction over nonmilitary assistance programs and is responsible for coordination of the military and economic assistance programs; the U.S. Information Agency; and other U.S. Government agencies as appropriate.

c. Civilian Resources. Resources from the civilian population and economy must be used in every legal manner consistent with national policy. It must be anticipated that the enemy will use these resources to the maximum extent practicable. For doctrine pertaining to the employment of civilian resources, see FM 41–5 and FM 41–10. For doctrine pertaining to control of the population and resources and their denial to the enemy, see FM 31–23.

d. Country Team. The country team is headed by the chief of the diplomatic mission and includes in-country representatives of U.S. Departments and Agencies, except U.S. military forces operating in the field under an area commander. The country team assists the host country in preparing the internal defense and internal development plan. This plan forms the basis for a coordinated U.S. effort. The chief of the military assistance advisory group is the Department of Defense representative to the country team and in this capacity is responsible for recommendations and coordination concerning military assistance to the host country.

Section III. ORGANIZATION OF ARMY FORCES

4–13. General

Army forces assigned to a theater (area) of operations include appropriate control headquarters and necessary elements of the several arms and services. The latter consist of combat, combat support, and combat service support elements. These forces are combined in accordance with the requirements of the mission and the nature of the operation. The characteristics of various Army units and the principles of organizing them into efficient forces are discussed in succeeding paragraphs.

4–14. Allocation of Forces

The numbers and types of forces provided subordinate commanders in the theater is dependent on the mission. These forces may be assigned, attached, or placed in support of the command concerned.

a. Forces for which there is a continuing demand are usually assigned.

b. Forces required for specific tasks or for a limited period of time are normally pooled at higher echelons and attached as required.

c. Forces whose capabilities exceed the requirements of a single command or whose attachment to a subordinate command would unduly burden the commander thereof are held under centralized control and placed in support of one or more subordinate commands.

4–15. Multicapable Forces

The organization of Army forces must provide the capability to conduct successful operations in all forms of conflict as well as in a wide range of environments without major change in organization and equipment. This multicapability is provided by combining units capable of providing effective intelligence; mobility; firepower; command, control, and communications; and combat service support. Special structuring of forces and the provision of special equipment may be required under certain functional or environmental conditions.

4–16. Larger Army Operational Commands

The army group, the field army, and the corps are the largest Army operational commands. Exceptionally, the theater army may be assigned an operational mission. None of these has a fixed composition; each is organized to accomplish specific missions, and each can serve as the nucleus of a joint or combined force. Details on the conduct of operations of larger units are contained in FM 100–15.

4–17. The Army Group

An army group normally is organized to direct the operations of two or more field armies. Its responsibilities are primarily tactical and include planning and allocation of means.

4–18. The Field Army

The field army headquarters directs tactical operations and provides for combat service support of assigned and attached units. The field army consists of a headquarters, headquarters company, and special troops; a variable number of attached corps; a field army support command (FASCOM); a variable number of divisions normally attached to corps; and other attached combat, combat support, and combat service support units. A field army may be organized with a small number of divisions without using the corps echelon.

4–19. The Corps

The corps is essentially a large task force consisting of a variable number of divisions and other combat and combat support units. Frequently, corps will be reinforced by the attachment of combat service support elements. A corps so reinforced approaches the capabilities and characteristics of a small field army and is referred to as an independent corps. When operating as part of a field army, a corps is primarily a tactical organization and normally has few combat service support responsibilities, receiving such support directly from the FASCOM.

4–20. The Division

The division is the basic Army unit of the combined arms and services. Like the army group, field army, and corps, the division is organized for the environment and the accomplishment of specific missions. It has both tactical and combat service support functions. The division normally conducts operations as part of a larger force, usually the corps; however, it is capable of independent operations for relatively short periods of time, or for prolonged periods when augmented with additional support forces. The division obtains flexibility through the grouping of its components to meet tactical and strategic requirements and through its capability to vary its organization for combat. Exceptionally, it may serve as the framework of a combined or joint force. Army divisions are designated as infantry, mechanized infantry, armored, airborne, and airmobile. These divisions are capable of operating independently or in conjunction with one another in all forms of war. Additional details on division operations are contained in FM 61–100.

a. Infantry Division. The infantry division is capable of sustained ground combat under all conditions of weather and terrain. It is formed by the assignment of a predominance of infantry units. It readily conducts airmobile or airlanded operations. Appropriately reinforced with ground or air transport means, the infantry division can conduct highly mobile operations.

b. Mechanized Infantry Division. The mechanized infantry division is formed by the assignment of mechanized infantry and tank units, with a predominance of mechanized infantry units. This division is capable of covering extended frontages and relatively deep zones of action and of operating in widely dispersed formations. The organic vehicles of the subordinate units of the division provide a high degree of tactical mobility. This division is more sensitive to terrain than the infantry division. The bulk and weight of the armored vehicles of the mechanized infantry division are disadvantages in strategic movement. The mechanized infantry division is organized for deployment to theaters (areas) of operations that permit the exploitation of their inherent capabilities of ground mobility and armor protection. While the shock effect and firepower of the mechanized infantry division may be somewhat less than that of an armored division, the mechanized infantry division is especially suited for operation in conjunction with the armored division.

c. Armored Division. The armored division is formed by the assignment of armor and mechanized infantry units, with the former predominating. The armored division is capable of covering extended frontages and relatively deep zones of action and of operating in widely dispersed formations. The organic vehicles of the subordinate units of the division provide a high degree of tactical ground mobility. This division is more sensitive to terrain than the infantry division. The bulk and weight of the armored vehicles of the armored division are

disadvantages in strategic movement. The armored division is organized for deployment to theaters (areas) of operations that permit the exploitation of their inherent capabilities. They are primarily powerful offensive forces, normally having a higher ratio of tank units than the mechanized infantry division.

d. Airborne Division. The airborne division is especially trained and equipped for airborne assault and air-landed operations. Air transport means must be provided in these roles. While the airborne division has a greater degree of strategic mobility than other divisions, their capability for tactical mobility is relatively restricted, and appropriate reinforcements are required to provide them capabilities for sustained combat comparable with those of infantry divisions. Airborne forces are particularly vulnerable to enemy armor attack due to limited antitank protection means.

e. Airmobile Division. The airmobile division is especially trained and equipped for airmobile operations. This division is characterized by flexibility and responsiveness in the accomplishment of tactical missions. It is capable of providing surprise action at widely separated points on the battlefield in either successive or concurrent airmobile attacks. It is particularly adaptable to reconnaissance and security missions, raids, feints and demonstrations, operations against irregular forces, and overobstacle assault operations. As part of a larger force, it is effective, if suitably reinforced, in other offensive and defensive operations and in retrograde operations. For sustained combat, the division requires augmentation of its land and air vehicular transportation and supporting forces. Airmobile forces are particularly vulnerable to enemy armor attack due to limited antitank weapon firepower.

4–21. The Army Missile Command

a. An Army missile command is a mobile organization designed primarily to furnish nuclear fires in support of land forces of allied nations. A missile command may also be employed by the theater or other appropriate command to provide nuclear fires in support of U.S. ground forces in designated critical areas.

b. In fulfilling its mission, each missile command provides fire support, liaison, language interpretation and translation, target acquisition, target analysis, signal communications, intelligence, internal security, and *limited* combat service support. When a missile command operates with allied forces and is removed from U.S. support facilities, it may require augmentation to provide additional combat service support, local security, air defense, and intelligence support.

c. The commander of the missile command keeps the supported force commander informed of the capabilities of his command and makes recommendations concerning its employment. Within the limitations prescribed by U.S. and theater policy, the missile command provides fires requested by the supported force commander.

4–22. Combat Service Support Commands

The principal organizations designed to provide broad combat service support are the theater army support command (TASCOM), the FASCOM, the independent corps support command (COSCOM), and the division support command (DISCOM). The particular composition of each type of combat service support command depends on its mission. The headquarters of the command, as well as the headquarters of major subordinate mission and area commands, brigades, and groups, provides command and control elements and a minimum number of trained logisticians and other combat service support staff personnel. Assigned and attached operational battalions, companies, and detachments insure performance of the assigned mission. The capability of being modified to meet the requirements of varying missions is a valuable characteristic of these commands. For additional discussion on combat service support commands, see the FM 54-series.

Section IV. COMBAT ELEMENTS

4-23. General

a. A combat element is distinguished by its ability to employ fire and maneuver to close with the enemy in combat. Its mission may be to destroy or capture the enemy; secure or deny terrain; protect a larger force; or gain information. It uses both direct and indirect fires. Combat elements are trained, organized, and equipped to operate in direct contact with the enemy. The infantry, mechanized infantry, airborne infantry, tank, and airmobile infantry battalions and the armored and air cavalry squadrons are the basic elements from which combined arms teams are organized. These teams include infantry, armor, artillery, signal, and combat engineers and may include air defense artillery, intelligence, and aviation units.

b. The mission and operational environment dictate the organization of the combat elements of a force. Force composition should be adaptable to a variety of environments without major change. Unit composition may include combat elements of a single type or various combinations of types. The composition of combat elements in a larger force may be modified by attachment or detachment as required.

c. The fighting units take the greatest risks and endure the greatest hardships. Combat forces require the highest order of leadership, training, discipline, endurance, tenacity, and *esprit de corps*. The relative contribution of combat forces to the success of the Army in combat far exceeds their proportion of Army strength. In combat all other components of land forces exist to support these forces.

4-24. Basic Missions

A combat element is designed to perform either infantry, tank, or cavalry missions. These missions may overlap, or a force designed for one mission may perform another. A combat element possesses the following characteristics in varying combinations and degrees:

a. Mobility, varying from the individual soldier on foot, through complete mechanization, to complete air mobility.

b. Firepower, varying from small individual weapons, through crew-served weapons of various sizes, to tank armament and armed aircraft. Combat elements may have organic or attached nuclear delivery means.

c. The capability to communicate rapidly and effectively with superior, subordinate, and supporting elements and with adjacent combat units.

4-25. Infantry

a. The basic infantry mission is to close with and destroy the enemy by fire, maneuver, and shock effect. The essential characteristic of infantry combat elements is the ability to fight on foot in all types of terrain, under all conditions of weather, and to move and fight with any means of mobility provided. Infantry provided naval or air transport can conduct amphibious, riverine, airborne, or airmobile operations. A high degree of training is required to achieve and maintain these capabilities.

b. Besides basic infantry missions, mechanized infantry can, in conjunction with tanks, perform an armor mission.

c. Infantry secures, holds, or controls ground by physical occupation or by the use of firepower. Infantry can maneuver in adverse weather and over terrain impassable to armor. The ability of infantry to move in small, inconspicuous formations in all types of terrain enables it to take advantage of covered routes of approach and variations of the ground to overcome strong positions, to infiltrate the enemy position, or to perform long-range patrol activities. Its characteristics make it suitable for use in operations in developing areas. Without protection, infantry is particularly vulnerable to the effects of nuclear weapons. It reduces this vulnerability by avoiding detection through the use of cover, concealment, camouflage, deception, dispersion, and appropriate communications and electronic security measures.

d. See the FM 7-series for additional details.

4-26. Armor

a. General. Armor conducts highly mobile

land environment warfare, primarily offensive in nature and characterized by a predominance of mounted combat through the use of ground vehicles and aircraft. Armor forces include *tank, armored cavalry,* and *air cavalry* units. Armor combat forces are particularly well suited for offensive operations that capitalize on their ability to close with and destroy the enemy, to exploit the success of other units, or to exploit the effects of nuclear, biological, and chemical (NBC) weapons. These forces can concentrate or disperse rapidly over extended distances in combat-ready formations, and their organization for combat and direction of effort can be quickly changed. Armor habitually applies the combined arms concept; rarely will tank elements operate without infantry for extended periods. Armor units can fight in all phases of war, in all forms of combat, and under adverse conditions of weather and terrain by organizing combined arms forces to meet specific situations. Armor forces require a large amount of combat service support, principally in maintenance and in supply of ammunition, fuel, and lubricants.

b. Tank Units. The mission of tank units is to close with and destroy enemy forces, using fire, maneuver, and shock effect in coordination with other arms. Because of their inherent firepower, mobility, armor protection, and shock effect, tank units can participate in all forms of operations and all types of maneuver. Tank units are capable of maneuvering under fire, destroying enemy armor, exploiting breakthroughs and effects of mass-destruction weapons, providing organic nonnuclear fire support, supporting mechanized infantry and infantry, and conducting combat operations under limited visibility conditions. Tank units can fight in all types of weather and terrain; however, maneuver is restricted in jungles, forests, and mountainous terrain. Although the tank units' vehicles and equipment provide excellent ground mobility, their bulk and weight entail a significant strategic lift requirement.

c. Cavalry Units. The basic missions of cavalry units are reconnaissance, surveillance, security, and use in economy-of-force roles. To accomplish these missions, cavalry units must possess a higher degree of mobility than related friendly and enemy combat forces. Cavalry units can fight mounted, in ground or air vehicles, or dismounted.

(1) *Armored.* Because of its varied capabilities, armored cavalry is an important information-gathering means. The command and control facilities of armored cavalry units make them sound structures around which to organize task forces. In performing their basic missions, cavalry units may reconnoiter, screen or protect larger units, act as part of the reserve, maintain contact with the enemy or between friendly forces, defend, delay, conduct raids in the enemy rear, or make harassing or diversionary attacks.

(2) *Air.* The air mobility of air cavalry units greatly extends and improves their reconnaissance, security, and surveillance capabilities and permits the rapid transport of lightly armed elements with little regard for terrain restrictions. Air cavalry, in conjunction with armored cavalry elements equipped with lightly armored amphibious vehicles, provides a special capability for operations in developing areas.

d. See the FM 17-series for additional details.

Section V. COMBAT SUPPORT ELEMENTS

4-27. General

a. Although combat elements are the primary source of combat power of a force, combat support elements provide essential contributions to the accomplishment of the combat mission. Combat support is that operational assistance furnished directly to combat elements and may be a major source of combat power. It facilitates the combat task of applying pressure against the enemy and is peculiar to the combat mission. Each force structure includes combat support units appropriate to its requirements.

b. The allocation of combat support units must be carefully controlled to insure economical and efficient use. Normally, combat support

elements are assigned at force level and either attached to, or placed in support of, subordinate units to perform required tasks.

c. Some units have the sole mission of providing combat support, such as field artillery units. Others may perform both combat support and combat service support missions; e.g., transportation units. For this reason, distinction between the missions of combat support and combat service support is not precise. Discussion of combat support elements in succeeding paragraphs is limited to those whose primary mission is combat support.

d. At each echelon of command, the plan for employment of combat support must be integrated with plans for employment of the combat elements. These plans must insure that combat support is both appropriate and responsive to the requirements of the combat elements.

4–28. Field Artillery

a. Field artillery, organized basically into battalions, provides the principal surface-to-surface fire delivery systems of the Army.

b. Field artillery units are equipped with cannon, free rockets, or guided missiles. They support the combat elements by neutralizing or destroying with fire those targets most likely to hinder accomplishment of the mission.

c. Within the division, organization of the field artillery is relatively fixed, although it can be varied by attachment of additional units. Artillery support is normally provided by placing units in support of, or attaching them to, the combat elements.

d. At corps and field army levels, there is no organic field artillery. Fire support is provided by attaching or assigning the numbers and types of field artillery units required by the situation and the mission. Corps and field army artillery may be retained in support of the entire force, or it may be employed to reinforce subordinate elements of the force. When division artillery is insufficient in numbers or types to provide the necessary fire support, elements of the corps artillery may be attached to the divisions.

e. Field artillery is more effective when control is centralized at the highest level consistent with its capabilities and the requirements of the mission. When control is thus centralized, maximum flexibility is achieved, and maximum support to each subordinate element of the command is provided.

f. In mobile operations, stability operations, and particularly when the enemy employs nuclear weapons, the increased dispersion of forces, the quickened tempo of action, and the decentralization of control of maneuver elements may militate against centralized control of field artillery. This is especially true with respect to weapons of shorter range. As the level of usage of nuclear weapons increases, or as the battle becomes more fluid, a corresponding requirement is normally created for decreasing centralized control, resulting in attachment of field artillery to the combat elements.

g. For additional details on field artillery tactics and techniques, see FM 6–20–1 and FM 6–20–2.

4–29. Air Defense Artillery

a. Air defense artillery consists of weapons and equipment for combating air targets from the ground. Air defense artillery provides the principal means for active air defense by the Army. The composition, in terms of units, of air defense artillery echelons above battalion is flexible and is determined by the requirements of a specific situation.

b. Air defense artillery materiel includes surface-to-air missile systems, fire distribution systems, and automatic weapon systems.

c. The Army air defense artillery fire unit is the key element for effective air defense in combat. It must have the capability to accomplish autonomously all the following engagement functions:

(1) Detection of potential airborne targets.

(2) Identification of unknown flying objects.

(3) Interception of enemy aircraft.

(4) Destruction of the hostile air threat.

d. Air defense artillery is most effective when it operates under the doctrine of centralized direction and decentralized execution. Control is exercised primarily by standing op-

erating procedure; however, extensive communications are required to permit timely response to command requirements and for exchange of operational information.

e. Air defense artillery weapons and concerted effort of organic automatic and small-arms fire can provide local, limited protection for ground forces.

f. Certain air defense artillery missiles and automatic weapons have a surface-to-surface capability. However, diversion from their primary role of air defense is dependent on the air defense situation.

g. See FM 44-1 for additional details on the employment of air defense artillery units.

h. Details on the integration of air defense artillery into the overall air defense system, is discussed in paragraphs 10-12 through 10-22.

4-30. Signal

Signal elements provide communications-electronics support for Army forces in the field. Communications-electronics support embraces design, development, installation, operation, and maintenance of electronic and electromechanical systems associated with the collecting, transmitting, storing, processing, recording, and displaying of data and information associated with all forms of military communications, to exclude the responsibility for information and data systems and equipment that has been otherwise assigned. Signal elements provide communications to Army forces down to brigade level and to other commands as required. This support is provided by electronic communications means and by messenger. Communications at combat brigade and lower levels are provided by organic communications elements. The signal function also includes provision of photographic support. Combat support photography includes still and motion-picture services (except reconnaissance and military intelligence photography), photography from Army aircraft, and processing services for operational, technical, information, and intelligence purposes. For additional details, see FM 11-20, FM 11-40, and FM 24-1.

4-31. Engineer

Engineer combat support includes the performance of construction and destruction tasks that improve the mobility, combat effectiveness, and defensive strength of friendly forces while impeding the mobility of the enemy and contributing to his destruction. Engineer combat support includes the following tasks:

a. Support of gap and river crossings, amphibious, denial and barrier, camouflage, and tactical cover and deception operations.

b. Construction and maintenance of routes of communications.

c. Provision of water supply, terrain intelligence and evaluation and surveys and mapping.

d. Construction, restoration, and maintenance of Army aviation facilities, roads, bridges, ports, and field fortifications.

e. Employment of conventional and atomic demolition munitions.

f. Provision of area damage control and disaster relief operations.

Engineer units are trained to fight as infantry when required by the commander. For additional details, see FM 5-1 and FM 5-26.

4-32. Army Aviation

Army aviation combat support includes aerial fire support; observation, surveillance, reconnaissance, and target acquisition; airlift for airmobile operations; command and control, liaison, and communications; and Army air traffic control over the ground combat area. To provide maximum flexibility, some aviation units are pooled at a higher level and allocated to subordinate units as required. For additional details, see FM 1-5, FM 1-60, and FM 1-100.

4-33. Chemical

Chemical combat support includes technical advice and assistance to commanders and staffs in the employment of, and defense against, biological and chemical agents, flame, smoke, and radioactive fallout. It includes tactical support in the employment of smoke-generating equipment for the production of large smokescreens to obscure enemy observation and conceal friendly activities. For additional details, see FM 3-10, FM 3-10A, FM 3-10B, FM 3-12, FM 3-50, FM 20-33, and FM 21-40.

4-34. Intelligence

★Intelligence is the product resulting from the collection, evaluation, analysis, integration, and interpretation of all available information which concerns one or more aspects of foreign nations or areas and which is immediately or potentially significant to the development and execution of plans, policies, and operations. It includes current and future enemy capabilities, vulnerabilities, and probable courses of action. The commander's decision is strongly influenced by intelligence. Intelligence and operations must be integrated. The intelligence effort of the command must provide the timely intelligence required to make decisions, prepare plans, conduct operations, and avoid surprise. Priority is given in the intelligence effort to those aspects of the situation that represent the greatest prospect of success and the greatest threat to accomplishment of the mission. Systematic procedures and effective communications are essential for collection of information and use of intelligence. Intelligence is of importance to all elements of the command and to higher and adjacent commands.

a. Combat Intelligence. Combat intelligence is knowledge of the enemy, the weather, and the terrain used in planning and conducting tactical operations. Combat intelligence seeks to reduce the unknown aspects of the enemy and the operational area. It contributes to accuracy of evaluation of risks and successful application of combat power. Logical conclusions concerning the area of operations and enemy capabilities and vulnerabilities permit the determination of their probable effect on courses of action. See FM 30-5 for additional details.

b. Strategic Intelligence. Strategic intelligence is that intelligence which is required for the formulation of policy and military plans at national and international levels. Its sources may provide information of particular significance in tactical operations and psychological operations. Strategic intelligence and combat intelligence are closely related; the primary difference is in the level of production and utilization. Strategic intelligence is oriented on national objectives and is usually produced slowly by study and assembly of a large volume of detailed information. Combat intelligence usually involves rapid evaluation and interpretation of current information.

c. Political and Economic Intelligence. Political and economic intelligence are components of strategic intelligence. Political intelligence deals with domestic and foreign relations of governmental organizations, while economic intelligence deals with the extent and utilization of the natural and human resources and the industrial potential of nations. Political and economic factors are important considerations in planning military operations and are of particular importance in cold and limited war. These factors especially influence the aspects of intelligence, civil affairs, psychological operations, and combat service support and may, in many circumstances, influence decisions pertaining to maneuver and fire plans.

d. Technical Intelligence. Technical intelligence is that knowledge concerning foreign technological developments and the performance and operational capabilities of foreign materiel which have, or eventually may have, a practical application for military purposes. Technical intelligence is the end result of the processing of technical information. The intelligence effort must consider technical intelligence as part of the overall effort, both for immediate tactical applicability and for strategic importance. See FM 30-16 for additional details.

★*e. Terrain Intelligence.* Terrain intelligence is processed information on the militarily significant natural and manmade characteristics of an area. Terrain intelligence may be classified either strategic or combat intelligence. Included in strategic terrain intelligence are descriptions and analyses of beaches, water terminals, rivers, towns, and major terrain features; transportation and communications systems; and cross-country movement conditions, soils, types of rocks, underground installations, climate and weather, vegetation, state of ground, and hydrography. These studies provide field commanders with initial intelligence concerning the theater (area) of operations on the outbreak of hostilities. Combat terrain intelligence is produced for use in planning and conducting tactical operations within a specified area. It is based on locally secured information and is concerned primarily with the effects of weather and terrain on the particular operations of the unit.

★*f. Police Intelligence.* Police intelligence is one of the elements of intelligence available to the commander. Police intelligence is processed information relating to criminal activities (criminal intelligence), police law enforcement and security, and incidents that disrupt law and order (police operational intelligence). Special development and processing of police information can directly con-

tribute to military intelligence in the early detection of insurgent activities, infiltrators, and enemy activities in the rear area.

★*g. Counterintelligence, Signal Security, and Operations Security.* Counterintelligence (CI), signal security (SIGSEC), and operations security (OPSEC) are measures taken to deny information to the enemy. They include integrated defensive and offensive measures designed to reduce, neutralize, or destroy the effectiveness of the enemy's intelligence collection effort, whether this effort is conducted from controlled or denied areas. They are a fundamental requirement for surprise and security. All personnel must be thoroughly trained in the importance of CI, SIGSEC and OPSEC, and the measures contributing to their effectiveness.

★*h. Target Acquisition.* Acquisition of targets is one of the more important intelligence tasks. Target acquisition is that part of intelligence activities which involves accurate and timely detection, identification, and location of targets in sufficient detail for the purpose of target analysis, target evaluation, and effective employment of weapons. Target acquisition results from applying information collected from all sources and agencies for this specific purpose.

★*i. Air Intelligence.* Information concerning enemy air activity is of such criticality to friendly operations and is of such a transitory nature that special provisions must be made for its collection, processing, and dissemination. Continuously active channels of communications must be available to report information on enemy air activity to air defense command posts, where it is screened and processed for relay to air defense artillery units to enhance active countermeasures. Other friendly units in the area must be notified so that appropriate active or passive air defense measures may be initiated.

★*j. Reconnaissance.*

(1) Reconnaissance is a mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or a potential enemy and data concerning the weather, terrain, and other environmental factors of a particular area. It is also directed toward locating or verifying the locations of friendly units. Accurate knowledge of the location of all friendly troops operating in the commander's zone of responsibility is necessary for effective employment of complex weapon systems.

(2) Most units have reconnaissance capabilities; however, certain elements are specifically organized for reconnaissance operations. To be fully effective, reconnaissance operations require freedom of maneuver, a favorable mobility differential over the enemy, and effective communications. Reconnaissance efforts are directed toward gaining and maintaining contact. Information is obtained by stealth, if possible; however, it may be necessary to fight to get information. Reconnaissance operations are facilitated by use of electronic equipment.

★(3) Division and higher units normally are supported by surveillance units for search, interception, and monitoring of enemy electronic means. These units extend the depth of observation and contribute significantly to target acquisition. Reconnaissance is an inherent part of surveillance.

★*k. Reconnaissance by Fire or in Force.* Reconnaissance by fire or in force may be used when stealth is not essential. Reconnaissance by fire is used against suspected enemy locations to destroy camouflage and cause the enemy to reveal himself by movement or by returning the fire; it has the important advantage of speed. Reconnaissance in force is a limited-objective operation by a sizable force to discover and test the enemy's dispositions and strengths or to develop other intelligence. The commander directing such an operation must be prepared to exploit success. He must, however, consider that either the reconnaissance in force or by fire may disclose his own dispositions and provoke a strong enemy reaction.

★*l. Air Reconnaissance.* Air reconnaissance is the acquisition of intelligence information of military significance employing aerial vehicles in visual observation or the use of sensory devices. Air reconnaissance is capable of providing rapid coverage of large areas; however, it may be limited by enemy defensive measures and weather conditions. An effective intelligence system requires the availability of timely air reconnaissance responsive to the requirement of each echelon.

★*m. Counterreconnaissance.* Counterreconnaissance includes all measures taken to deny or neutralize enemy reconnaissance. Offensive counterreconnaissance seeks out and destroys the enemy reconnaissance forces. Defensive counterreconnaissance denies, by combat if necessary, enemy access to certain areas. Counterreconnaissance forces are echeloned in depth and oriented and adjusted to friendly dispositions.

★*n. Combat Surveillance.* Combat surveillance encompasses all techniques of accomplishing a continuous (all-weather, day and night), systematic watch by visual, electronic, and photographic means over the battle areas to provide timely information for tactical ground operations. Combat surveillance is the integration of all available means of battlefield surveillance, including air reconnaissance. It is capable of rapid and continuous coverage and is characterized by immediate responsiveness to the needs of the tactical commander.

★*o. Agencies.* All individuals and units have an intelligence function. This function is organic to combat and combat support elements and is inseparable from operations. Specialized intelligence units also provide the commander with information on the enemy, the weather, and the terrain. Military intelligence units provide trained specialists for support of tactical units. U.S. Army Security Agency units provide communications and electronic intelligence. For additional details, see FM 5–30, FM 30–5, FM 30–9, FM 30–10, FM 30–16, FM 30–18, and FM 32–10.

★*p. Long-Range Patrols.* The infantry long-range patrol company is especially organized, trained, and equipped to perform the combat support functions of reconnaissance, surveillance, and target acquisition in the dispatching unit's area of interest. These companies, when authorized by the Department of the Army, are provided to corps and field army and may be placed in support of subordinate elements. Details on employment of long-range patrol companies are contained in FM 31–18.

★4–34.1. Electronic Warfare

Electronic warfare (EW) support is military action involving the use of electromagnetic energy to determine, exploit, reduce, or prevent hostile use of the electromagnetic spectrum. There are three divisions within EW: electronic support measures (ESM), collection of EW intelligence; electronic countermeasures (ECM), jamming and deception; and electronic counter-countermeasures (ECCM), protection.

★4–34.2. Signal Intelligence

As the battlefield environment grows more sophisticated, tactical commanders are provided with ever-increasing numbers of electronic and electro-optical devices to aid in the execution of command and control functions, to obtain intelligence and information, and to perform routine administrative operations. This results in an increasing number of electronic and electro-optic devices being used for various communications and noncommunications functions. The enemy's use of these devices may be detected, analyzed, and exploited as a source of signal intelligence (SIGINT). The product derived from SIGINT operations is one of the most valuable single sources of information available to the tactical commander. Information pertaining to SIGINT operations and to USASA units that perform these operations may be found in FM 32–1 and FM 32–10.

4–35. Special Forces

★*a.* The basic mission of Special Forces is unconventional warfare. Special Forces are strategic forces employed under the direction of designated unified, specified, and subordinate unified command; joint task force; and contingency force commanders. They provide such commanders with a capability to conduct unconventional warfare operations to further national objectives and to facilitate accomplishment of the mission of the force.

b. Special Forces groups are allocated to strategic regions of the world in response to national requirements and objectives. These organizations are multicapable and mission oriented and possess a flexibility that permits structuring for a particular mission or area of deployment. Deployment for operations may involve only selected individuals or detachments possessing special capabilities, or it may require one or more Special Forces groups. Special Forces units may be used to train, organize, supply, direct, coordinate, and control indigenous forces in guerrilla warfare and stability operations. In a theater (area) of operations, Special Forces may be employed on independent missions or in support of the operations of other forces or agencies.

Section VI. COMBAT SERVICE SUPPORT ELEMENTS

4–36. General

a. Combat service support elements are those elements whose primary missions are to provide service support in a theater (area) of operations. They may be part of, or prepared to become part of, the theater, command, or task force formed for combat operations.

b. Combat service support elements perform those functions that are essential to the conduct of sustained combat operations. These functions include personnel and administrative, chaplain, finance, civil affairs, legal, maintenance, medical, military police, supply, transportation, construction, field services, and other logistic services. The distinctions between combat service support, combat support, and combat operations are not absolute. Moreover, all units have certain combat service support functions that they must perform in accomplishing their major missions.

c. Organizational and operational doctrine for combat service support operations is contained in FM 100-10, FM 101-5, FM 101-10-series, FM 54-series, and FM 3-1 (Test).

★*d.* When considering combat service support, the commander must be fully cognizant of the functions of rear area protection and their direct impact on the accomplishment of the overall combat service support mission. Rear area protection is given detailed coverage in chapter 6, section VI.

4-37. Combat Service Support Units and Organizations

★*a. Combat Zone.* In the combat zone, combat service support to divisional forces is provided by the DISCOM. Corps nondivisional troops and the DISCOM are provided combat service support by FASCOM elements, namely the corps support brigade and, in some instances, the area support brigade. Additionally, cellular teams (TOE 500- and 600-series) are provided when necessary.

b. COMMZ. In the COMMZ, combat service support is provided by units assigned to the TASCOM. These units are provided as necessary to support the missions assigned to TASCOM's subordinate command.

4-38. Control of Combat Service Support Activities

Control of combat service support activities within the field forces involves three major considerations—command responsibility, techniques of control, and facilities.

a. Command Responsibility. All commanders are responsible for control of the combat service support activities and organizations assigned or attached to their commands. This responsibility encompasses the adequacy and timeliness of combat service support provided their subordinates, as well as timely presentation of valid requirements to higher echelons. The corps, when operating as part of a larger force, rarely has combat service support units assigned or attached to it. Command responsibility for combat service support at the corps level is normally limited to establishing priorities for allocation of combat service support resources provided by the field army support command.

b. Techniques of Control. The effectiveness of control of combat service support activities is largely dependent on the various techniques of communications, packaging, recording, reporting, data analysis, data display, and decisionmaking. Knowledge by the commander of current techniques of control of combat service support activities is essential not only for effective control, but also for the establishment of valid plans and requirements.

★*c. Facilities.* Facilities include medical treatment installations, storage installations, ports and beaches, airfields, railways, waterways, and transportation means. Effective control of combat service support activities in the area of operations is largely dependent on the facilities available for receipt, storage, protection, and distribution of supplies and the availability of personnel. Effective control of personnel support activities in the area of operations is also dependent on the facilities and personnel available for insuring continuous collection, evacuation, treatment, and rapid disposition of the sick and wounded and for uninterrupted and rapid movement of personnel replacements to their units of assignment. Generally, the absence of indigenous facilities in less developed areas of operations will limit the quality and quantity of available combat service support until the needed facilities have been provided. Similarly, with the dispersion of combat forces and the increased use of nuclear weapons by the enemy, less reliance should be placed on indigenous and fixed facilities for purposes of combat service support. Consequently, other alternatives must be exploited and developed to decrease dependence on indigenous and fixed facilities.

4-39. Characteristics of Combat Service Support Elements

Combat service support elements must possess operational flexibility and the ability to function under varying environmental conditions. They must take advantage of the latest technological advances and managerial aids to increase the support capability.

a. Fixed Capabilities. Combat service support organizations have finite capabilities, usually translatable into time, space, or tonnage limitations. In emergencies, and for short periods of time, exceptional support efforts can be demanded and expected.

b. Vulnerability. While generally capable of defending their own installations, combat service support organizations are highly vulnerable to determined enemy attack. This vulnerability is in direct proportion to the degree of dispersion required for effective operations. On the other hand, concentration of combat service support activities for protection against ground action may reduce their support capability and increase their vulnerability to enemy attack by conventional and nuclear fires. These conflicting conditions and their impact on accomplishment of the combat service support mission require careful evaluation and command decision of the degree of vulnerability and risk that can be accepted.

c. Planning Factors. Realistic planning factors should be used to determine the requirements for combat service support elements.

4-40. Environmental Considerations

a. Environmental considerations affecting tactical operations exert equal or greater influence on combat service support operations. Proper planning and execution reduce the effects of nuclear attacks. Particular emphasis is placed on achieving flexibility and mobility in the combat service support system and on concealing, dispersing, or protecting facilities and installations.

b. Combat service support forces may range from those organized to support a small, independent task force in a cold war situation, through those organized for limited war, to those required for large-scale support of combat forces in general war. A high order of organizational flexibility is required to satisfy the wide variety of possible combat service support requirements.

c. Combat service support activities that are established and operated in peacetime must be fully compatible with those required under wartime conditions. Transition from peacetime to wartime conditions, as required by any change in operational environment, is accomplished with minimum change in concept, organization, and procedures.

4-41. Dispersion

a. The dispersion of tactical forces, both laterally and in depth, requires a corresponding dispersion of combat service support facilities to provide adequate support. Dispersion of combat service support facilities is also required as a measure to reduce the effectiveness of NBC weapons.

b. Rapid movement of combat and combat support forces and the relative immobility and dispersion of combat service support facilities may result in considerable separation between combat and combat support forces and the various combat service support facilities. Areas between installations may be extensive and infested with enemy guerrilla forces, bypassed enemy groups, and brigands. Only that degree of control that is required for the operation of installations and the movement of personnel and supplies between them is exercised over these areas. The ability to cope with problems of dispersion and distance is a key factor in accomplishing the combat service support mission.

c. The effects of attacks by NBC weapons may be reduced through the provision of multiple, small installations; the establishment of alternate key facilities; the proper arrangement of materiel being stored; the use of camouflage and dummy positions; target analysis of the installation location plan; the attainment of maximum dispersion consistent with control and risk; the utilization of protective features to include terrain, barricades, revetments, and underground shelters; and the provision of adequate planning for RAP.

CHAPTER 5

THE PRINCIPLES OF WAR AND OPERATIONAL CONCEPTS (STANAG 2088, STANAG 2099, SEASTAG 2099, AND SOLOG 108)

Section I. PRINCIPLES OF WAR

5–1. Scope

This chapter deals with the principles of war and operational concepts that must be considered in the conduct of military operations. Combat power, related factors, and subsidiary and supporting operations are treated in detail. This chapter establishes a basis for discussions of various military operations in succeeding chapters.

5–2. General

The principles of war are fundamental truths governing the prosecution of war. Their proper application is essential to the exercise of command and to the successful conduct of military operations. These principles are interrelated and, depending on the circumstances, may tend to reinforce one another, or to be in conflict. Consequently, the degree of application of any specific principle will vary with the situation.

5–3. Principle of the Objective

Every military operation must be directed toward a clearly defined, decisive, and attainable objective. The ultimate military objective of war is the defeat of the enemy's armed forces. The objective of each operation must contribute to the ultimate objective. Each intermediate objective must be such that its attainment will most directly, quickly, and economically contribute to the purpose of the operation. The selection of an objective is based on consideration of the mission, the means available, the enemy, and the operational area. Every commander must understand and clearly define his objective and consider each contemplated action in light thereof.

5–4. Principle of the Offensive

Offensive action is necessary to achieve decisive results and to maintain freedom of action. It permits the commander to exercise initiative and impose his will on the enemy, to set the pace and determine the course of battle, to exploit enemy weaknesses and rapidly changing situations, and to meet unexpected developments. The defensive may be forced on the commander, but it should be deliberately adopted only as a temporary expedient while awaiting an opportunity for offensive action or for the purpose of economizing forces on a front where a decision is not sought. Even on the defensive, the commander seeks every opportunity to seize the initiative and achieve decisive results by offensive action.

5–5. Principle of Mass

Superior combat power must be concentrated at the critical time and place for a decisive purpose. Superiority results from the proper combination of the elements of combat power. Proper application of the principle of mass, in conjunction with the other principles of war, may permit numerically inferior forces to achieve decisive combat superiority.

5–6. Principle of Economy of Force

Minimum essential means must be employed at points other than that of the main effort. This principle is the reciprocal of the principle of mass. Economy of force does not imply husbanding, but the measured allocation of available combat power to the primary task as well as to supporting tasks, such as limited attacks, defense, cover and deception, or even retro-

grade action, to insure sufficient combat power at the point of decision.

5-7. Principle of Maneuver

Maneuver is an essential ingredient of combat power. It contributes materially in exploiting successes and in preserving freedom of action and reducing vulnerability. The object of maneuver is to dispose a force in a manner that places the enemy at a relative disadvantage and thus achieves results that would otherwise be more costly in men and materiel. Successful maneuver requires flexibility in organization, combat service support, and command and control. It is the antithesis of permanence of location and implies avoidance of stereotyped patterns of operation.

5-8. Principle of Unity of Command

The decisive application of full combat power requires unity of command. Unity of command obtains unity of effort by the coordinated action of all forces toward a common goal. While coordination may be attained by cooperation, it is best achieved by vesting a single commander with the requisite authority.

5-9. Principle of Security

Security is essential to the preservation of combat power. Security results from the measures taken by a command to protect itself from espionage, observation, sabotage, annoyance, or surprise. It is a condition that results from the establishment and maintenance of protective measures that insure a state of inviolability from hostile acts or influences. Since risk is inherent in war, application of the principle of security does not imply undue caution and the avoidance of calculated risk. Security frequently is enhanced by bold seizure and retention of the initiative, which reduces the enemy's capability to interfere.

5-10. Principle of Surprise

Surprise can decisively shift the balance of combat power. By surprise, success out of proportion to the effort expended may be obtained. Surprise results from striking an enemy at a time and place and in a manner for which he is unprepared. It is not essential that the enemy be taken unaware, but only that he becomes aware too late to react effectively. Factors contributing to surprise include speed, cover and deception, application of unexpected combat power, effective intelligence and counterintelligence (to include communications and electronic security), and variations in tactics and methods of operation.

5-11. Principle of Simplicity

Simplicity contributes to successful operations. Direct, simple plans and clear, concise orders reduce misunderstanding and confusion. Other factors being equal, the simplest plan is preferred.

Section II. COMBAT POWER

5-12. General

a. Combat power is a combination of the physical means available to a commander and the moral strength of his command. It is significant only in relation to the combat power of the opposing forces. In applying the principles of war, the development and application of combat power are essential to decisive results.

b. The development of combat power relates directly to the principles of mass and economy of force. The application of combat power is qualified by the intelligent application of the remaining principles of war.

c. The degree of combat power attained reflects the commander's imaginative planning and leadership and the organization, training, and discipline of his forces as well as their morale, *esprit de corps*, available firepower, mobility, communications, condition of equipment, and status of supply. The successful application of combat power requires vigorous execution.

5-13. Fire Support

a. The availability and proper use of fire support are important factors in the application of combat power. Supporting fires are

used to neutralize or destroy those targets that are most likely to hinder accomplishment of the mission. They provide a commander with a powerful means of rapidly influencing the course of battle; of adding depth to the battlefield by using counterfires and by attacking hostile reserves and rear installations; and of isolating the battlefield by restricting the enemy's movement in rear areas and by disrupting his command, control, and transportation facilities.

b. At each echelon of command, the plan for employment of fire support must be integrated with the plan for employment of the maneuver elements. These combined plans must insure the application of appropriate combat power and the responsiveness of fire support to the requirements of the maneuver elements.

c. The types of fires are as indicated in (1) through (4) below.

(1) Nuclear fires provide the commander his most powerful fire support means. They are available in a wide range of yields. A nuclear airburst produces blast, thermal radiation, and nuclear radiation and will probably produce induced residual radiation. Surface bursts produce the same effects to a lesser extent and also produce radioactive fallout, which creates large areas of radiological contamination. Surface and upper air winds in the vicinity of the target area, along with the weapon yield, determine the extent and shape of the fallout pattern. Governing considerations in the use of a surface burst are—

(*a*) The effect on enemy personnel and mobility.

(*b*) Danger or friendly forces and restriction of mobility.

(*c*) The effect on the civilian populace and its attitude toward friendly forces.

(2) High-explosive fires are used separately or to complement nuclear fires. High-explosive fires vary from mortar rounds to aerial bombs of several tons. High-explosive fires produce their effects through blast and fragmentation.

(3) Incendiary fires are effective against personnel and many types of materiel and installations. These munitions are used separately or to supplement other fires.

(4) Biological and chemical agents can be used to achieve casualty effects when nuclear fires are not used or, like high-explosive fires, to complement nuclear fires. Chemical agents can be used to deny areas to the enemy, limit his use of terrain, and contaminate supplies and equipment. The use of biological and chemical agents can produce a wide range of selected effects on personnel without destroying materiel and facilities. Casualties vary from immediate to delayed and from lethal to mild incapacitation. Biological and chemical agents can be employed against personnel well protected from other fires.

d. Supporting fires may be delivered by a number of means, which are discussed in (1) through (6) below.

(1) Guided missiles generally are restricted to the delivery of nuclear fires. Missiles are less vulnerable to weather and enemy countermeasures than manned aircraft. Guided missiles vary in range, accuracy, velocity, and vulnerability to weather and enemy countermeasures.

(2) Free rockets are capable of delivering high-explosive, chemical, and nuclear fires. These missiles are generally characterized by higher mobility, less accuracy, and less range than guided missiles.

(3) Cannons are capable of delivering all types of fires. They are characterized by flexibility in employment, accuracy, the ability to shift fires quickly, a high rate of sustained fire, and the ability to mass large volumes of fire from dispersed positions under all conditions of weather and terrain. Cannons have restricted mobility in difficult terrain, relatively short ranges, and comparatively heavy tonnage requirements for ammunition.

(4) Mortars have capabilities similar to cannons. They differ from cannons primarily in their higher trajectory, shorter minimum and maximum ranges, and greater volume of fire per tube. They are readily moved by air and can be emplaced in positions inaccessible to ground vehicles. They are useful in providing large volumes of fire in support of combat forces.

(5) Manned aircraft are capable of delivering all types of fires. Their ability to attack

from any direction and to establish visual contact with the target provides great flexibility in delivery. Aircraft are limited, however, by vulnerability to enemy countermeasures, adverse weather conditions, and delivery errors inherent in some munitions. Since they are not always under the operational control of the ground force commander, they may not be completely responsive to his requirements.

(6) Certain air defense artillery weapons can be used in the surface-to-surface role. Diversion from their primary role of air defense is dependent on the air defense situation.

Section III. RELATED FACTORS

5-14. General

Certain factors bear directly on combat power. When properly applied, and in consideration of the principles of war, these factors insure full development and decisive application of combat power.

5-15. Terrain

a. Terrain is an important factor in the application of combat power. Proper utilization of terrain—

(1) Provides observation while denying this opportunity to the enemy.

(2) Creates favorable opportunities for the employment of weapons to generate maximum combat power.

(3) Provides cover and assists in concealing the activities of the friendly force, thereby contributing to its security.

(4) Assists in the development of mass through economy of force.

(5) Provides the lines of communications essential to decisive maneuver and the support thereof.

(6) Can force the enemy to operate in unfavorable areas.

(7) Provides favorable avenues of approach for offensive operations.

(8) Permits the commander to control the battle.

b. The significance of terrain varies with the echelon of command and the nature of the operation. The commander evaluates the terrain in conjunction with his mission and seeks to use the terrain to his advantage.

c. The control of high ground permits observation over the surrounding area and denies such observation to the enemy. It provides favorable positions for line-of-sight weapons. It is also significant in view of the line-of-sight characteristics of modern communications and electronic surveillance equipment. The occupation of high ground usually places the friendly force in a favorable tactical position in relation to the enemy. Control of high ground is not necessarily dependent on its occupation. Under suitable conditions, high ground may be neutralized or denied the enemy by fire or by the employment of chemical agents, radiological effects, and smoke.

d. Such major barriers as rivers, lakes, mountains, forests, and swamps exert a significant influence on military operations. Cross compartments interfere with the progress of offensive operations and generally favor the defense. Obstacles, including those artificially created, may form barriers and permit defense with minimum forces, while forcing the attacker to develop greater relative combat power. Conversely, favorable avenues of approach facilitate offensive action and permit the application of combat power through maneuver.

e. The significance of terrain in counterguerrilla operations differs from that in operations against regular forces. In the latter, the defender places greater importance on high ground, observation, and long-range fields of fire. The guerrilla, however, places greater importance on cover, concealment, and restrictions of terrain and seeks to take advantage of these. Generally, the counterguerrilla force must orient operations on the guerrilla rather than on the seizure of particular terrain.

f. Tactical use of terrain in a nuclear environment may vary from that in a nonnuclear environment where only conventional weapons are used. A detailed discussion of the influence of terrain on nuclear weapon effects is found in FM 101-31-1.

5–16. Government and Population

a. The attitude, behavior, structure, and disposition of the government and population of a theater (area) of operations are important considerations in the application of combat power. Ideological, cultural, religious, and governmental patterns affect the planning and execution of military operations and have a direct bearing on military requirements and the utilization of military resources.

b. The presence or absence of hostile attitudes may affect the disposition of combat and combat support forces and the requirement for their use in a rear area security role. Apathy, indifference, doubt, or suspicion, as opposed to a spirit of cooperation, adversely affect the availability and reliability of intelligence information and the use of local labor and resources.

c. Population disposition and densities may adversely affect the fire plan, particularly the use of nuclear, biological, and chemical weapons. The impact of mass civilian casualties and refugee columns may seriously impede the conduct of military operations.

5–17. Climate and Weather

a. Climate and weather have a significant effect on all types of military operations. Weather affects observation, trafficability, control, performance of personnel, functioning of materiel, air support, and the range and effects of weapons. Both climate and weather affect combat service support requirements. As with terrain, the commander seeks to take advantage of climate and weather in developing and applying combat power in the pursuit of his objectives.

b. Information on current weather conditions and climatology in the operational area is provided by the Air Weather Service to assist the commander in operational planning. Small, mobile weather support teams are normally attached to units of division size or larger to provide this service.

5–18. Coordination and Control

a. The effective application of combat power requires full coordination of effort throughout all echelons. Coordination is a basic function of command and is particularly significant in deriving full advantage from fire and maneuver. Coordination of all fire support means insures the maximum benefit from available firepower resources and enhances the effectiveness of maneuver.

b. Coordination of effort requires adequate means of control. The various control means applied by commanders to insure the maximum efforts of the command are directed toward the rapid and economical accomplishment of the mission. Control means available to commanders include—

(1) *Orders.* Orders must be timely, simple, clear, and concise. Mission-type orders are used to the greatest practicable extent and should provide the commander's concept or intent to insure that subordinate commanders, acting on their own initiative, direct their efforts to attainment of the overall objective. Issuance of warning or fragmentary orders permits subordinate commanders time for planning and preparation. Liaison officers are used, when required, to insure that orders are understood or that coordination is accomplished.

(2) *Communications.* Signal communications must be flexible and capable of supporting maximum operational requirements. Provision of communications support is based on such fundamental principles and considerations as reliance on alternate signal means and locations, restriction of signal means to uses for which intended, and maximum communications security. Increasing use of equipment generating electromagnetic radiation necessitates the establishment of priorities for specific needs and a command decision in cases of frequency incompatibility.

(3) *Command and cortrol facilities.* Command posts form the nerve centers of all units and provide physical facilities for exercise of control. Command posts must be mobile, capable of continuous operation, and secure from enemy action. The location of command posts must facilitate communications with higher, adjacent, and subordinate headquarters.

c. Other measures employed by the commander in maintaining control are—

(1) *Objectives.* Objectives are assigned to provide unity of effort, to phase an operation,

or to facilitate a change in direction. Objectives assigned should be easily identified. Their destruction or capture must be possible within the time and space limitations imposed and must be within the capability of the force to which they are assigned.

(2) *Phasing.* At the higher echelons of field command—corps and field army—it is normal to phase operations based on the expected duration, complexity, the friendly or enemy situation, terrain, or the scope of the mission. A phase is a distinct period of an operation, at the conclusion of which the nature and characteristics of the action change. As an aid in planning and controlling an operation, phasing is used to simplify a lengthy action. Phasing is normally necessary when a commander is unable to visualize the operation through its completion or contemplates a major organizational change. Phasing of an operation may be described in terms of time (e.g., preparatory fire phase), distance (e.g., attainment of an intermediate objective or phase line), terrain (e.g., crossing of an obstacle), or the occurrence of a specific event (e.g., commitment of the reserve).

(3) *Phase lines.* Phase lines are established to control progress of units, to coordinate an operation, and to assist in executing contingency plans. Phase lines are normally keyed to easily recognizable terrain features.

(4) *Checkpoints.* Checkpoints are useful for orientation and for making situation reports in the clear. Checkpoints may be used to supplement phase lines or in lieu of phase lines.

(5) *Boundaries.* Boundaries are used to fix area responsibility, delineate areas of operations, and assist in the coordination and control of fires and maneuver. Boundaries extend forward to the depth required to coordinate fires and to depict the proposed plan of maneuver. Boundaries are extended rearward to the extent necessary to insure sufficient maneuver room for the force and adequate space for combat support and combat service support units.

(6) *Axis of advance.* An axis of advance is a line of advance assigned for purposes of control; often it is a road or a group of roads or a designated series of locations extending in the direction of the enemy. A commander assigned an axis of advance may maneuver his troops and supporting fires freely to either side of the assigned axis to bypass obstacles or to engage or bypass enemy units, providing such maneuver does not interfere with adjacent units and the unit remains oriented on its objective. The commander of a force advancing on an axis must inform higher headquarters of any deviation from the axis.

(7) *Direction of attack.* A direction of attack indicates the specific route along which the commander issuing the order wants a subordinate commander to center his main attack. The unit is restricted and required to attack as indicated and is not normally allowed to bypass the enemy. Because the direction of attack is a restrictive control measure, it should be used only when necessary. The direction of attack is used primarily in counterattacks or to insure that a supporting attack makes the maximum contribution to the main attack.

(8) *Fire support coordination line (FSCL).* The FSCL is a line established by the appropriate ground commander, normally the corps commander, to insure coordination of fire not under his control, but which may affect current tactical operations. The FSCL should follow well-defined terrain features. The establishment of the FSCL is normally coordinated with the appropriate tactical air commander and other supporting elements.

(9) *Fire coordination line.* The fire coordination line is a line between two forces beyond which fire may not be delivered without coordination with the affected forces.

(10) *No-fire line.* The no-fire line is a line short of which artillery units or ships do not fire except on request of the supported commander, but beyond which they may fire at any time without danger to friendly troops.

(11) *Contact point.* In land warfare, the contact point is an easily identifiable point on the terrain, where two or more units are required to make contact.

(12) *Coordinating point.* The coordinating point is a designated point at which, in all types of combat, adjacent units or formations must make contact for purposes of control and coordination.

5-19. Vulnerability and Risk

a. Vulnerability is the susceptibility of a force to damage by enemy action. The extensive area of destruction resulting from nuclear weapon attack requires special attention to the reduction of vulnerability. Such measures as deception, dispersion, cover, concealment, movement, speed of reaction, electronic countermeasures, air defense, counterbattery fires, intelligence, and control may assist in reducing vulnerability. However, measures to reduce vulnerability to one form of attack may increase vulnerability to other forms of attack. They may also detract from the effectiveness of the force and endanger accomplishment of the mission. Dispersion increases vulnerability to infiltration and defeat in detail. Mobility and the offensive are effective means of reducing vulnerability.

b. Risk is inherent in war and is involved in every mission. Risk also is related to gain; normally, greater gain involves greater risk. Risk is common to both action and inaction. In a nuclear war, the destructive power of nuclear weapons multiplies the magnitude of both risk and gain, and the consequences of mistakes are greater. Although the commander avoids unnecessary risks, accomplishment of the mission is his most important consideration. He carefully evaluates each course of action in terms of relative vulnerability and risk. If the risks are unacceptable, he must revise the plan. The commander must recognize risks to be assumed by subordinate commanders in accomplishing their missions.

Section IV. SUBSIDIARY AND SUPPORTING OPERATIONS

5-20. General

Certain subsidiary and supporting operations are significant in relation to all types of military operations. Subsidiary operations are designed to support the basic operation and to contribute to the development and application of combat power.

5-21. Civil Affairs Operations

a. General. The military commander employs civil affairs (CA) operations to obtain essential civilian cooperation and support or to reduce civilian interference with his assigned mission. CA operations involve the relationship between the military forces and the civil authorities and population of the country or area in which these forces are employed. CA operations may involve the performance by military forces of some or all of the functions normally performed by civil government.

b. Capabilities and Limitations. CA operations are employed to insure maximum utilization, within limits set by national or theater policy, international agreement and the laws of land warfare, of local resources, including materiel, facilities, and labor. They enhance rear area protection with minimum diversion of combat forces by promoting effective relationships with the local authorities and people to reduce subversion, espionage, sabotage, and guerrilla activity. These hostile activities pose a major threat or problem to a modern army when they are supported, actively or passively, by a significant fraction of the local population. CA operations alone cannot accomplish all these objectives, but are dependent on successful accomplishment of psychological operations (PSYOP), intelligence, and counterintelligence activities, other rear area protection measures, and the attitude and conduct of all U.S. and allied military personnel toward the civilian populace.

c. Support of the Field Army. CA operations are designed to utilize resources available from civilian communities and to reduce the problems caused by refugee movements, civilian mass casualties, and the requirements of international law for the provision of minimum requirements of civilian supply and the protection and treatment of noncombatants.

d. Support of Unconventional Warfare Operations. During the later stages of UW operations, CA personnel may be introduced into unconventional warfare operational areas to assist Special Forces personnel in the conduct of civil-military relationships. As friendly forces assume control over these operational areas,

CA personnel assist in the procurement of local supplies and facilities, the recruitment of personnel, the demobilization and rehabilitation of former guerrillas, and the preparation of the local population for self-government. CA personnel assist intelligence agencies in the gathering of information.

e. Support of Cold War and Stability Operations. CA activities in support of cold war and stability operations are discussed in chapters 12 and 13, respectively.

f. References. For additional details on CA operations, see FM 41–5 and FM 41–10.

5–22. PSYOP

a. General. The military commander conducts PSYOP as a coordinated element of strategy to influence the attitude and behavior of the people in ways that will help accomplish his mission. The lines of persuasion he employs must be carefully selected to contribute to the military objective and must be consistent, timely, and credible. Accordingly, he coordinates these lines with other agencies of government and with related activities of the command, including cover and deception, counterintelligence, communications security, censorship, command information, character guidance, public information, community relations, and CA. The effects of PSYOP are cumulative. PSYOP are planned and coordinated to support all operations. For detailed discussion of PSYOP, see FM 33–1 and FM 33–5.

b. Propaganda and Psychological Measures. PSYOP include the planned and directed use of propaganda and psychological measures to influence people so that they will behave in the desired manner. Propaganda is any form of communication designed to influence the opinions, emotions, attitudes, or behavior of any group, in order to benefit the sponsor either directly or indirectly. It is prepared and disseminated by PSYOP units, assisted by other elements of the command as directed. Psychological measures are military, political, economic, and social actions, that are conducted primarily for their psychological impact to assist in accomplishing the command mission.

c. Capabilities and Limitations. PSYOP are conducted to reduce the morale and combat efficiency of enemy troops and to promote dissidence and defection. They may be used also to assist in stabilizing the civil population to preclude interference with tactical operations. They support the cover and deception plan. They are employed to abet and coordinate resistance against a hostile regime, to influence neutrals, to sustain the morale of allies, and to counter enemy subversion and propaganda. They cannot by their own force accomplish military objectives; they can only support accomplishment of objectives. Their employment is limited by security requirements, policy restrictions, inadequacies of communications media, language barriers, prejudices of the audience, and enemy countermeasures. Many of these limitations are overcome by farsighted measures based on effective specialized intelligence and evaluation.

d. Support of the Field Army. PSYOP in support of the field army are designed primarily to reduce the combat effectiveness of enemy forces and must be immediately responsive to the tactical situation. Operations are mobile and decentralized and provide direct support to tactical units. Psychological opportunities, determined through the continuous evaluation of intelligence are quickly exploited. Close cooperation and coordination are required between operations, intelligence, and PSYOP staff officers to insure maximum effectiveness.

e. Support of Unconventional Warfare Operations. PSYOP support all phases of unconventional warfare. Prior to the infiltration of Special Forces teams, PSYOP originate outside the planned operational area and are employed to create and develop resistance. Following the infiltration of Special Forces teams, these operations are supplemented by the PSYOP conducted by guerrilla forces. Specially trained propaganda teams may be infiltrated to assist operations of resistance elements. During exploitation and consolidation, PSYOP may assist CA efforts to insure an orderly transition, culminating in the demobilization of guerrilla forces and the establishment of a stable government.

f. Support of CA Operations. CA operations are supported by PSYOP to promote maximum

cooperation from the civil populace. In areas subject to enemy subversion, PSYOP in support of a friendly government are one of the first effective means that the military commander has for maintaining stability. During hostilities, PSYOP help to prevent espionage, sabotage, and enemy unconventional warfare operations.

★*g. Support of Cold War Operations.* In cold war, PSYOP assist in achieving the force objective and are conducted to win the support of the population. Unobtrusive demonstration of military power, efficiency, good will, and sincere interest in mutual security are some of the activities which may be conducted in support of cold war operations. PSYOP are undertaken in close coordination with the civilian agencies of government and public information media. Indigenous military forces are trained and assisted in operations designed to counter enemy subversion and gain public support. Details on PSYOP support of cold war operations are contained in chapter 12.

h. Support of Stability Operations. PSYOP support of stability operations is discussed in chapter 13.

★5–23. Electronic Warfare Operations

Electronic warfare (EW) is that division of the military use of electronics involving actions taken to prevent or reduce an enemy's effective use of radiated electromagnetic energy and actions taken to insure effective friendly use of radiated electromagnetic energy. EW also involves actions taken to search for, intercept, locate, record, and analyze enemy radiated electromagnetic energy for the purpose of exploiting such radiations in support of military operations. This EW information is used for threat detection, warning, avoidance, target acquisition, and homing. EW is an integral part of operations. It can reduce the enemy commander's control by impairing or denying his means of communications and use of electronic emitters at a critical time, or it can mislead him by transmitting deceptive data. Tactical commanders conduct EW in conjunction with fire and maneuver to accomplish their missions. Commanders of unified and specified commands are responsible for planning and conducting EW operations in support of objectives, missions, and tasks assigned by Joint Chiefs of Staff (JCS). Authority to employ electronic countermeasures (ECM) may be delegated to subordinate commanders of unified and specified commands or joint task forces. Commanders at all echelons have authority to employ electronic support measures (ESM) and electronic counter-countermeasures (ECCM). Army tactical commanders exercise operational control over all assigned and attached EW resources.

5–24. Denial Operations and Barriers

a. General. A denial operation is designed to prevent or hinder the enemy's use of or benefit from an area, personnel, facilities, or materiel. Denial operations are basically strategic in concept. A barrier is a coordinated series of obstacles designed or employed to canalize, direct, restrict, delay, or stop the movement of an opposing force and to impose additional losses in personnel, time, and equipment on the opposing force. Barriers are basically tactical in concept. Both denial operations and barriers have as their common objective reduction of the rate of advance and diminution of the combat power exerted by the enemy against friendly forces.

b. Denial Operations. Denial operations are designed to prevent or hinder enemy occupation of, or benefit from, areas or objects having strategic value. The theater commander establishes policies governing denial operations in the theater and delegates planning and execution to the Service component commanders and to subordinate joint force commanders. The conduct of denial operations in the combat zone is based on theater denial policies and plans. Denial operations may vary in scope from those of a "scorched earth" policy to those that place a temporary limitation on enemy use of an area or facility. Denial targets of tactical significance usually are assigned to the tactical commanders (divisions) for preparation and execution and include such targets as major bridges, tunnels, and dams. Other types of denial targets, such as industrial plants, airfields, and ports, may be assigned to special engineer demolition teams or to other special units operating under the control of field army or higher headquarters. General and special staff responsibilities for denial operations are similar to those for the employment of barriers, wherein the G3 has primary general staff responsibility and the engineer special staff responsibility. In retrograde operations, engineer units support tactical units by planning, preparing, and executing denial targets—usually demolition—with conventional explosives or atomic demolition munitions. All troops participate in certain aspects of denial operations by destroying or removing organic equipment and supplies to prevent capture.

c. Barriers.

(1) The basic principle underlying the em-

ployment of barriers in tactical operations is that of augmenting the combat effectiveness of available forces to the maximum extent. The employment of barriers is not restricted to any one type of tactical operation nor to any one type of barrier. Barriers may incorporate the use of chemical agents when authorized. Although barriers are defensive by nature and have their greatest application in defensive and retrograde operations, they can be gainfully employed in the offensive. Skillful knitting of natural and artificial obstacles into barriers changes the military characteristics of the terrain, increases the commander's chances of gaining relative superiority in mobility, achieves, security and economy of force, and permits more effective massing of combat power for offensive action. Well-designed and well-located barriers compel the enemy either to concentrate his forces to break the barriers—thus presenting a lucrative target to friendly nuclear and nonnuclear fires—or to bypass the barriers.

★(2) On the battlefield, the commander will seldom have enough time, labor, materials, transportation, or equipment to construct all the obstacles he desires. This is particularly true in the defense because of the requirements generated by construction of field fortifications, organization of the ground, combat service support operations, and related tasks. As an example, to assist in meeting these requirements, the commander should consider use of aerially delivered mines.

★(3) An overall priority must be accorded the barriers, and individual obstacles must be given an order of priority for construction. Priorities are generally determined on the basis of a particular obstacle's contribution to accomplishment of the unit's mission. Generally, these priorities are from front to rear, with initial efforts directed toward the placing of obstacles to protect a critical flank, block likely enemy avenues of approach, or deny access to certain key terrain. All obstacles must be under friendly observation, covered by fire and integrated into the unit's fire support plan to be fully effective.

★(4) In the forward portions of the combat zone, personnel and materiel resources are normally committed almost exclusively to the tasks of combat and combat support. An ideal barrier is therefore rare, except where natural obstacles are completely effective in themselves or require little improvement or augmentation with artificial obstacles. Extensive barriers are necessary in the rear portion of the combat zone to block deep enemy penetrations or envelopments, to assist in forming massed enemy targets, and to provide space for the timely employment of counterattack forces.

★(5) In planning the employment of barriers, sufficient fire-protected, obstacle-free areas must be provided to insure that essential movements of friendly forces in the battle area, execution of counterattacks, and combat service support activities are not unduly impeded.

d. References. Additional details on denial operations and barriers are contained in FM 31–10.

★5–25. Tactical Cover and Deception

a. Tactical cover and deception contribute to security and surprise and enhance the likelihood of operational success by misleading the enemy and causing him to react in a manner advantageous to the friendly force. Tactical cover and deception may be used to compensate for relatively inferior combat power and to permit economical use of men, materiel, and time. The commander employs tactical cover and deception to disguise or conceal his true dispositons, capabilities, and intentions, and to further his passive air defense effectiveness.

g. Tactical cover and deception plans are an

integral part of all operational planning. In developing these plans, the commander must visualize and understand the enemy viewpoint, and he must take into consideration the impact on his own operations should the deception fail. The plans adopted must be such that, if unsuccessful, they will not cause the operation to fail. Coordination of tactical cover and deception plans with higher, adjacent, and lower units is essential to insure against compromise of other operational or deception plans.

c. All units undertake measures to conceal their positions and operations from enemy visual, photographic, sonic, and electronic detection. Technical assistance in the planning and execution of tactical cover and deception may be provided by specially trained and equipped units available in the field army.

d. For detailed discussion of tactical cover and deception, including levels of authority, see FM 31-40.

5-26. Interdiction

a. The purpose of interdiction is to deny or hinder enemy use of areas or routes. Successful interdiction restricts enemy movement and interferes with the command and control of his forces. It hinders or prevents enemy movement into, out of, or within the commander's area of interest. It contributes to security by preventing sudden and unfavorable changes in relative combat power.

b. Interdiction is accomplished by the use of fires, combat troops, guerrilla forces, and denial operations and barriers. Chemical agents and high-yield nuclear weapons provide an area-interdiction capability against large, poorly defined targets.

c. A successful interdiction effort is characterized by thorough and imaginative planning, timely and accurate intelligence, and coordinated execution. Continuous surveillance of the area of interdiction is necessary to assess the effectiveness of the effort and to develop new targets. The enemy may be expected to adopt measures designed to thwart the interdiction effort. The availability of resources and the capability of weapon systems will rarely permit complete interdiction. The application of resources to interdiction must be weighed against the overall requirements of the mission.

d. Interdiction plans must be designed to insure timely contribution to accomplishment of the mission and must concentrate on targets that have a significant effect on the combat power of the enemy forces directly opposing the command concerned. Each successively higher echelon focuses its interdiction effort at a greater range. Higher echelons integrate and expand the interdiction effect of subordinate elements.

5-27. Battlefield Illumination

Battlefield illumination is the lighting by artificial means of the zone of action of ground combat and combat support troops. The principal requirement for battlefield illumination is to overcome the limitations imposed on friendly forces by the absence of light. The following principles apply:

a. The use of battlefield illumination is a command responsibility.

b. Battlefield illumination in support of friendly forces should be provided wherever and whenever needed, in the intensity of illumination required, and throughout the period of time required.

c. Battlefield illumination should, wherever possible, be provided by an independent source of illumination to allow units full use of their weapons.

d. Illumination should be provided by the highest level practicable to conserve the illuminants available to lower echelons.

e. Each ground unit engaged in combat that has a specific need for illumination should have organic means sufficient to meet its normal illumination requirement until this mission can be assumed by a higher echelon.

f. Alternative means of illumination should be provided, if available.

g. All battlefield illumination must be coordinated to prevent disclosure to the enemy of the operations of adjacent friendly units. Coordination will normally be accomplished by the commanders having operational control of the illumination means and may necessitate restrictions being placed on the units' organic means.

h. Once artificial daylight is provided supported troops, it should continue without interruption until the need for illumination is satisfied. This type of illumination completely eliminates night vision and, if interrupted, renders supported troops incapable of seeing until night vision is restored.

i. The habitual use of battlefield illumination under any given circumstances may tend to reveal prematurely the intention of friendly forces. Care must be exercised to prevent establishing a set pattern of operational procedures. Conversely, the use of illumination techniques as part of deception plans may be profitable on occasion.

j. Battlefield illumination should be planned and coordinated with the use of infrared equipment in such a way that no damage will be caused to the infrared equipment by exposure to direct, intense white light; that it will be reduced to the minimum when infrared operations are being conducted; and that rapid changes from infrared to battlefield illumination, or vice versa, can be performed.

k. For additional details on battlefield illumination, see FM 20–60.

CHAPTER 6
CONDUCT OF BATTLE
(STANAG 2082, STANAG 2083, and STANAG 2104; SEASTAG 2082 and SEASTAG 2083; SOLOG 49R, SOLOG 128, and SOLOG 130)

Section I. GENERAL

6–1. Scope

This chapter presents the fundamentals of offensive and defensive operations. Operations under nuclear and nonnuclear conditions are compared, and the impact of biological and chemical operations is discussed. Paragraphs 6–7 through 6–52 deal with operations in which maneuver of combat units is not too seriously reduced by use of nuclear weapons. Paragraphs 6–53 through 6–56 present operational doctrine for an environment in which extensive use of nuclear fires drastically reduces the ability of ground forces to maneuver.

6–2. Purpose of Battle

a. Battle is fought with the ultimate purpose of defeating an enemy. It is fought by a combination of offensive and defensive actions. In their broadest sense, the terms "offense" and "defense" include the entire range of tactical operations.

b. The commander selects that combination of offensive and defensive action that will most effectively accomplish his mission. A command may conduct an offensive, even though large portions of the force are employed defensively. Conversely, the defense depends for success on the use of part of the force offensively.

Section II. COMPARISON OF NUCLEAR AND NONNUCLEAR WARFARE

6–3. General

The conduct of both nuclear and nonnuclear warfare is based on the application of combat power in accordance with the principles of war. The difference between nuclear and nonnuclear warfare arises primarily from the increased combat power provided by nuclear weapons; from a sharply increased vulnerability of troops and installations in the nuclear environment; and from the measures required to counteract this increased vulnerability, to include increased security requirements for nuclear weapons and their associated delivery and support units. In general, the difference is as reflected in the subparagraphs below.

a. Areas of Responsibility and Interest. To offset their vulnerability, forces operating in a nuclear environment must be dispersed to minimize presentation of targets remunerative to nuclear weapon attack. The extent to which units can be dispersed depends on the capabilities of each element to accomplish its mission. Determination of the extent of dispersion compatible with capability to perform the assigned mission is a command responsibility. Force dispersion requires assignment of increased areas of responsibility. To operate effectively in dispersed formations, the force must possess a reliable control system and sufficient mobility to make maximum use of the increased combat power of nuclear weapons. Increased areas of responsibility broaden areas of interest. In a nonnuclear environment, with its attendant reduction in available firepower, the vulnerabil-

ity of forces is less, the area that can be controlled is smaller, and greater concentration of forces is required. Consequently, the areas of responsibility and interest are smaller.

b. Dispersion. Because the dispersion required by a nuclear environment invites defeat in detail, dispersion of tactical units, command and control facilities, and combat service support installations must be governed by current and planned operations. Dispersion is proportional to the level of employment of nuclear weapons; therefore, limiting factors such as the following must be considered:

(1) The assigned mission.
(2) Control of subordinate units.
(3) Adequacy of combat intelligence.
(4) Responsiveness of the combat service support system.
(5) Weather and terrain.
(6) Mobility of forces.
(7) Nature and disposition of enemy forces.
(8) Density and location of the civilian population.

c. Mobility. In the nuclear environment, combat forces must be highly mobile to reduce vulnerability, facilitate control of extended areas of responsibility, provide mutual support, maintain freedom of action, and exploit the effects of nuclear fires. The increased mobility required by the nuclear environment also has application in the nonnuclear environment, although not always to the same degree. The reduced firepower of the latter environment, together with the more restricted areas of responsibility and the greater concentration of forces, may not present the frequent opportunities for deep, exploiting maneuver that characterize the nuclear environment.

d. Fire and Maneuver. Army units fight by combining fire and maneuver. This is a technique of establishing a base of fire and a maneuvering force. These two distinct forces have separate missions. The mission of the base of fire is to reduce the enemy's capability to interfere with the movement of the maneuver force and, within its capabilities, to destroy the enemy. The base of fire may consist of small arms, mortars, artillery, armed helicopters, tactical air, and naval gunfire. Tanks may be used in the base of fire when terrain prevents their employment in the maneuvering force. The mission of the maneuvering force is to close with and destroy the enemy. This force consists of infantry and armor, as available. In either nuclear or nonnuclear environment, fire and maneuver must receive equal consideration by the commander in determining the appropriate combat power to be applied. As the frequency of employment and the yields selected become greater, the effects of nuclear weapons begin to saturate the battle area, and maneuver elements find it increasingly difficult to maneuver decisively without prohibitive losses. However, success accrues to the combatant who can maneuver first with a force capable of exploiting the firepower employed.

e. Tempo of Operations. The combination of nuclear firepower and increased mobility significantly accelerates the tempo of operations in the nuclear environment. Engagement of forces is of shorter duration and is characterized by extreme violence. Deep, decisive objectives are sought, causing the battle to be waged in great depth. In nonnuclear warfare, the tempo is more deliberate; engagements that may be decided in a matter of hours in the nuclear environment may require several days.

f. Air Defense. The destructive power that is inherent in a single hostile aircraft or missile armed with nuclear weapons increases air defense requirements under conditions of nuclear warfare.

g. Organization for Combat. Dispersion, mobility, vulnerability, and tempo of operations affect the organization for combat. In the nonnuclear environment, greater centralization of control is practicable, particularly the control of fires, combat support, and combat service support. The commander can exert greater personal direction of the course of battle, giving more deliberate and detailed instructions to his subordinates, both before and during operations. In a nuclear environment, the opposite is true. Combat forces tend to operate semi-independently under mission-type orders. Direct support artillery units may be attached to the combat elements when distances and deployments dictate decentralization of control. The control of combat support and combat service

support units is similarly decentralized to a significant degree. With longer lines of communications dictated by increased dispersion factors, the vulnerability of those lines of communications to attack and interruption requires even greater integration of tactical and combat service support planning. Although modern communications systems permit the interchange of essential orders and information, the commander must place greater reliance on the initiative, integrity, courage, and professional ability of his subordinate commanders. The trend is toward decentralization, but the commander must be able to extend sufficient direction to the course of battle to provide guidance and prevent the force from becoming disorganized.

h. Radiation Effects and Combat Efficiency. Commanders of units operating in a nuclear environment must consider the effects of radiation on the combat efficiency of their units and their ability to accomplish an assigned mission. Detailed guidance to meet a widely varying range of radiation exposure is available in FM 3-12 to assist commanders in estimating the probable effects given levels of exposure will have on a unit's combat efficiency. However, commanders require a guide that meets their needs for interpreting available data. The following may be used as a guide:

(1) Provided that no appreciable dose (75 rad or less) has previously been received, 5 rad or less in 24 hours is a low dose (negligible risk) and is acceptable during routine operations. However, more than 5 rad per day, or 75 rad in a 30-day period, should be considered unacceptable. Moderate and emergency risk criteria are discussed in FM 3-12.

(2) If a unit receives a cumulative dose of 75 to 150 rad, the commander should regard this unit as having received a dose that is not dangerous but is approaching the threshold for the onset of combat ineffectiveness, especially if the unit receives this dose within a short period (minutes to a few hours). If the combat situation permits, a unit in this category should be exposed less frequently and to a lesser risk than a unit that has not been exposed or that has received a cumulative dose of less than 75 rad. All further exposures in this range are considered moderate and emergency risks.

(3) If a unit receives a cumulative dose of more than 150 rad, the commander should regard this unit as potentially ineffective, and exposure to additional radiation will probably result in a progressive increase in unit ineffectiveness and in probability of death for some of the personnel. If the combat situation permits, such a unit should not be exposed to additional radiation for at least 2 months to permit ample observation of actual state of health by the surgeon and reclassification of units to a less serious radiation status category.

i. Casualties. In operations where nuclear weapons are employed, commanders and staffs at all echelons must anticipate sudden, severe, personnel losses within very short periods of time. These losses may be to an extent that causes the combat effectiveness of both enemy and friendly forces to be destroyed temporarily. Thus, Army forces must be trained and indoctrinated in rapid reorganization and in the emergency treatment of mass casualties with minimal professional medical assistance.

j. Nuclear Strike Warnings. Employment of nuclear weapons in support of ground forces involves possible risk to friendly forces. In planning a nuclear strike, the commander must consider the requirement to provide appropriate prestrike warning to all friendly forces who may be affected by the strike. The responsibility for dissemination of nuclear strike warning (STRIKWARN) messages rests with the commander executing the strike. Commanders authorized to release nuclear strikes will insure that strikes affecting the safety of adjacent or other commands are coordinated with these commands in time to permit dissemination of warnings and the taking of protective measures. Warning of an impending strike will be initiated no earlier than is necessary to complete the warning. Details and approved format for STRIKWARN messages are contained in FM 101-31-1.

k. Denial of Nuclear Weapons.

(1) In nuclear warfare, preventing the enemy from capturing friendly nuclear weapons is vitally important. Equally important is preventing the enemy from using these weap-

ons if he should capture them. Denial of nuclear weapons to the enemy will be governed by the following doctrine:

(*a*) The primary means of denial is the maintenance of adequate weapon security.

(*b*) The primary objective of denial is to make the weapons tactically useless to the enemy.

(*c*) The most desirable form of denial of a threatened weapon is the physical removal of the weapon from the area of the threat; i.e., local repositioning or evacuation.

(*d*) In an emergency when no form of nuclear weapon relocation is possible or advisable, and gainful and expeditious employment of the weapon against the enemy is impossible, destructive denial becomes necessary.

(*e*) Nuclear weapons are of sufficient importance, sensitivity, and scarcity to dictate that the standing operating procedures for their denial become the personal concern of the commander. His decision is required on procedures in each area under varying circumstances of operation. These procedures should cover all details necessary for the executing individual, to include—

1. Origin of the decision to carry out emergency denial.

2. Step-by-step procedures, including differences in procedures that may be required in movement, in firing position, in a position of readiness, or at a storage site.

3. Instructions for the location of necessary denial equipment to insure ready accessibility under all circumstances of storage, movement, in a position of readiness, and in firing configuration.

(2) For details on denial of nuclear weapons, see FM 6-20-1.

6-4. Scales of Use of Nuclear Weapons

To provide a framework for subsequent discussion on the conduct of battle, the phrases "restricted scale of use of nuclear weapons" and "unrestricted scale of use of nuclear weapons" are used. These terms are necessarily relative, because there is no sharp differentiation between them.

a. The phrase "restricted scale of use of nuclear weapons" is used to denote a range of operational environments wherein the employment of nuclear weapons, in both quantity and yield, is selective and wherein the effects therefrom do not reach a level that will materially reduce the ability of combat units to maneuver effectively.

b. The phrase "unrestricted scale of use of nuclear weapons" is used to depict a level of employment of nuclear weapons that is sufficiently high to degrade appreciably the effectiveness of maneuver by combat units.

6-5. Biological and Chemical Operations

The decision to use biologicacal and toxic chemical agents rests with the President. The principles, policies, and concepts applicable to the employment of biological and chemical agents are continued in FM 101-40.

6-6. Biological and Chemical Munitions

a. The capabilities of biological and chemical munitions and the tactics and techniques of their employment are covered in FM 3-10, FM 3-10A, and FM 3-10B.

b. Biological and chemical munitions may be employed effectively in either the nuclear or nonnuclear environment. They are an additional means available to the commander to accomplish his mission. Biological and chemical agents are capable of producing large numbers of casualties. Dispersion to meet nuclear threats has limited value in countering a large area biological and chemical attack. Although some agents have a contaminating effect on the materiel for considerable periods of time, biological and chemical agents do not destroy physical facilities or materiel.

(1) Biological weapons are characterized by delayed casualty effects. They may be used profitably in tactical operations where plans can be phased to exploit their delayed effects; e.g., in advance of airborne, airmobile, and amphibious operations and in retrograde operations. Because of their potential for large area coverage, biological weapons may also be extremely effective against strategic targets.

(2) Chemical munitions have considerable applicability to tactical operations. After release of control, commanders have maximum flexibility in employing chemical agents. Vary-

ing casualty effects can be achieved by the employment of lethal or incapacitating agents. Unmasked target personnel or those with known poor biological and chemical discipline are particularly susceptible to an attack with agents employed for respiratory effects. Against masked targets or those with excellent biological and chemical discipline, agents designed for skin penetration are more suitable. Lethal agents are appropriate when relatively high death rates are desired. Incapacitating agents are appropriate when the use of lethal agents is not desirable; e.g., when enemy troops are intermixed with the civilian population. The use of these agents may permit the securing of physical facilities intact without the widespread destruction that results from nuclear and high-explosive fires.

(3) These munitions may be of particular applicability in the nuclear environment when it is desired to inflict mass casualties without the creation of obstacles produced by nuclear weapon blast effects or by radiological contamination. Chemical agents, in a contaminating role, may be effectively employed in denial and barrier operations and against targets that are to be bypassed.

c. Biological and chemical munitions have the greatest effect when their employment is coordinated with the scheme of maneuver; other fires; and special operational plans, such as barrier plans. Such employment fosters the full exploitation of the combined effects of fire and maneuver.

d. The commander's decision for employment of biological and chemical munitions requires consideration of the following factors in the planning process:

(1) Local weather conditions, particularly wind speed, direction, and air stability have considerable bearing on the decision to employ these munitions.

(2) Troops must be prepared to react promptly in exploiting the effects of these munitions.

(3) Special intelligence efforts, individual and unit protective measures, and thorough training are required to reduce the effectiveness of enemy biological and chemical attack.

(4) When protective clothing and equipment must be worn by troops for long periods of time, their combat effectiveness is lowered. The criteria for wearing individual items of protective clothing and equipment are outlined in FM 21–40.

(5) Air mobility becomes increasingly important as a means of crossing contaminated areas.

(6) Harassing chemical fires can produce a significant reduction in the combat effectiveness of enemy troops. Conversely, an excessive or inappropriate use of these fires tends to improve the biological and chemical discipline of the target personnel.

Section III. OFFENSIVE OPERATIONS

6–7. General

Since the initiative is a condition in which a commander retains the capability to apply his resources to influence the battle, offensive operations are preferred to defensive operations because the initiative lies with the attacker. The commander possessing the initiative is able to take actions that restrict his opponent to countering actions. Commanders should seek every opportunity to gain the initiative. Bold and aggressive employment of combat power, the achievement of surprise, or the exploitation of enemy errors or weaknesses serve to gain the initiative. Once gained, every effort must be expended to retain it. Continuous application of force and psychological operations against those parts of enemy units least capable of withstanding attack, the neutralization or destruction of the enemy's means of influencing the situation, and the prompt exploitation of successful actions serve to retain the initiative. The initiative is retained by commanders who conduct actions rapidly and decisively and who have alternate plans ready for implementation. Offensive operations are undertaken to carry the battle to the enemy. The purpose of offensive operations is to accomplish one or more of the following:

a. Develop the situation.

b. Defeat enemy forces.

c. Secure territory or terrain.

d. Deprive the enemy of required resources.

e. Divert the enemy's attention from other areas.

6–8. Considerations Affecting Offensive Operations

a. The commander visualizes offensive operations in terms of time and space. His estimate of the situation indicates the particular combination of factors offering the highest assurance of success. This analysis also includes an evaluation of the pertinent elements of combat power.

b. In offensive operations, the most decisive results are achieved by strong, mobile, exploiting forces. Offensive missions frequently have terrain objectives, although an enemy force may be designated as an objective. To reach an objective, a force goes through, over, or around the enemy.

c. A nuclear environment favors the use of small, highly mobile combat forces moving on the ground, through the air, or both. These forces make every effort to maintain their forward movement. Enemy forces are destroyed by fire; bypassed; contained; or, where necessary, reduced by assault. The plan of attack is designed either to divide the enemy force and defeat it in detail or to concentrate it to the extent that it can be destroyed by nuclear weapons. If it becomes necessary for the commander to concentrate his force, he does so only at the decisive point, in close proximity to the enemy, and for the shortest practicable time. Under a nonnuclear environment, greater concentration of maneuver forces may be acceptable. To insure rapid execution of the attack, the commander exploits fully all means of tactical mobility.

d. In situations in which opposing maneuver forces seek a tactical advantage, the commander must react with maximum speed. These situations may develop in the movement to contact, the meeting engagement, the reconnaissance in force, and the exploitation. Other operations, such as attack of an organized or fortified position, permit a more deliberate, planned, and coordinated attack, undertaken after thorough reconnaissance, methodical evaluation of relative combat power, acquisition and development of targets, and analysis of all other factors affecting the situation. Although such attacks are frequent in nonnuclear warfare, they occur less frequently in nuclear operations.

6–9. Maneuver in the Offense

In offensive operations, attacking forces are maneuvered to gain an advantage over the enemy, to close with him, and to destroy him. The commander may orient his attack on the front or flank of the enemy. To accomplish this, there are three basic forms of maneuver in the attack: the penetration, the frontal attack, and the envelopment. A double envelopment, a turning movement, and an encirclement are variations of the envelopment.

a. Penetration. In the penetration, the main attack passes through the principal defensive position of the enemy. The purpose of the maneuver is to destroy the continuity of the enemy force, divide it, and defeat it in detail. A successful penetration requires the concentration of superior combat power at the point selected for breaching the enemy defenses. It is appropriate when strong fire support is available, when the enemy is overextended, or when his flanks are unassailable. If sufficient preponderance of combat power is available, a multiple penetration may be launched. In such cases, the attacking forces may converge on a single deep objective, or they may secure independent objectives. When it is impracticable to sustain more than one penetration, the one enjoying the greatest possibility of success is exploited. After the enemy position has been breached, additional forces are committed as necessary to widen the breach, destroy the defending forces, and exploit the initial success by securing vital objectives deep in the hostile rear.

b. The Frontal Attack. The frontal attack strikes the enemy all along his front. It is employed to overrun and destroy a weaker enemy. This form of maneuver is appropriate for corps and higher levels of command.

c. Envelopment. In an envelopment, the main or enveloping attack passes around or over the enemy's principal defensive positions to secure objectives that cut his escape routes

and subject him to destruction in position from the flank or rear. This is accomplished by striking an assailable flank and by avoiding the enemy's main strength en route to the objective. A supporting attack fixes the enemy to prevent his escape and reduce his capability of reacting against the main effort by forcing him to fight in two directions simultaneously. In some situations, the supporting attack also deceives the enemy concerning the location or existence of the main attack. The envelopment is facilitated by superior mobility and by surprise. Aircraft are particularly valuable in increasing the mobility of the enveloping force. Aircraft provide the means for tactical parachute assault or for moving airmobile tactical forces to facilitate the rapid securing of envelopment objectives. Large-scale operations of this type may, in fact, execute the maneuver in the form of a tactical vertical envelopment. The success of an envelopment is dependent to a large extent on the ability of the supporting attack to fix the enemy. When the situation permits a choice in the type of maneuver for the main attack, the envelopment is usually preferable to the penetration because it offers a better opportunity to apply combat power to the greatest advantage.

(1) A variation of the envelopment is the double envelopment. In this maneuver, the attacker seeks to pass simultaneously around both flanks of the enemy. The attacking force must have superior combat power and mobility, and precise coordination and timing are required. Deficiency in any of these factors may subject the attacking force to defeat in detail.

(2) Another variation of the envelopment is the turning movement. In the turning movement, the attacking force seeks to pass around the enemy, avoiding his main force, to secure an objective deep in the hostile rear. The purpose of this maneuver is to force the enemy to abandon his position or divert major forces to meet the threat. He is then destroyed at a time and place of the attacker's choosing. A supporting attack may be required to fix the enemy, as in an envelopment; however, a turning movement need not always be accompanied by a supporting attack. Since the force executing the turning movement is usually out of supporting distance of other elements of the force, it must be sufficiently mobile and strong to operate independently. Air transport is particularly applicable for movement and initial support of this maneuver. Mobility superior to that of the enemy, as well as secrecy and deception, enhances the opportunity for successful accomplishment of a turning movement.

(3) A third variation of the envelopment is the encirclement. This maneuver offers the greatest possibility for fixing the enemy in position and permits his systematic capture or destruction. The encirclement is a difficult maneuver to execute because it requires the executing force to have a numerical superiority and mobility much greater than is normal. This preponderance of forces and greater mobility maximize the element of surprise in executing the encirclement. The use of airborne or airmobile forces enhances the probability of success in this type of operation. In the conduct of an encirclement, it is preferable to occupy the entire line of encirclement simultaneously; however, if this is not possible, the best escape routes are covered first.

6-10. Infiltration

a. Infiltration is a technique of movement used with the other forms of maneuver. The attacking force moves as individuals or small groups through, over, or around the enemy forward defense elements to a previously designated assembly area in the enemy rear. During the movement, these individuals and small groups seek to avoid detection and engagement by the enemy. By this means, a strong force may be deployed into the enemy rear without being subjected as an entity to decisive enemy action during movement. Once assembled, the force executes its assigned mission. Infiltration is an important means of achieving surprise.

b. The dispersed pattern of a nuclear battlefield presents frequent opportunities for movement of units by infiltration. In such an environment, movement by infiltration is an important technique for reducing the vulnerability of troops to nuclear attack.

6-11. Night Combat

a. Night combat is an integral part of all op-

erations and offers an excellent opportunity for deception and surprise. During stability operations, the desirability of conducting night operations to achieve surprise and maintain pressure against insurgents must be constantly assessed. The principles of the daylight attack apply; however, maintaining direction and control require special measures. The degree of success attained by night attacks is largely dependent on the training and conditioning of troops, prior reconnaissance, simplicity of the plan, effective control measures, and the enemy's night surveillance capability. Infiltration can be particularly effective in night operations. The objectives for a night attack are generally limited in depth by the difficulty in maintaining control, particularly after the enemy has been alerted. Then nuclear weapons are employed, the devastating effect on enemy defenses may permit the assignment of deeper objectives.

b. Battlefield illumination and use of night vision and surveillance equipment increase the efficiency of units operating at night and facilitate the employment of supporting fires.

c. Then friendly nuclear fires are used at night, adequate warning is required to reduce the problems of dazzle and loss of night vision. These fires should be carefully coordinated with the operations of other friendly units. Integration of nuclear fires with the scheme of maneuver is mandatory. This assists in preventing the creation of obstacles to the assault elements or the alteration of terrain features selected as control measures. Quick-acting chemical agents can be used for casualty effect on targets when creation of obstacles by nuclear fires is unacceptable. Enemy use of nuclear weapons during the attack may cause dazzle or loss of night vision for friendly troops.

6–12. Planning

a. Planning an attack, like other operations, is initiated by the receipt or assumption of a mission for the force. The tasks required to accomplish the mission are developed in the estimates of the commander and his staff.

b. The mission is the governing factor in the preparation of estimates, and subsequently the operation plan or order, and in the execution of the attack. All command and staff actions must be continuously compared with the mission to insure that the details of the operation contribute to mission accomplishment. The mission may be to secure an area or to defeat an enemy force. To facilitate planning, coordination, and control, the mission is usually translated into specific terrain objectives, the securing of which will permit control of the area or facilitate destruction of the enemy force.

c. The objectives selected become the basis for determining the scheme of maneuver. They are considered in relation to the characteristics of the area, the enemy and friendly situations, relative combat power, and enemy capabilities. These factors, once analyzed, indicate the various courses of action available.

d. After the objectives have been selected, the scheme of maneuver, allocation of available forces, fires, combat support, and combat service support can be determined. The means available will seldom permit all attacking forces and the reserve to be equally weighted in combat power. Furthermore, it is usually undesirable to expend excessive combat power against main enemy strength when it can be employed elsewhere with more effectiveness and greater economy. For these reasons, it is usually desirable to designate a main attack and one or more supporting attacks. The attack anticipated to produce the most decisive result and have the greatest probability of success is designated the main attack. It is accorded first priority in the allocation of combat power. Supporting attacks, which are employed primarily to fix the enemy and reduce his capability to react against the main attack, are allocated the minimum resources required to accomplish the assigned tasks. Nuclear, biological, or chemical (NBC) preparatory fires may reduce the enemy's strength sufficiently to warrant deep, multiple, equally weighted attacks.

e. A portion of the combat power of the force is held in reserve to be employed at a decisive time and place to obtain a favorable decision. The reserve is used to exploit the success of the attack, maintain the momentum of the attack, or provide additional security. It is

one of the commander's principal means of influencing the action once the operation is underway. The strength and composition of the reserve vary with its contemplated mission, the forces available, the type of offensive operation, the form of maneuver, the terrain, possible hostile reaction, and the clarity of the situation. When the situation is relatively clear and enemy capabilities are limited, the reserve may consist of a small fraction of the force. When the situation is obscure, the reserve may consist initially of the bulk of the command, prepared for employment at any point. While the reserve should be large enough to obtain a decision when it is committed, the forces allocated to it must not unduly weaken the main attack. It must be provided adequate combat support and the necessary transportation—both air and ground—to achieve the required mobility. Once the reserve is committed, a new reserve is reconstituted with minimum delay.

f. The fire support plan provides for fires in direct support of the assault elements and in general support of the entire force. Provision is made for adequate support of the reserve when it is committed. An important consideration is the decision on whether to fire a preparation. Such a decision is based on knowledge of the enemy's dispositions, NBC protection, available ammunition, and the results expected considering the loss of surprise. When nuclear weapons are to be employed, the plan includes the general allocation of nuclear weapons and fires to subordinate units; the use of nuclear weapons in the preparation, if fired; and the numbers and types of weapons to be held in reserve. Retention of nuclear weapons in reserve gives the commander an additional, powerful means of influencing the course of the operation. Areas wherein reserve forces and weapons are likely to be employed are kept under intensified surveillance. Certain areas may be so critical to the success of the operation as to warrant allocation of specific weapons and the establishment of rapid, prearranged procedures for calling for the fires. When nuclear weapons are to be employed in the preparation, the predicted obstacles that will be created must be evaluated as they affect the movement of friendly troops.

g. Attack plans include the measures for coordination and control of the various aspects of the operations. As a minimum, objectives; and a line of departure, time of attack; or starting point, are prescribed. Additional measures may include the assignment of zones of action, boundaries, axis of advance, direction of attack, lines of departure, phase lines, and checkpoints. The guiding principle in the use of control measures is maximum freedom of action for subordinate commanders, yet the higher commander must maintain sufficient control to insure a coordinated force effort.

6–13. Execution

a. The attack is characterized by fire and maneuver, combined and controlled to create a preponderance of combat power, that culminates in a powerful and violent assault in the decisive area.

b. Once the attack is launched, flexibility and speed in the employment of combat power are paramount. The attack is characterized by a series of rapid advances and assaults by maneuver and fire until the final objective is secured. The attack is executed vigorously and all favorable developments are exploited. If the advance lags in any portion of the zone, the weight of the attack should be shifted quickly to a part that offers greater opportunity for success. The attack maintains continuous momentum and is not delayed to preserve the alignment of units or to adhere closely to the preconceived plan of attack. Momentum is maintained by—

(1) The timely employment of reserves, the airlift of combat elements, the redirection of units on intermediate objectives, and the provision of adequate combat support and combat service support, or a combination of these means. In some instances, commitment of a portion of the reserve may be sufficient to accomplish the desired task.

(2) The advance of attacking echelons as rapidly as possible to their objectives. Enemy resistance is bypassed unless it can be quickly overrun or is so strong that it interferes with accomplishment of the mission. If the commander decides to bypass enemy strongpoints, he must recognize the danger of subsequent en-

trapment as well as the effect the bypassed forces may have on succeeding phases of the operation, including the danger to following combat service support units.

(3) The timely displacement of combat support elements and the provision of plans for close-in protective fires and fires to support the continuation of the attack.

(4) The modification of combat service support plans or the implementation of contingency plans to provide the necessary support to sustain operations, to include airlift of supplies.

c. To maneuver forces most effectively and employ fires to gain his objectives, the commander must keep informed of the progress of the attack, enemy reactions, and the situation confronting subordinate units. During the attack, he may increasingly decentralize control to subordinate commanders to permit them to react more rapidly to changes in the situation. Through knowledge of the situation, and of the higher commander's concept of the operation, the subordinate commander modifies and implements the plan.

d. Between areas of enemy opposition, attacking forces move rapidly by ground and air. When enemy resistance is encountered, the commander's first consideration is to reduce this resistance by having his leading elements, supported by fire, rapidly overrun and destroy the enemy. If a more deliberate attack must be made, attacking echelons move within assaulting distance of the hostile position under the protection of supporting fires and smoke. In a short, violent, and well-coordinated attack, the assault force destroys the enemy by maneuver, fire, or a combination thereof. When nuclear weapons are employed, a deliberate attack is usually unnecessary.

e. The commander provides security without sacrificing the momentum of the attack. Plans and procedures should prescribe actions to be taken in event of an enemy counterattack. Bypassed enemy forces must be contained or kept under surveillance pending subsequent elimination. Covering forces, patrols, flank guards, echeloned reserves, and firepower protect exposed flanks and gaps between units. Protection from ground attack may frequently be required for combat support and combat service support units when areas to the rear of attacking echelons have not been cleared. Halts are kept to the minimum; they permit the enemy to reorganize and may sacrifice the momentum of the attack. Especially in nuclear warfare, the failure to exploit an advantage relentlessly may nullify the success achieved. When units must be rested and resupplied, they are replaced by fresh units or reserves to maintain the momentum of the attack. For those units authorized to halt, orders should include the time and area of the halt, missions and locations of supporting units, and command and control measures. Some units may be diverted into dispersal areas to prevent congestion during the halt. Dispersal areas are planned to provide concealment, to aid defense, to reduce vulnerability to enemy attacks, and to facilitate resumption of the attack. Units in dispersal areas take protective measures to reduce their vulnerability.

f. Minimum forces, making maximum use of supporting fires, consolidate the objectives. The remainder of the command disperses and reorganizes to continue the attack without delay. Designated combat elements maintain contact and obtain information on which the commander plans future actions. Continuation of the attack with fresh troops, a new direction of attack, or exploitation of success by the reserve may require a passage of lines. Passage of lines must be executed with great speed under nuclear conditions. Use of the wide zone, characteristic of nuclear warfare, provides gaps between friendly units that can be effectively used by the passing forces.

6–14. Meeting Engagement

A meeting engagement is a combat action that occurs when a moving force, incompletely deployed for battle, engages an enemy force (static or mobile) about which it has inadequate intelligence. The action ceases to be a meeting engagement when the enemy's situation has been developed and subsequent planned and coordinated operations are undertaken. These actions occur frequently at the lower echelons of command in both offensive and defensive operations. The principal characteristics of meet-

ing engagements are limited knowledge of the enemy and minimum time available for the commander to develop the situation and formulate and execute plans.

6–15. Movement to Contact

a. Movement to contact is a tactical operation designed to gain or reestablish contact. An additional objective of friendly forces during movement to contact is to gain an advantage over the enemy that will facilitate future operations. Maximum advantage of position at the time of contact is achieved by properly organizing the force for combat and by maneuvering the force components. The movement to contact is pushed aggressively to gain the objective before the enemy can react. Every intelligence and security agency is used so that the main force will become engaged under the most favorable conditions. Air cavalry units may be effectively employed in intelligence and security roles, to include light air and ground combat during the movement to contact. Tactical aircraft and long-range missile fires may be employed early to achieve fire superiority. The bulk of the combat power of the force should remain uncommitted to permit flexible employment upon contact with the enemy. Execution is decentralized, but sufficient control is maintained to permit effective use of long-range supporting fires.

b. The movement to contact is normally made in multiple columns. The command is normally organized into a covering force, a main body that includes the advance guard, and flank and rear security forces. Subordinate tactical groupings employ various formations as required by their individual situations and missions.

c. The composition, size, and operations of the covering force may influence the entire course of the battle. The mission assigned the covering force is to develop the enemy situation and prevent unnecessary delay of the main body. Its operations may include attacking to destroy enemy resistance, securing and holding key terrain, or containing large enemy units. The covering force is organized to accomplish its mission well forward of the main body. A highly mobile, well-balanced force is required. Close coordination between the covering force and the main body is essential. Normally, control is retained by the overall commander of the force moving to contact. However, widely dispersed operations may favor decentralizing control to column commanders.

d. The main body contains the bulk of combat power of the force. Units of the main body are organized for combat and are positioned in the advancing columns to permit maximum flexibility for employment during the movement or after contact with the enemy is established. The advance guard is used to expedite movement of the main body, to maintain contact with the covering force, and to provide security to the front of the main body.

e. Flank and rear security forces protect the main body from ground observation and surprise attack. These security forces must be strong enough to defeat minor enemy forces or to delay strong enemy attacks until the main body can deploy. Flank and rear security forces operate either under the control of the commander of the force moving to contact or under the control of subordinate elements moving in proximity to them. Close coordination with air reconnaissance, observation, and surveillance contributes to the security of the main body.

f. The movement to contact may frequently be made at night or during other periods of reduced visibility. This requires all units to be skilled in night movement. The movement to contact terminates when major enemy resistance necessitates the deployment of the main body.

6–16. Reconnaissance in Force

A reconnaissance in force is a limited-objective operation by a considerable force to discover and test the enemy's dispositions and strengths or to develop other intelligence. A reconnaissance in force is usually planned and executed as a limited-objective attack. Even when he uses it primarily to gather information, the commander executing a reconnaissance in force is alert to seize any opportunity to exploit tactical success. If the enemy situation must be developed along a broad front, a reconnaissance in force may be conducted using strong

probing actions to determine the enemy situation at selected points. The size of the force is sufficient to cause the enemy to react in a manner that discloses his location, dispositions, and strength. Since a reconnaissance in force is used when the knowledge of opposition is unknown, a combined arms force of infantry and armor, with artillery, Army aviation, and engineer support, is employed. Reconnaissance-in-force operations may result in unacceptable losses, disclose the commander's ultimate intentions, or provoke an unwanted general engagement. When the enemy possesses appropriate nuclear delivery means, the risk in presenting a profitable target may outweigh the value of the information desired. The reconnaissance in force is particularly adaptable to the fluid characteristics of the nuclear battlefield and will serve as the basis for many offensive operations.

6-17. Exploitation

a. Exploitation is the followup of gains to take full advantage of success in battle. It is the phase of offensive operations that destroys the enemy's ability to reconstitute an organized defense or to withdraw in good order in the face of a threatened disaster. The psychological effect of exploitation creates confusion and apprehension throughout the enemy command, reduces the enemy capability to react, and may be decisive.

b. Planning for exploitation should provide for rapid, continuous advance; adequate combat support and combat service support; and the selection of decisive objectives. Provision must be made for regrouping of component elements while other elements continue the advance. Army air reconnaissance and security units may be effectively employed as intelligence and security agencies throughout all phases of exploitation.

c. The missions of exploiting forces include the seizure of deep objectives to cut enemy lines of communications and the disruption of enemy command and control facilities. The mission assigned the exploiting force commander should be sufficiently broad to avoid restriction of opportunities to disrupt and destroy the enemy. The commander must realize that troops and their leaders frequently are tired at the time opportunity for exploitation occurs, and aggressive, demanding leadership is required.

d. Exploitation is usually initiated when the enemy force is having recognizable difficulty in maintaining his position. This condition is indicated by decisive gains by friendly forces; lessening of enemy resistance, particularly supporting fires; and an increase in the number of prisoners captured and equipment abandoned. Once begun, the exploitation is executed relentlessly to deny the enemy any respite from offensive pressure in the drive to the final objective.

e. Forces in the exploitation normally advance on a wide front, depending on the mobility of the force, road net, and other aspects of the terrain. Only those reserves that are necessary to insure flexibility of operation, continued momentum in the advance, and minimum-essential security are retained. Airmobile and airborne forces are used to secure objectives critical to the advance and to cut enemy lines of escape. Swift raids, thrusts, and envelopments by ground and airmobile forces delay or prevent enemy reorganization. Actions are characterized by boldness, prompt use of available firepower, and rapid and unhesitating employment of uncommitted units. The exploiting force is committed in the decisive direction.

f. The exploiting force commander must be alert to prevent the dissipation of combat power in achieving minor tactical successes or in reducing small enemy forces. The aim is to reach the objective with the maximum strength as rapidly as possible. Control is vital to prevent overextension of the exploiting force if the enemy is capable of regrouping unexpectedly to attack the command. Available fires are employed to destroy enemy forces that cannot be bypassed or contained. Security from enemy nuclear attack is enhanced by rapid advances to keep enemy forces off balance and to neutralize their intelligence and surveillance capability.

g. The effectiveness of the exploitation may be enhanced by the commitment of additional forces with a mission of following and supporting the exploiting force. These forces

widen or hold the shoulders of the penetration, secure lines of communications, and relieve elements of the exploiting force containing bypassed enemy forces. Control of the forces performing a follow-and-support mission is retained by the next higher commander. Liaison between the following and supporting unit and the exploiting unit should be accomplished. Units given a follow-and-support mission should, where possible, possess or be provided mobility equal to that of the exploiting unit.

6–18. Pursuit

a. The pursuit is designed to cut off and annihilate a hostile force attempting to escape. As enemy demoralization begins and enemy forces disintegrate under relentless pressure, an exploitation may develop into a pursuit. A pursuit may also occur in any operation in which the enemy has lost his ability to operate effectively and attempts to disengage. In a pursuit, the enemy loses his ability to influence the situation and acts in accordance with the pursuer's actions.

b. In the conduct of a pursuit, direct pressure against retreating forces is maintained relentlessly, while an enveloping or turning force cuts the enemy lines of retreat. Double envelopments of the retreating main force are executed when conditions permit. Maximum use should be made of airmobile and airborne elements in the enveloping forces.

c. Pursuit operations are conducted aggressively and under decentralized control. Commanders remain well forward to provide impetus to the operation and must take decisive action to overcome any inertia in the command. Pursuit is pushed to the utmost limits of endurance of troops and equipment during both daylight and darkness. Tactical air support will assist in inflicting damage on the retreating enemy, concentrating on his lines of withdrawal and his reserves. Continuity of combat service support is vital to the success of this type of operation.

Section IV. DEFENSIVE OPERATIONS

6–19. Purpose

a. Defensive operations employ all means and methods available to prevent, resist, or destroy an enemy attack. The purpose of a defensive operation may be to—

(1) Develop more favorable conditions for offensive action.

(2) Economize force in one area to apply decisive force elsewhere.

(3) Destroy or trap a hostile force.

(4) Reduce the enemy capacity for offensive action.

(5) Deny an enemy entry into an area.

b. In the defense the commander seeks to use the operational area and means available to his advantage and to the enemy's disadvantage.

6–20. Defensive Considerations

a. In defensive operations, the defender seeks to seize and retain a degree of initiative by selecting the area of battle, by forcing the enemy to react in conformity with the defensive plan, and by exploiting enemy weakness and error. Defensive operations may be imposed by an inability to attack. However, the commander—particularly under fluid, nuclear battlefield conditions—may deliberately undertake defensive operations in combination with deception to destroy the enemy.

b. The deliberate shift from offense to defense, or vice versa, may occur rapidly and with considerable frequency. A defensive operation usually is a composite of major and minor actions and engagements. Elements of the command may be defending, delaying, attacking, feinting, or delivering fires as part of the defense.

c. An offensive attitude is necessary to seize opportunities to destroy the enemy. Psychological preparation of troops and strong leadership in the defense are essential to maintain high morale, alertness, and an aggressive attitude. The troops must understand that an effective defense is an opportunity to destroy the enemy.

d. The conduct of defensive operations under adverse conditions is the supreme test of the

field commander. The defender must fully use those advantages that he possesses and can improvise. He must take greater risks and conserve his resources, yet commit them unhesitatingly and decisively at the proper time. He must deal with the serious problems of leading troops without the evident success of offensive combat. The highest order of leadership and tactical skill is demanded.

e. The mission and the area to be defended should be stated in terms that permit the commander to use his means to maximum advantage, with minimum restriction on specific terrain features to be held. Defensive operations, however, inherently require restrictions not present in offensive operations. These result from the need for some degree of centralized control to insure the most effective use of resources, so that an adequate reserve remains for the decisive portion of the action.

6-21. Forms of Defense

a. Mobile Defense. The mobile defense is that defense in which minimum forces are deployed forward to warn of impending attack, to canalize the attacking forces into less favorable terrain, to impede and harass them, and to cause their disorganization. The preponderance of the combat power of the defending force is employed in vigorous offensive action to destroy the enemy at a decisive time and place.

(1) In general, the forward defense area forces employ the principles of the delaying action, while the remainder of the force uses the principles of offensive combat. In nonnuclear operations, the mobile defense is applicable to highly mobile warfare and to situations in which broad frontages must be covered. This type of defense is the preferred form in the nuclear environment, because it reduces their vulnerability to nuclear attack and perserves their freedom of action. In both environments, the mobile defense may provide an opportunity to destroy the attacking force and regain the initiative. Set patterns of action are avoided. The defending commander must retain freedom of action to choose the time and place to launch his decisive counterattack. This form of defense requires that the defending force have mobility comparable or superior to that of the enemy. The utilization of airmobile forces in the mobile reserve will improve the flexibility and responsiveness of the overall force to tactical situations.

(2) Generally, successful employment of the mobile defense depends on the ability of the defending force to yield terrain to achieve decisive results through the employment of the reserve as a counterattack force. Forward defense area forces should not be overextended or exposed to defeat in detail. Forward defense area forces must possess sufficient combat power to compel the enemy to concentrate his forces for attack where they may be destroyed by firepower and maneuver. When circumstances dictate that a portion of the force conduct a mobile defense while adjacent units are conducting an area defense, the flanks of the adjacent units cannot be exposed by the forward defense area forces of the mobile defense units.

b. Area Defense. Area defense is based on retention of specific terrain.

(1) When retention of specific terrain is mandatory, the commander places primary reliance on the ability of fires and forces deployed on position to stop and repulse the attacker. The force may or may not be physically on the key terrain or its approaches before the enemy attacks, particularly under nuclear conditions. In retaining specific terrain, the commander must use sufficient forces in the forward defense area to create the necessary combat power on or to dominate the terrain to be defended. The forward defense area normally has a higher priority for forces than does the reserve. The reserve is employed to block and destroy the enemy, to eliminate penetrations if they occur, or to reinforce threatened areas. The defensive concept requires detailed fire plans, organization of the area to exploit the natural defensive strength of the terrain, and plans for the maneuver of the reserve.

(2) The area defense normally takes maximum advantage of existing obstacles, reduces the danger of attack at night or by infiltration, and forces the attacker to employ maximum combat power to accomplish a penetration.

c. Variations in Defensive Operations.

(1) The area defense and the mobile de-

fense are at opposite ends of a scale of wide variations in defensive operations. Frequently, neither of these basic patterns will be suitable to a given situation and mission. In such cases, a variation incorporating applicable portions of each must be devised.

(2) In a larger force conducting the defense, the operations of the various component units may encompass both defensive patterns and delaying operations, with certain units being assigned primarily an offensive role.

6–22. Maneuver in the Defense

a. Maneuver by combat elements in the defense includes the spoiling attack, the counterattack, the counteroffensive, and the delaying action. Offensive maneuver is important in all forms of defense and is particularly significant in the mobile defense. Offensive maneuver is undertaken to exploit the results of attack by NBC and other weapons, to destroy a penetrating force at a time and place of the defender's choosing, to strike the enemy when he is unprepared and thus achieve significant results, or to assist in disengaging a force. The delaying action is employed to permit units to move to other positions from which they can execute either offensive or defensive missions or to gain space for employment of nuclear weapons.

b. A spoiling attack is an offensive operation launched by a defender against enemy formations that are preparing for attack. Its purpose may be to destroy a portion of the enemy force, to throw the enemy off balance, to secure terrain from which to launch an attack, or to deny the enemy ground observation and surveillance of the defended area.

6–23. Defensive Areas and Forces

a. The defensive areas are the security area, the forward defense area, and the reserve area. Forces and fires of the command are allocated to each in accordance with the defensive plan. The general scheme of maneuver or defensive organization of these elements is prescribed in sufficient detail to permit intelligent execution of the plan.

b. Forces of the security area furnish information on the enemy, deceive him, and provide a counterreconnaissance screen. Within their capability, they delay the enemy and reduce his combat power. Under active nuclear conditions, an important additional mission is locating and developing nuclear targets. Elements of the security force may be designed to stay behind advancing enemy elements. The composition and support of the security force include long-range reconnaissance and observation means, both ground and air; strong firepower; a high degree of mobility; and excellent and secure communications.

c. The composition of forward defense area forces varies with the defensive purpose.

(1) When the defense is based on the retention of specific terrain, major forces are used to organize the ground. Because of the inability to develop an impregnable defense, a reserve is required to maintain the continuity of the defense.

(2) The forces allocated to the forward defense area in a mobile defense, while not so strong as those in an area defense, must be capable of forcing the enemy to deploy. They require long-range fire capabilities and normally a mobility equal to or greater than that of the enemy.

d. The forces of the reserve are the primary means by which the defender regains the initiative. Retention of a relatively large reserve, consistent with the requirement for forces in other defensive areas, permits offensive action both within and forward of the battle area. When the mobile defense is employed, the reserve is the strongest and most decisive element of the force. While it may be required to perform defensive actions, its primary mission is to defeat the enemy by offensive combat. The combat power allocated the reserve includes fire as well as maneuver elements. When nuclear fires are authorized, the ability of the reserve to concentrate overwhelming combat power quickly in a given area greatly increases its offensive capabilities. In addition, the reserve provides flexibility and may be used to—

(1) Reinforce units.
(2) Occupy positions.
(3) Insure retention of key terrain.
(4) Assist in disengagement of units.
(5) Replace forward units.
(6) Extend flanks.

(7) Provide security against infiltration and airborne and airmobile attack.

(8) Conduct operations against irregular forces.

6-24. Planning

a. Development of the best overall defensive plan requires consideration of—

(1) The mission.

(2) The nature of the terrain and the degree to which specific terrain must be held.

(3) Relative mobility.

(4) The depth of the defensive area.

(5) The relative combat power of opposing forces.

(6) The relative air and nuclear situations.

(7) Reserves available at higher echelons.

(8) The ability to provide combat service support for the various plans.

(9) The deployment of combat service support units and facilities supporting the force.

b. The means available to the commander in planning defensive operations include forces deployed in defensive positions, fires responsive to the commander, and units maneuvering in conformance with the defensive plan. Each of these means depends on the others for maximum effect. The defender's task is to combine these means in proper proportion to accomplish the defensive mission. Considerations are—

(1) Facilitating the use of these means by exploiting the natural defensive strength of the terrain. The natural strength of the area can be increased by the aggressive, offensive-minded use of fortifications and barriers and by the development of detailed fire and maneuver plans. Normally, the defender can select and reconnoiter the defended area before its organization and thus influence the attacker to conform to the defensive plan.

(2) Holding or controlling specific terrain as indicated by the mission. The terrain is analyzed to determine the relative criticality of avenues of approach into the defensive area, areas suitable for offensive action, and existing or potential obstacles that, if developed, will strengthen the defense.

c. Fires are planned to destroy the enemy force or to permit exploitation by maneuvering elements to complete its destruction. As the level of use of nuclear weapons increases, the relative importance of fires in defensive operations increases. Fires are planned to permit engaging the enemy force early although, in some instances, fire may be withheld to develop maximum surprise and shock. The decision to fire at long range or to withhold fires is critical and must be made by the commander in each case. Plans must be sufficiently flexible to permit this latitude. Fires are planned against all elements of enemy combat power, such as enemy fire delivery means, reserves, command and support installations, and units in contact.

d. Effective combat intelligence is critical and is normally difficult to obtain because the defender lacks the initiative and is frequently inferior in combat power and reconnaissance means. Thus, the defender must make the most effective use of the means available. His detailed knowledge of the operational area, plus the increased susceptibility to detection of the attacker on the move, permits him to concentrate his effort on likely assembly areas, critical defiles, and other areas the enemy is likely to use.

e. The counterattack is a basic element of the defense. Its function varies in accordance with the type of defense being conducted. Although there are occasions wherein the counterattack is made by fire alone, more decisive results usually accrue from a combination of fire and maneuver. The principles of offensive combat are applicable to the conduct of the counterattack. Plans for the defense include counterattack plans in those areas wherein they are most likely to be required or where the maximum opportunity to destroy enemy forces may occur.

(1) In the area defense, the function of the counterattack is to destroy or eject the penetrating force and regain control of the battle area.

(2) In the mobile defense, the counterattack is the decisive element by which the commander accomplishes his mission. The objective is to destroy the enemy force and to exploit the ensuing opportunity to regain the ini-

tiative, to include operations within the enemy's rear area.

f. The employment of biological and chemical weapons is planned for defensive operations. Use of persistent-effect chemical agents may increase the effectiveness of fires against known enemy weapon positions and enemy reserves not suitable for nuclear attack. Persistent-effect chemical agents are also used to contaminate barriers, obstacles created by demolitions, and defiles as an aid in impeding enemy movement and canalizing his advance. Nonpersistent-effect chemical agents may be employed against targets of opportunity and against concentrations of troops in the attack. Chemical minefields, including minefields in which chemical and high-explosive mines are intermixed, are included in barrier plans.

g. Barrier plans are developed concurrently with other plans. It is necessary to take maximum advantage of natural obstacles and to improve them. The effectiveness of an obstacle is extremely limited when it is not covered by observation and fire. Lanes and gaps are required for the necessary movement of reserves and other forces in the battle area. Barrier plans establish the location of barriers, responsibility for construction, and priority in completion. The barrier plan is developed concurrently with antitank and fire plans and must be carefully coordinated with counterattack plans.

6–25. Defense Against Armor

a. Effective operations against an enemy possessing a significant armor capability require antitank defenses throughout the operational area. Such defenses are planned to cover those avenues of approach presenting the greatest threat to the command.

b. Maximum use is made of natural and manmade obstacles to facilitate the destruction of enemy armor by canalizing it into the fields of fire of antitank weapons. The entire antitank weapon system is used. This includes individual antitank weapons, mines, tanks, artillery, armed aircraft, and nuclear weapons. The antitank defense is established in depth throughout the defended area. Artillery high-explosive and chemical fires may be used on tanks to destroy the weapon, to produce casualties among the crews and accompanying infantry, and to separate the infantry from the tanks to facilitate close-in infantry antitank action.

c. If the enemy armor succeeds in overrunning forward areas, antitank weapons located in depth seek to stop this advance. Forces in the forward areas must remain in position to prevent enemy infantry from accompanying its armor and to contribute to the destruction of the penetrating tanks. Reserve forces heavy in armor are then committed to destroy the penetration.

6–26. Execution

a. In the defense, a continuous, aggressive, intelligence collection effort, including the use of air and guerrillas, is essential in determining the probable strength, composition, direction, and time of the enemy attack.

b. The action of combat units on position may vary from delay to defense at all costs. Combat units employed in defensive positions accomplish their mission by destroying the enemy with fires and by impeding his advance to the extent that he can be destroyed by fire and maneuver. Combat units may disengage and shift rapidly from defensive to offensive maneuvers.

c. Unless surprise offers a greater opportunity for success, the attacking forces are taken under fire as early as possible by aircraft and long-range artillery. As the enemy advances, he is taken under fire by elements in the security area. Security forces warn; deceive; develop intelligence; and, if part of the mission, execute maximum delay without becoming decisively engaged. They inflict maximum casualties on the advancing enemy and force him to deploy. As a means of collecting target information, security elements may remain in the area after passage by the enemy.

d. The attacker's disposition forward of the defensive area may favor a spoiling attack. When considering such an attack, the commander must evaluate the risks involved in terms of their effects on accomplishment of his mission.

e. As the attacker approaches the forward

defense area, he is taken under fire by all weapons within effective range, unless fires are deliberatey withheld as a surprise measure. Previously selected target areas are kept under close surveillance. For maximum effect on fleeting targets, fires must be readily responsive to the commander.

f. In the mobile defense, the forward elements conduct essentially a delaying action. Their operations may extend over considerable depth in the battle area. These elements must, however, be prepared to stop and hold terrain on short notice to assist the success of the decisive counterattack. The mobile defense is based on the counterattack as the decisive element. Criteria for determining when the counterattack should be launched are primarily those for assessing offensive maneuver. Among the significant considerations are the degree to which the forward defense area forces have succeeded in weakening the attacker and the potential remaining for further reducing his effectiveness. It is desirable that the enemy be stopped or slowed down and that he be disorganized, but these are not requirements and should not inhibit initiative in launching the counterattack.

(1) The counterattack capability is not dissipated against minor enemy success. When the counterattack is launched, it is given the full means to accomplish the mission. Piecemeal commitment of counterattack forces jeopardizes the success of the operation. The counterattack is carried out rapidly and violently, employing as much combat power as necessary to insure success.

(2) On occasions, it may be necessary to launch separate counterattacks against two or more enemy forces. The more effective method is the elimination of enemy forces in order of the seriousness of their threat. Simultaneous counterattacks by elements of the reserve divide the available combat power and should be avoided, but such action may be required in some situations.

(3) Although counterattack plans are prepared in advance, the counterattack may be launched before or after the times planned and in an entirely different area than anticipated. The probability of successful accomplishment of the mission is the controlling factor.

(4) Local counterattacks on a small scale may be used to assist in disengaging a force or to cause the enemy to change his plans. Small-scale attacks conducted with skill and determination may have an effect on the enemy out of proportion to the actual combat power involved.

g. The area defense is conducted in recognition of the fact that the battle area has been organized to halt the enemy; or if he penetrated the forward defense area, he must be blocked and contained in areas that favor the counterattack. The counterattack is the principal means for eliminating the penetration. The time to launch it is one of the most difficult decisions required of the commander. It should be launched at the time the attacking force is most vulnerable. It may, however, be launched as a result of an inability to cause the enemy to react to the defensive plan. Following penetration of the forward defense area, there is a period during which the momentum of the attack may be slowed, the attacking force somewhat disorganized, or the attacker's combat power dissipated to the extent that he is vulnerable to attack. Considerations in selecting the time and place for the counterattack are similar to those of the mobile defense. Additional considerations peculiar to the area defense are—

(1) Dissipation of fires and reserves against minor penetrations may leave the defender without means to react against major penetrations; or

(2) If the penetration achieves such success that a counterattack would be ineffective, it may be necessary to use the reserves in a blocking role and depend on higher echelons to conduct the counterattack.

Section V. RETROGRADE OPERATIONS

6-27. General

a. A retrograde operation is any movement of a command to the rear, to the flanks, or away from the enemy. A force executes a retrograde operation voluntarily only when a distinct advantage is to be gained. In either

event, such an action must be approved by the next higher commander. To be successful, it must be executed according to well-organized plans. A disorganized retrograde operation in the face of enemy strength invites disaster.

b. Retrograde operations conducted in a nuclear environment necessitate preparation of detailed plans for the tactical employment of nuclear weapons, to include highly selective use of atomic demolition munitions. Revisions to the initial scheme of maneuver may be necessary to reduce those vulnerabilities inherent in retrograde operations. Key identifiable terrain positions may have to be avoided in consideration of enemy nuclear capability. Close contact with the enemy is maintained as long as possible. Emphasis is on mobile defensive techniques to deny relatively immobile targets to the enemy.

6–28. Types of Retrograde Actions

Retrograde actions are classified as—

a. Withdrawal—An operation by which all or part of a deployed force disengages from the enemy.

b. Delaying action—An action in which a unit trades space for time and inflicts maximum punishment on the enemy without becoming decisively involved in combat.

c. Retirement—An operation in which a force not in contact moves away from the enemy.

d. Combination of types—In a large command that is in contact with the enemy, a combination of the above types usually is necessary, either simultaneously by adjacent units, or by one type developing into another. For example, a retirement is frequently preceded by a withdrawal. A retirement may be covered by a force executing a delaying action.

6–29. Purpose

a. Retrograde movements are conducted to accomplish one or more of the following:

(1) To harass, exhaust, and inflict punishment on the enemy.

(2) To draw the enemy into an unfavorable situation.

(3) To permit employment of the command or a portion thereof elsewhere.

(4) To avoid combat under undesirable conditions.

(5) To gain time without fighting a decisive engagement.

(6) To disengage from battle.

(7) To conform to movements of friendly troops.

(8) To shorten lines of communications.

b. Retrograde operations by a defender may permit him, with the lesser portion of his force, to reduce the combat effectiveness of an attacker so that these two forces approach parity. Nuclear fires enhance the effect of a delaying force. The resulting situation permits the defender to seize the initiative with offensive action by his reserve elements. Skillful use of terrain to slow down, confuse, and deceive the enemy is exploited by firepower, demolitions, and raids to make the enemy pay a high price in casualties for the ground he gains.

6–30. Withdrawal

a. Local withdrawals are normal in defensive operations. Combat units may frequently make withdrawals to perform other missions. These withdrawals may involve disengagement from the attacking force. Under certain circumstances, it may be necessary for the defending force, or an element thereof, to execute a general withdrawal. A general withdrawal may be part of a plan, as in a delaying action.

b. A withdrawal not under enemy pressure requires the use of effective countersurveillance and primarily depends on speed of execution and deception. It may be accomplished by stealth or in conjunction with a nuclear or ground attack to divert the enemy's attention. Plans must include provisions for the eventuality of detection and interference with the attempted operation. Successful withdrawals of this type normally will be limited to darkness or other periods of poor visibility or to difficult terrain under conditions of friendly air superiority. Poor visibility and difficult terrain complicate friendly control. The use of smoke and concealed routes assists in reducing the enemy capability to observe friendly movements. Enemy interference by use of airborne or airmobile troops must be anticipated.

c. A withdrawal under enemy pressure de-

pends on maneuver, firepower, and control. All available fires, to include nuclear fires, may be used in the withdrawal of closely engaged friendly forces. Forward elements move to the rear by aggressively employing small-unit delaying tactics. The rearward movement must be coordinated.

d. When simultaneous withdrawal is not practicable, the commander must determine the order of withdrawal. Withdrawing the most heavily engaged units first from the areas of greatest enemy pressure may subject major elements of the command to encirclement and destruction. Withdrawing the least heavily engaged units first may result in loss of all or a major portion of the most heavily engaged units. The decision must be based on a determination of which plan best preserves the integrity of the force and which best contributes to accomplishment of the mission.

e. Reserves are deployed well forward to assist in the withdrawal by fire or ground attack. When withdrawing under pressure, the reserve frequently launches spoiling attacks to disorganize, disrupt, and delay the enemy attack. Reserves may also be used to cover the withdrawal and to extricate encircled or heavily engaged forces.

f. A withdrawal may not always involve planned disengagement. When a force not initially engaged with the enemy withdraws, its continued retrograde movement becomes a retirement (para 6–32).

6–31. Delaying Action

a. The delaying action is a defensive operation in which a force inflicts maximum delay and damage on an attacker without becoming decisively engaged. This is the type of action normally fought by the forward echelons of the mobile defense, although these forces may have some additional restriction on their maneuver and area of operations. Entrapments may also be facilitated by a delaying force.

b. In the delaying action, most of the combat power of the force conducting the operation is disposed in forward areas. Fires are decentralized. Reserves are employed primarily to assist in the disengagement of forward elements.

c. A delaying action may be accomplished on a single position, on successive positions, on alternate positions, or by suitable combinations of these. Delaying positions are organized in limited depth, since full reliance is placed on long-range fires to facilitate the delay. Close combat is avoided.

d. The integration of a delaying action into the mobile defense is covered in paragraph 6–21*a*. It is employed in a similar manner in operations designed to entrap an enemy force.

e. In conducting a delaying action, forces engage the enemy at long ranges to cause casualties and to force him to execute time-consuming deployments. In some situations, however, long-range fires may be deliberately withheld for deception purposes. Delaying forces strive to offer sufficient resistance to prevent infiltration and to force the enemy to mass for deliberate attacks. A massed enemy is attacked and destroyed by fire and, where appropriate, exploited by maneuver. If the operation is not designed to deceive or entrap, the commander of the covering force subjects the advancing enemy column to repeated flank attacks by aggressive mobile forces, inflicting maximum destruction while avoiding decisive engagement. The availability of low-yield nuclear weapons and precision delivery systems will assist disengagement and may permit the command to accept closer engagement than would otherwise be practicable.

6–32. Retirement

a. A retirement normally will be covered by security forces that may execute delaying operations. The retiring force may be subjected to guerrilla attacks, airmobile or airborne raids, long-range fires, and enemy psychological warfare operations. Movement may also be impeded by refugees.

b. Security is an important consideration in executing a retirement. Movement by night is emphasized; day movement may be possible only by infiltration of small groups. Maximum advantage is taken of air mobility. In the initial phases of the retirement, elements of the command may separate and move in dispersed groups to designated assembly areas. The retiring force fights only as required by its mission. Maximum use is made of communications security measures, especially radio listening silence.

Section VI. REAR AREA PROTECTION

6-33. General

Overall area security and control is the responsibility of the senior commander in the area, but rear area protection (RAP) presents problems that are different from those existing in the forward area. The primary mission performed in rear areas is combat service support. The purpose of RAP is to prevent or minimize enemy interruption of combat service support, with its resulting reduction of combat effectiveness of the force. In modern warfare, the threat of such interruption is much greater than in the past. Installations that were formerly protected by distance from the front are now within range of mass-destruction weapons. Extended frontages and wide gaps between combat forces increase the vulnerability of rear areas to attack and require greater emphasis on RAP and counterintelligence measures. RAP is divided functionally into rear area security and area damage control.

6-34. Rear Area Security

a. Rear area security operations are those measures taken before, during, and after an enemy airborne or airmobile attack, sabotage action, infiltration, guerrilla action, to reduce their effects. These measures do not include active air defense operations. Attacks of a magnitude that endangers the entire command are part of the main battle and beyond the scope of rear area security.

b. The enemy capability for airborne, airmobile, guerrilla, or infiltration operations presents a continuous threat to the rear areas of a command. Successful employment of these capabilities by an enemy can have a demoralizing and decisive effect on an unprepared force and can disrupt its continuity of combat service support. In stability operations, requirements for base defense may cause use of combat units for security.

c. Plans to secure the rear area must be prepared to counter the enemy threat. Accurate and timely intelligence concerning the enemy's capabilities, including use of guerrillas, is an important consideration in developing the overall plan. The composition and strength of forces assigned missions of rear area security must be based on the evaluation of the enemy's capability and the primary mission of the overall force. Further, such plans integrate *all* means, to include not only all friendly forces in the area, but friendly guerrillas and paramilitary forces that are available. Successful defense, or destruction of enemy forces in rear areas, depends on the ability of friendly forces of sufficient size to react rapidly and on the effectiveness of communications.

d. The lines of communications, which include all the routes—land, water, and air—that connect an operating military force with a base of operations, and along which supplies and reinforcements move, are the lifelines of the military force in a theater (area) of operations. The longer the lines of communications, the more vulnerable they are to interdiction. The destruction or serious interruption of the lines of communications jeopardizes accomplishment of the force mission and, therefore, constitutes a major consideration in the conduct of effective rear area security operations.

e. Forces committed to rear area security should be adequate to counter the most likely enemy threat or combination of threats. Units located in the rear area must be fully used to contribute to the defense of installations and lines of communications. Effective rear area security requires that each installation plan, prepare, and rehearse for its own defense and its part in the overall rear area security plan. The nature of the threat may require locating or organizing highly mobile combat forces in rear areas. Positive command authority; clear areas of staff responsibility; and adequate, secure communications must be established. Locating and fixing the enemy is one of the major problems in rear area security. Frequently, this may be accomplished best by controlling areas logical for enemy attack until the enemy reveals his location and permits the launching of operations to destroy him.

f. Plans must provide for the defense of critical areas or installations. First priority must be given to the use of combat service support troops for security of their own installations.

A security force may also have to be disposed in dispersed locations where elements can move to block enemy threats. When the enemy is located, those elements of the security force not engaged in blocking are assembled rapidly for decisive action to destroy the enemy. Units may act on their own initiative; however, control must be established to insure coordinated action as the nature of the threat is clarified.

6-35. Area Damage Control

Area damage control includes those measures taken before, during, or after hostile action or natural or manmade disasters to reduce the probability of damage and minimize its effects. These measures include both preventive and readiness actions.

a. Preventive measures include dispersion, rehearsals, construction of protective shelters, development of warning systems, and counterintelligence.

b. Readiness measures include the establishment of area damage control teams. These teams should be equipped and trained to establish control at the scene of the event; assess damage; provide emergency medical treatment and evacuation; provide emergency feeding and water; conduct firefighting and decontamination of materiel; perform traffic control; and monitor, mark, and report the degree of contamination in the area.

6-36. Command Arrangements

a. In the rear area, all commanders are responsible for local security and area damage control for their own units and installations. Overall responsibility for RAP in a specific area is the responsibility of a designated commander. He is responsible for insuring the integration of local security and area damage control plans into an overall RAP plan. When necessary for operational control and coordination, subareas are formed within the rear area. All units physically within the subarea, including combat unit replacements awaiting assignment, are integrated into the RAP plans for that subarea. These plans are coordinated between adjacent units and with higher headquarters.

b. RAP and combat service support activities are performed in the same geographic area and involve the same forces. Since the use of combat service support units in RAP is a diversion from their primary mission of supporting combat forces, the manner and extent to which these units are diverted must be the decision of the commander responsible for all these interrelated activities. Thus, an effective system for RAP must possess the following characteristics:

(1) A single commander responsible for activities in the same geographic area with the necessary staff and communications. These arrangements must not be temporary or improvised or be established only after attack.

(2) A definite fixing of geographic responsibility.

(3) A control structure that prevents conflict and competition among organizations responsible for rear area security, area damage control, and combat service support.

6-37. Defense Against Airborne and Airmobile Attack

a. Defense against airborne or airmobile attack includes air defense measures, a warning system, troops disposed or available to defend likely landing zones and objectives, and a mobile reserve. Every effort is made to isolate and prevent reinforcement of the enemy forces. If local forces are not able to defeat the attacker, they form a base for counterattack by stronger, mobile reserves. Armor is effective against airborne and airmobile forces when available and when the terrain permits its use.

b. A major problem is to obtain accurate information on the location and extent of enemy landings. This problem results from exaggerated reports, scattered landings, and communications breakdowns in the affected areas. All means of observation and communications are used. Unless ground vehicles are air transported in large numbers, airborne forces are relatively immobile after landing. This usually requires that airborne forces land on or near their objectives. This fact can be used to advantage by the commander in planning his defense. It assists him in deciding where to deploy forces in anticipation of airborne attack and how to employ them during the attack. Consistent with troop safety, nuclear weapons are used against enemy formations in the air

and during landing, or on their assembly areas when they can be located.

c. When a major airborne or airmobile threat justifies the expenditure of resources, and when time permits, obstacles and barriers are improved or constructed in likely drop and landing zones and in exits toward logical enemy objectives. While obstacles and barriers cannot be considered an absolute defense against airborne attack, they impede the enemy and deny him free use of available terrain and may reduce the number of forces necessary to defend key areas. Inundation, prepositioned atomic demolition munitions, and chemical agents should be considered in antiairborne or antiairmobile defense.

6–38. Defense Against Infiltration

a. Defense against infiltration becomes increasingly important as dispersion on the battlefield increases. Enemy forces may infiltrate and assemble in rear areas for attack. An infiltrated enemy force constitutes an enemy target acquisition unit that can call down accurate, long-range fires. Early detection and elimination of these forces are essential.

b. Measures that aid in controlling infiltration include extensive counterreconnaissance, combat patrols, antipersonnel obstacles, warning devices, electronic surveillance devices, air cavalry, and defoliation of wooded approach routes. Every effort is made to identify likely enemy assembly areas to the rear of friendly forces. Priority is given to destroying the enemy in these areas before he can reorganize and launch his attack.

6–39. Defense Against Guerrilla Forces

a. All units and installations are subject to guerrilla attack and sabotage. Effective local security is essential to defense against these attacks. Special provisions are made for—

(1) Ground and air reconnaissance of rear areas.

(2) Aggressive patrolling in the local areas and between installations.

(3) Mutual assistance by adjacent units.

(4) Defense of installations and critical areas.

(5) Armed escorts.

(6) Use of friendly civilians as guides, agents, or counterguerrilla units.

(7) Mobile combat forces using air or ground vehicles, or a combination of both, to take offensive action against guerrillas.

b. Intelligence is required on areas suitable for guerrilla bases, identity of guerrilla leaders and civilian supporters, communications facilities, and sources of supply. Guerrilla effectiveness depends in great measure on current information. Thus, care must be taken to prevent their securing information of friendly operations, installations, and troop movements. Particular attention must be given to communications security, especially transmission security measures.

c. The political, administrative, and economic aspects of the area are considered in defense planning. Special attention should be given to measures to deny logistic support to the guerrilla force. Guerrilla forces cannot operate effectively unless supported in some degree by the local populace. Continuous effort must be placed on gaining the support of the local populace in counterguerrilla operations. Planning is coordinated with overall RAP planning. Information on the conduct of populace and resources control operations is contained in FM 31–23.

d. Additional details on counterguerrilla operations are contained in FM 31–16.

Section VII. BATTLE UNDER SPECIAL CONDITIONS

6–40. General

Battle under special conditions encompasses those operations in which the natural and manmade characteristics of the area, the nature of the operations, the unique conditions under which the operations may be conducted, or a combination of these, may require specially trained troops and special techniques, tactics, or materiel. All Army forces are capable of operations under these conditions, but special training and equipment may be required.

6-41. Fortified Areas

a. A fortified area is characterized by numerous mutually supporting defensive works and localities, organized in width and depth. Seldom will the fortified area be a single strongly organized locality. Fortified areas provide the defender with a high degree of protection and permit economy of force. Defensive works may consist of permanent-type fortifications and extensively developed field fortifications located within an extensive barrier system. Additional characteristics of a fortified area include a strong outpost system, which, in itself, may be fortified; a well-developed road and signal net; and a highly mobile reserve centrally located and provided with an extensive network of covered approaches.

b. In offensive operations, enemy fortified areas are normally contained by minimum friendly forces, while the main force bypasses and continues the advance to more distant and decisive objectives. Action to reduce a fortified area may include a siege or an attack from the rear. NBC munitions facilitate the destruction and neutralization of fortified areas. The ability of biological and chemical agents to penetrate structures and fortifications lessens the effectiveness of cover. Surface and subsurface nuclear bursts may be employed to create gaps in the fortified area or to isolate sections of the area. If nuclear bursts are used, they must be carefully coordinated with adjacent forces and evaluated as to possible interference with friendly maneuver.

c. A primary purpose for the defense of a fortified area is to involve the enemy in reducing fortified positions so that he dissipates his power and becomes vulnerable to counterattacking forces. Such a defense permits economy of force in forward areas, thus making available proportionately larger reserves for a counterattack. These reserves must be highly mobile and aggressively employed to insure the successful defense of a fortified area.

d. Details on combat in fortified and built-up areas are contained in FM 31-50.

6-42. Built-Up Areas

a. Built-up areas containing solid masonry or concrete and steel structures modified for defense purposes resemble fortified areas. These areas are conspicuous topographical features for which details are usually available. They offer cover and concealment for troops and weapons. Built-up areas may be untenable because of their susceptibility to neutralization or destruction by conventional or nuclear munitions. These areas are also vulnerable to neutralization by biological or chemical munitions. Extensive subterranean systems may provide the defender with additional protection. Built-up areas reduced to rubble retain their defensive characteristics and restrict the use of motorized or mechanized forces. Fighting in built-up areas is characterized by close combat, limited fields of fire and observation, canalization of vehicular movement, and difficulty in control of troops. In employing NBC weapons, the commander must consider their effect on the civilian population and make plans for its control and evacuation.

b. When practicable, built-up areas are bypassed and isolated. If they must be reduced, methods applicable to reduction of fortified areas are employed. Terrain dominating the approaches is secured to isolate the area. Mobile forces are used best in the enveloping role. Objectives within the built-up area are selected to divide the enemy defense. In a nuclear environment, the advantages gained through the use of nuclear weapons must be weighed against the creation of obstacles to the assault force.

c. The defense of a built-up area should be organized around key features whose retention preserves the integrity of the defense and permits the defender to move readily. Plans should provide for using subterranean systems in defending against nuclear attack. A built-up area is primarily an obstacle to the attacker, but may also be an obstacle to the defender in counterattack operations. Consequently, consideration should be given to defending outside the built-up area. Defense of a built-up area must provide for a reserve to counter enemy action within the built-up area and on the dominating terrain outside the area.

6-43. River Lines

a. Wide, unfordable rivers impose restrictions on movement and maneuver. They consti-

tute obstacles to the attacker and form natural lines of resistance for the defender. An attack across an unfordable river requires tactical and technical preparations proportionate to the size of the river and the relative strength of opposing forces. Other requirements for the attack of a river line are special types of intelligence, specialized training, close coordination of all forces, crossing equipment, and adequate means for control during the crossing. The timely use of airmobile and airborne forces facilitates river crossings and should be fully exploited. Maximum use is made of Army aviation in all stages of river-crossing operations.

b. As a result of the planning initiated during the advance to a river, the commander deploys forces in a manner that insures ready availability of essential crossing means when the river is reached. The advance to an unfordable river is made with great speed on a broad front. Speed and violence in the attack, plus the confusion of battle, may create an opportunity to secure bridges before the enemy destroys them. The actual crossing of a river is part of the overall operation and not the primary objective. Supporting fires, particularly nuclear or chemical, may be used to secure a bridge intact by neutralizing the personnel defending the bridge. The advantage gained by capturing a bridge must be exploited. A bridgehead must be promptly established to secure or construct the bridge and permit crossing of the remainder of the command.

c. In a nuclear environment, the capability of the defender to employ nuclear weapons amplifies the requirement for multiple crossings on extended frontages. Continuous movement, without delay for buildup, is essential. Combat forces mounted in amphibious armored vehicles speed the crossing and reduce the dependence on bridges.

d. Defense of a river line is facilitated by the organization for defense that exploits the natural terrain features and the resources available. Only screening forces may be at the river line when the defense is being conducted primarily by nuclear fires.

e. Details on river-crossing operations are contained in FM 31-60.

6-44. Jungles

a. Jungles are areas of tropical rain forest and secondary growth, varying in locale from mountains to low-lying swampy plains. They are further characterized by a lack of industrial or cultural development and fully developed lines of communications. Jungle terrain and climate limit movement, observation, fields of fire, communications, and control. Because of these limitations, the difficulties of jungle operations increase in proportion to the size of the force involved. Cover and concealment are excellent in this type of terrain and increase the possibility of achieving surprise. As a result, both the attacker and the defender commit large portions of available forces to security missions. Key terrain features in jungles include trails, navigable rivers, high ground, and communications centers. These features are difficult to identify because of inferior maps and limited visibility. The value of high ground may be reduced by restrictions on observation and fields of fire. An additional characteristic of jungle operations is the reduced capability to acquire targets. Heavy forests have characteristics similar to those of jungles.

b. In the offensive, security elements are essential to prevent surprise and to protect the command. In jungles, successful security force operations are dependent on proper training and conditioning of troops in off-trail movement. Airmobile and airborne units with air lines of supply facilitate jungle operations. Since the size of offensive operations is often limited by the capability to resupply the force, bases of supply are profitable targets for attack.

c. The critical aspect of a defense in jungles is the communications network. To guard against surprise, the defense must be organized in depth, provide all-round defense, and contain well-organized security forces both for the defended area and for supply routes. Provision must be made for a mobile reserve. Biological and chemical agents are particularly effective in jungle operations because of the nature of the terrain and atmospheric conditions. Defoliants can be used to improve observation and fields of fire. If nuclear weapons are employed,

they can be used to create obstacles through blast effects or radiological contamination to enhance any natural obstacles that may be present.

d. Details on jungle operations are contained in FM 31-30.

6-45. Deserts

a. Deserts are semiarid and arid regions containing a wide variety of soils in varying relief. Deserts have one common characteristic —lack of precipitation, which results in a limited water supply. However, flash floods occur in these regions. Because of the shortage of water, vegetation is scarce. In these areas, military operations rely on an adequate supply of water. Depending on the terrain relief and the trafficability of the soil, the lack of roads may or may not canalize operations. A greater freedom of movement exists in these regions than in other areas. Highly mobile forces may play a dominant role in operations in semiarid and arid regions. Freedom of maneuver and the vastness of these regions favor a fluid type of warfare characterized by dispersed formations on extended frontages with considerable depth. Additional characteristics include increased problems of control, limited concealment, difficulty in determining location and maintaining direction, increased combat service support and equipment maintenance problems, and a requirement for specialized training and acclimation of all personnel. Ground reconnaissance forces, provided with armor and air defense means, and air reconnaissance elements are essential to prevent surprise. Air superiority is extremely important to successful desert operations.

b. During offensive operations in semiarid and arid regions, wide envelopments by armored, mechanized, or motorized forces are favored because of freedom of maneuver. Because of limited concealment, surprise must be attained by deception, appropriate communications security measures, and rapid movement. Periods of limited visibility should be exploited. Objectives for the attack include enemy troops, communications centers, supply bases, water sources, and key terrain features. The influence of climate and terrain in arid regions must be considered in planning the use of nuclear weapons. Likely nuclear targets include combat service support and air installations.

c. Defensive operations in these regions emphasize mobility and flexibility. Provision should be made for direct fire weapons, a high degree of mobility, and adequate and secure communications. The organization of the defense should emphasize measures against air and armor attack.

d. Details on desert operations are contained in FM 31-25.

6-46. Mountains

a. Mountains cause compartmentation of military operations. Their rugged characteristics limit road nets. Vegetation may vary from jungle to bare slopes. The weather is characterized by rapid, extreme changes in temperature accompanied by mist, rain, or snow. Operations in mountains frequently require special equipment, training and acclimation of personnel to altitude conditions. Mountainous terrain retards and restricts mobility, reduces the effect of firepower, and makes communications and supply difficult. Key terrain features include heights that dominate lines of communications, mountain passes, roads, bridges, and railroads. Within density-altitude limitations, helicopters are valuable for moving equipment and personnel. Nuclear and chemical weapons can be used in mountain operations to restrict movement. Increased reliance must be placed on weapons having a high angle of fire and on armed aircraft.

b. In mountain operations, frontal attack of an enemy position is avoided whenever possible. Envelopment of enemy positions is facilitated by the crossing of difficult terrain with specially trained and organized forces. Air-transported forces are ideally suited for envelopments. Although centrally planned, the execution of attacks is normally decentralized because the capability for control is limited by terrain. The use of armor in the maneuver force will be reduced, but its direct fire capabilities are used when possible. Flanks, defiles, road nets, and communications centers must be secured. When nuclear weapons are available

to support the attack, small-yield weapons may be favored to avoid blocking restricted avenues of approach.

c. Control of dominating terrain protecting road nets or passes normally is the key to the organization of a defense in mountainous areas. Security forces are required to prevent surprise, particularly of observation posts and patrols. Air reconnaissance is useful as a security means and permits observation of otherwise inaccessible terrain. Although counterattacks are difficult to plan and execute, they can be decisive if timed properly. Nuclear and chemical weapons can canalize the enemy or augment barrier plans.

d. Details on mountain operations are contained in FM 31–72.

6–47. Deep Snow and Extreme Cold Operations

a. Deep snow and extreme cold are found in the arctic, subarctic, and temperate zones and at high altitudes in all zones. The areas in which these conditions exist vary from forested to relatively barren regions and vary extensively in population. The subarctic and arctic regions of the world constitute the largest areas of deep snow and extreme cold. An additional characteristic of these areas is the obstacles to movement created by thaws. Deep snow does not necessarily reduce the mobility of properly trained and equipped troops; in certain terrain, it may enhance their mobility.

b. The conduct of operations in arctic and subarctic regions will require the application of special techniques and equipment and will be affected by the following factors:

(1) During the winter, cold, snow, frozen waterways, permafrost, and short periods of daylight prevail. These factors create problems, such as constant need for shelter and heat, increased dependence of tactical operations on combat service support, difficulties in the construction of field fortifications, difficulties in establishing and maintaining communications, and need for special winter equipment and clothing. Aircraft may use frozen lakes and rivers for landing areas.

(2) During the summer, the area is characterized by numerous and extensive swamps, lakes, and rivers; abundant insects; and, at times, continuous daylight. Special equipment such as boats and low ground-pressure tracked vehicles, is needed. During these conditions, decreased mobility and increased vulnerability make special skills in movements a prime consideration.

(3) During the spring breakup, sudden thaws weaken the ice on waterways and swamps and make existing roads almost impassable. The ground thaws to a depth varying from a few inches to several feet, depending on the geographic location of the area. These factors will hamper extensive overland movement.

(4) During the fall, ground and waterways frequently freeze before heavy snow falls. Before the snowfall, troops and vehicles can move cross country with ease; however, in some cases early snowfall will insulate the ground and prevent its freezing until late in winter. This condition impedes cross-country mobility.

(5) During all seasons, the lack or scarcity of roads affects large-scale operations, particularly combat service support, which increases the requirement for engineer support and extensive use of air lines of communications. Limited map coverage adds importance to effective navigation and control measures. Extensive forests and barren land complicate all types of operations.

c. Offensive and defensive operations in these areas are conducted as in other climates. However, operations in these areas will require greater combat service support—especially fuel, clothing, and shelter—and more time to accomplish even simple tasks. Since road-bound troops are extremely vulnerable to all types of enemy action, the capability to move cross country is a requirement for successful operations. The control of land routes of communications is vital in both offensive and defensive operations. Typical nuclear targets include combat service support installations and communications centers.

d. Details on northern operations are contained in FM 31–71.

6–48. Riverine Operations

a. Riverine operations are military opera-

tions conducted in areas with extensive inland waterways and inundated or swampy terrain.

b. A riverine area is a land environment characterized by water lines of communications with an extensive network of rivers, streams, canals, paddies, swamps, or muskeg extending over broad, level terrain, parts of which may be inundated periodically or permanently. It may include sparsely populated swamps or forests, rivers and streams that have steep banks densely covered with tropical trees or bamboo, and relatively flat and open terrain. Ocean tides may affect riverine areas near the seashore or far inland. These areas may support a large agrarian population concentrated along the waterways, e.g., the rice-growing delta areas of Southeast Asia. Other riverine areas may be completely devoid of human habitation, e.g., the vast muskeg swamp areas of northern Asia and North America.

c. In developing areas where overland transportation capabilities are limited and surface water is abundant, inland waterways provide natural routes for transportation and communications and are logical centers of population. In riverine areas water routes have strategic and tactical importance to military forces. They are particularly important to guerrilla forces in insurgency operations. Defeat of insurgents in a riverine environment requires interdiction and control of waterways and adjacent land areas.

d. Riverine operations include all military activities designed to achieve or maintain territorial control of a riverine area by destroying hostile forces and restricting or eliminating hostile activities. A characteristic of riverine operations is the extensive use of joint watermobile forces, together with groundmobile and airmobile forces, in a predominant land battle. Airmobile forces are particularly suited for use in blocking, reserve, or reaction roles in riverine operations because their movement is unrestricted by terrain. The basic nature of riverine operations is ground combat in a land environment characterized by water lines of communications.

e. The optimum organization for command and control of riverine operations involving both Army and Navy elements is the joint task force (JTF). The commander of the Army component committed in a riverine area is the JTF commander, with a small joint staff formed from the assigned component staffs. The unified commander may consider that adequate assistance can be provided by a close support relationship. This method provides for control of a riverine operation by mutual cooperation and coordination, with the Navy element providing close support to the Army forces.

f. All means of mobility are somewhat restricted during riverine operations. Foot movement is least desirable for maneuvering forces; it exhausts troops and severely limits their rate of movement. Movement and maneuver normally require a combination of available means of mobility—foot, wheeled or tracked vehicles, shallow-draft boats, helicopters, and fixed-wing aircraft. Water transportation may be used extensively to move troops and equipment. Exploiting the movement, fire support, and logistic capabilities of supporting Navy elements significantly enhances Army firepower and maneuver capabilities.

g. Tactics and techniques governing other ground operations apply in riverine areas. Special organizational and operational procedures are required when offensive ground forces, supported by naval ships and craft, operate directly from inland waterways.

h. Riverine operations are distinct from amphibious operations in that they require continual use of specialized watercraft, equipment, and techniques. However, certain principles and techniques of amphibious operations can be adapted to riverine operations.

i. The significant difference between riverine and conventional operations is that in riverine operations one or more elements of the force use existing waterways as the primary line of communications. The nature of riverine operations necessitates integrating the operations of ground forces, naval units, and supporting air elements. Coordination and cooperation among participants are mandatory. Their operations are interdependent; however, since the basic nature of riverine warfare is sustained ground combat, all forces must be considered a single

tactical entity responsive to the needs and requirements of the ground force.

j. For further information on riverine operations, see FM 61-100 and FM 31-75 (Test).

6-49. Ranger Operations

Ranger operations are overt operations by highly trained units to any depth into enemy-held areas for the purpose of reconnaissance, raids, and general disruption of enemy operations. Depth and duration of the operations are limited only by the resources for delivery of the forces and their mission. For further information, see FM 21-50.

Section VIII. RELIEF OF COMBAT UNITS

6-50. General

a. When tactical operations continue for a prolonged period, conservation of fighting power, maintenance of effectiveness, and the requirements of the tactical plan may necessitate the periodic relief of units. Such reliefs will be accomplished by relief in place, passage of lines, or withdrawal through a rearward position.

b. The congestion inherent in each of these relief operations requires detailed consideration of measures to reduce vulnerability and risk of enemy attack. Close cooperation and coordination of plans among the units involved are essential. The appearance of normal activity should be maintained during these operations. Maximum use is made of darkness and other periods of poor visibility. Secrecy, deception, and speed of execution are emphasized. Arrangements must provide for the transfer of command between the commanders involved. Under nuclear conditions, relief in place and passage of lines are highly vulnerable operations, which, when required, must be conducted with speed and secrecy. Particular attention must be given to communications security measures.

6-51. Relief in Place

a. A relief in place is an operation in which all or part of a unit is replaced by the incoming unit. The responsibilities of the replaced elements, which may involve attack or defense, are transferred to the incoming unit. The incoming unit may be assigned a new mission upon completion of the relief.

b. The commander of a unit being relieved is responsible for the defense of his assigned sector until the passage of command. The time of passage of command, to include operational control of incoming and outgoing units, is determined by mutual agreement of the affected commanders unless it has been specified by higher headquarters. This passage normally occurs when the forward area commanders have assumed area responsibility, and the incoming force commander has established necessary communications to control the entire sector.

c. In a relief in place for continuation of the defense, the incoming unit must conform with the general defense plan of the outgoing unit until passage of command. Every effort must be made to accomplish the relief without weakening the tactical integrity of the position. Combat support units normally should not be relieved at the same time as combat elements.

6-52. Passage of Lines

a. A passage of lines is an operation in which an incoming unit attacks through a unit that is in contact with the enemy, or when a unit withdraws through another unit occupying a rearward position.

b. In a forward passage of lines, the unit being passed through supports the attacking unit until their fires are masked, at which time they may remain in position, be withdrawn, or committed to other action. The passing unit normally is given priority in the use of facilities. The passage is made as rapidly as possible to reduce vulnerability to attack.

c. In the rearward passage of lines, the unit in position provides maximum assistance to the withdrawing unit and takes up either the delaying mission of the withdrawing unit or the defense when the passage has been completed. The withdrawing unit is given priority on roads and facilities, provided it does not interfere with the defense. The defensive plan must

be considered in selecting points for the passage. The points and routes should be kept to a minimum, consistent with the need to reduce vulnerability and to avoid occupied defensive positions. Measures should be adopted for mutual recognition of the affected units and notification of the defending force when the withdrawal is complete.

Section IX. OPERATIONS DURING UNRESTRICTED SCALE OF USE OF NUCLEAR WEAPONS

6–53. General

a. This section discusses the operational employment of Army forces during periods of unrestricted scale of use of nuclear weapons, as defined in paragraph 6–4*b*.

b. The environment visualized herein is one in which nuclear weapons are employed in both quantity and yield to such an extent that their effects will saturate the battle area. As a result, the ability of ground forces to maneuver decisively will be drastically reduced temporarily. While larger forces normally will be unable to maneuver without prohibitive losses, small units up to battalion size frequently will be able to move with sufficient freedom to permit them to continue effective operations. Furthermore, there will be local variations in the level of effects that will allow forces of substantial size to continue their assigned missions without being unduly restricted in their ability to maneuver.

c. Because a prolonged, intensive exchange of nuclear fires is extremely devastating and results in widespread destruction of both military forces and the civilian population, such operations can be expected to be of relatively short duration.

d. Decisive results will accrue to the combat force that can gain nuclear fire superiority in the exchange, and at the same time preserve sufficient maneuver elements to exploit the fire ascendancy when achieved.

e. The full capabilities of nuclear weapon delivery systems are employed to achieve fire superiority. High-priority targets include enemy nuclear delivery sites and associated control systems, weapon stockpiles, and command and communications facilities. Intelligence efforts are focused on the development of these targets.

f. The major consideration is reduction of the nuclear-effects level to an extent that will permit combat forces to resume effective maneuver. It is to this end that fire superiority over the opposing force is sought, even though the efforts in this regard may temporarily raise the level of nuclear effects. Once the enemy's nuclear delivery capability has been reduced significantly, the nuclear-effects level can be permitted to subside, and combat forces can again employ maneuver decisively.

g. The widespread destruction of the civilian environment will magnify the problems of control over the population and restoration of governmental institutions and may require the use of Army forces to support or replace civilian governmental authority.

h. During periods of unrestricted scale of use of nuclear weapons, Army forces will participate in the efforts to gain nuclear fire superiority, conduct limited offensive and defensive operations, and preserve force integrity for the subsequent exploitation phase.

i. Small combat units, besides performing reconnaissance and security missions, are employed in limited offensive and defensive operations. Appropriate offensive tasks include infiltration of enemy-controlled areas to secure key terrain and destroy important installations. Defensively, these units are employed to counter similar attacks by the enemy. Offensive efforts should not be permitted to compromise the integrity and effectiveness of the major force through a series of unprofitable actions.

j. Guerrilla forces may be used to obtain information; conduct interdiction operations; and attack enemy communications, control facilities, and other critical installations.

k. Deception operations are initiated to mislead the enemy concerning the location of friendly troops and critical installations and to cause him to expend his nuclear weapons on unprofitable targets. Electronic deception is undertaken in coordination with other planned electronic warfare operations.

l. Electronic warfare operations include both passive (communications and electronic security) and active (jamming and deception) measures and countermeasures. Active electronic countermeasures are taken against airborne and ground-based communications and noncommunications radiators. Prime targets include combat surveillance, reconnaissance, target acquisition, countermortar/counterbattery, command and control communications, data link, fuzed ordnance, missile and missile delivery systems, and aircraft electronics.

6–54. Force Integrity

Those forces that cannot be profitably employed in the efforts to gain fire superiority must be preserved for the exploitation phase that follows. Normally, a significant amount of the combat and combat support elements of a force fall into this category. These forces are dispersed and concealed in protected positions in a defensive posture. Their primary mission is retention of operational integrity and survival.

6–55. Exploitation

Following the nuclear exchange, the combat and combat support elements must be reconstituted rapidly to resume or initiate mobile operations. Since both combatants will undoubtedly suffer severe damage during the nuclear firefight, even a small, highly mobile exploitation force may achieve decisive results when employed in an aggressive and timely manner. Additional forces are reconstituted, refitted, and committed to action as resources permit.

6–56. Support Elements

Support forces that can contribute to the efforts to gain fire ascendancy are so employed. Other supporting forces devote their efforts to survival and to preservation of their resources for the exploitation phase.

★CHAPTER 7

AIR MOVEMENTS AND AIRBORNE OPERATIONS

Section I. GENERAL

7–1. Introduction

a. The United States maintains its Armed Forces in a posture that permits timely response to the demands of its national strategy. In particular, the United States must be capable of rapidly deploying sufficient forces and materiel to any potential trouble spot in the world. This mobility both acts as a deterrent to the would-be aggressors and facilitates the geographic containment of combat actions until sufficient combat power can be committed to defeat the aggressor.

b. This chapter deals with the movement of Army forces by air in Air Force airlift aircraft for administrative or tactical purposes. Details on such operations are found in FM 57–1, FM 61–100, and FM 100–27.

c. Army forces located in the United States and overseas are maintained as part of strategic mobile forces capable of rapid deployment to any part of the world. Movement of these forces by Air Force aircraft extends the range of the mobile forces and provides timely intertheater and intratheater deployment to execute military operations. The forces may be moved directly to the objective area or they may be moved to intermediate staging areas from which they can be further deployed by Army means or relifted by Air Force airlift aircraft. Stockpiling supplies and equipment near areas of anticipated employment increases strategic mobility by reducing the requirements for airlift aircraft.

7–2. Characteristics

Airborne operations combine the speed and flexibility of Air Force airlift aircraft with the land combat capability of Army forces. An airborne operation can be initiated by either administrative or operational (tactical) air movement as part of a strategic or tactical operation. The assault operation may be by parachute or airland or by a combination of them. The ground forces involved may be units especially organized and equipped to conduct airborne operations, conventionally organized air-transportable units, or a combination of them.

7–3. Classification

a. Airborne operations are classified as short duration or long duration.

b. Short-duration operations are conducted with minimum reinforcement and air-delivered followup supply. Only essential combat service support is provided in the objective area. The operation terminates with the early linkup, relief, withdrawal, or restaging of the force for subsequent operations.

c. Long-duration operations require reinforcement of the airborne force by combat, combat support, and combat service support units and include substantial use of air-transportable units in an airland and followup role. The force employed is usually committed to sustained ground combat. Long-duration operations involve a considerable buildup of troops, supplies, and equipment by air.

7–4. Concepts

Successful airborne operations utilize speed of landing and concentration of mass to compensate for initial lack of firepower and mobility in an objective area. These forces have the advantage of initiative, surprise, and shock effect. Assault forces also will frequently be at full strength and will have the advantage of special training and, when feasible, operational rehearsals. Large-scale airborne operations require multiple dispersed airfields in the departure area and suitable landing zones in the objective area if airlandings are planned.

7–5. Nuclear Environment

a. The nature of an air movement operation makes the forces involved particularly vulnerable

to enemy nuclear attack. The enemy nuclear capability and the manner in which it may be employed must be carefully evaluated. The hazards to aircraft and operating personnel from both friendly or enemy nuclear fires must be considered.

b. The vulnerability of the force can be minimized by reducing the execution time of each phase of the operation and by strictly observing appropriate communications security measures during the planning and execution phases of operation. Additional considerations that contribute to lessening the vulnerability are dispersed marshaling areas, multiple air columns and small serials, a large multiple airhead complex, and rapid assembly and movement of forces from the landing area to initial objectives.

7–6. Deployment Concepts

a. The transporting of Army units, personnel, equipment, and supplies in Air Force airlift aircraft for any purpose, including airdrop and airland, is broadly termed an "air movement operation." Generally, two types of air movements are recognized: administrative and operational. Administrative air movements provide the capability to deploy and sustain an effective military force from CONUS or from one theater to another to counter any enemy act or threat. Operational air movements are associated with the movement of personnel and cargo by airlift forces available to the theater commander to conduct and support combat operations within the theater. U.S. Army forces are organized and equipped to respond to both administrative and operational (tactical) movements.

b. The term "airborne operation" describes an air movement operation in which ground combat forces and their combat and combat service support are delivered by Air Force aircraft into an objective area for execution of an administrative or operational mission. The ground combat force may be comprised of air-transportable or airborne units, or a combination of them. They may be airdropped or airlanded. Army forces participating in an airborne operation are referred to as airborne forces. An administrative air movement is not considered an airborne operation although the procedures used in airborne operations may be applicable.

Section II. ORGANIZATION AND MISSIONS OF AIRLIFT FORCES

7–7. Organizational Concepts

a. The U.S. Air Force is responsible for providing air transport to the Services. To accomplish this, the Air Force maintains both strategic and tactical airlift organization and, in coordination with other Services, develops the doctrine, tactics, and procedures employed by these forces.

b. Airlift forces are maintained at a high peacetime manning and utilization rate to insure that adequate routes and facilities exist for execution of wartime or contingency missions. The procedures followed in peacetime are the same as those for wartime operations, as is the structure to command, control, and support the airlift force. This concept insures that a smooth transition from peacetime to wartime conditions can be made by expanding and accelerating existing operations. In addition, techniques and procedures of strategic and tactical airlift organizations are complementary so that the forces of each may be used to augment the other. These latter arrangements are designed to permit air movement of combat forces and their support from departure point to final destination with a minimum of command changes and transfer points.

c. The size and the composition of the airlift force for a given operation are determined by the requirements of the supported force and may vary from a few aircraft to total mobilization of all national airlift resources. Regardless of size, however, the forces for both strategic and tactical airlift operations must contain certain elements that are essential to air movement operations, e.g.—

(1) Airlift aircraft with the capability to fly under adverse weather conditions and a limited capability to airland and airdrop personnel and materiel in the combat zone under adverse weather conditions.

(2) Aerial port units trained and equipped to provide terminal operations support.

(3) An air movement command and control system that permits centralized direction of the overall operation with decentralized execution of the several separate functions. The system may also provide facilities for the ground force commander to control his forces en route and prior to execution of a parachute assault through establishment of an airborne command post.

(4) Administrative, logistic, and communication support elements for the airlift force.

7–8. Composition of Airlift Resources

a. Active Military Forces. Active U.S. Air Force strategic and tactical airlift organizations provide the rapid initial response necessary in contingency situations. Strategic airlift forces are normally employed between continental United States (CONUS) and oversea theaters and between oversea theaters. Tactical airlift forces are normally employed within a theater. When the situation requires, however, either force may be employed in the other's role for short periods.

b. Air Reserve Forces. Air Force Reserve and Air National Guard airlift units have a wartime mobility assignment to augment the airlift resources of the Active forces. The capabilities of the Reserve forces are used on an opportune basis in peacetime for routine logistic operations, special missions, exercises, and contingencies to insure wartime responsiveness. These resources are considered an integral part of the total airlift force.

c. Civil Reserve Air Fleet. The Civil Reserve Air Fleet is comprised of specifically identified aircraft owned by commercial airlines, which are operationally suitable for augmenting the Air Force strategic airlift force. When activated, operations of the Civil Reserve Air Fleet are managed by the U.S. Air Force; however, the aircraft are operated on contract by the commercial airline out of the civil airports utilizing company crews and ground support facilities.

7–9. Missions of Airlift Forces

a. The missions of airlift organizations include strategic deployment of combat forces, tactical movement of these forces, aerial supply, resupply, and aeromedical evacuation. Wide latitude in selection of techniques to accomplish these missions is possible because of the flexibility inherent to airlift operations.

b. Contingency operations, which require rapid deployment of combat forces to support friendly nations or protect the national interests, are the most important mission of the airlift forces. Such operations are normally conducted to support existing war plans, but they may be executed to provide the application of force in unplanned areas on an emergency basis.

c. Support of strategic deployment of forces and the strategic resupply operations for these forces are primary tasks of the strategic airlift force. When port facilities road, rail, and/or inland waterway networks become operational, airlift is used to deliver critical, high-priority items. Two types of airlift service are operated.

(1) Common-user airlift service is operated from established or mutually agreed on aerial ports over established air routes. Continuing, preplanned logistic and personnel air movements normally use this service.

(2) Special assignment airlift missions are requested to move cargo requiring special handling or to move personnel and cargo between points other than those in the established common-user system.

d. Tactical employment of ground combat units by airlift refers to the assault landing or parachute assault of airborne forces on or near an immediate tactical objective. Airlift resources for these operations are normally provided by tactical air forces assigned within the theater. When the ground combat units to be employed are drawn from sources outside the theater or when there is insufficient tactical airlift resources in the theater to execute the assault, strategic airlift forces may be used.

e. Movement of personnel and cargo by tactical airlift within a theater is accomplished by preplanned or scheduled route service or by allocation of airlift sorties to supported units.

f. Aeromedical evacuation between oversea areas and CONUS is provided by turnaround aircraft of the strategic airlift force. Evacuation within an oversea theater is provided by the tactical airlift forces assigned to the theater. Evacuation from an assault airhead is provided by the airlift force servicing the airhead.

g. Civil Reserve Air Fleet aircraft are assigned passenger and cargo missions within CONUS and in oversea theaters. Aircraft are used in their commercial configuration to the extent possible. Cargo aircraft assigned to the fleet are required to be compatible with the Air Force materials handling system; however, only palletized or bulk cargo is hauled. Passenger aircraft may have high-density seating installed if the aircraft is configured to receive this modification. All extra seating, cargo tie-down equipment, and cargo restraining nets are provided by the commercial carrier. Palletizing is accomplished by the user.

7–10. Activation of the Civil Reserve Air Fleet

a. The Civil Reserve Air Fleet is a contracted

organization that uses the commercial carrier's organization, equipment, personnel, and operating knowledge. Contracting carriers are pledged to provide the designated amount of airlift in response to airlift emergencies as determined by the appropriate governmental agencies.

b. Activation procedures provide for a gradual application of Civil Reserve Air Fleet resources through three incremental airlift emergency stages. Airlift emergency stages are expressed by increasing severity as follows:

(1) *Stage I.* The Commanding General, Military Airlift Command (MAC), has the authority to declare a Stage I committed expansion. This is expansion airlift committed to the MAC to perform airlift when the MAC force cannot meet both deployment and channel traffic requirements simultaneously.

(2) *Stage II.* The Secretary of Defense has the authority to declare a Stage II airlift emergency. This is additional airlift expansion identified for a major contingency airlift emergency not warranted by a national mobilization.

(3) *Stage III.* A Stage III national emergency may be declared by the Secretary of Defense only after the President or Congress of the United States has declared an unlimited national emergency, or by the Director, Office of Emergency Preparedness, when given specific authority. This stage requires activation of the total CRAF airlift capability for Department of Defense during major military emergencies involving U.S. forces.

Section III. STRATEGIC AIR MOVEMENTS

7–11. Characteristics

Strategic air transport operations are movements in which combat forces are moved from CONUS to an oversea theater, or from one oversea theater to another. Such deployments are usually undertaken to counter a hostile threat to the security of the United States or its allies by reinforcing combat elements present in a theater or by positioning combat elements where none are present. The emergency may occur without notice or it may be the result of increasing international tensions over a period of time. The forces deployed are usually delivered to aerial ports in friendly hands, but they may be directly introduced into an objective area by parachute assault or airlanded operation.

7–12. Responsibilities

a. Approved operations and contingency plans are the basis for determining the strategic airlift requirements of Army organizations. Based on such plans, commanders of CONUS units prepare tentative plans for loading and submit their airlift requirements through command channels to the unified commander, or, if no unified command structure exists, to the Department of the Army. Units in oversea theaters submit their requirements through Army component command channels to the theater commander. Requirements are expressed in as much detail as possible. Consideration of various international conditions, the planned deployment schedule, and situations in the deployment area that influence the air movement plan and the method of delivery are included.

b. Based on the requests of the Chiefs of Service, theater, and unified commanders, the Joint Transportation Board acts for the Joint Chiefs of Staff to insure that U.S. Air Force airlift resources are used to achieve the maximum benefit for the national interests. To accomplish this, the Joint Transportation Board may select or alter courses of action to increase the airlift capability or decrease the airlift requirements of a Service, theater, or command. The Joint Transportation Board allocates airlift resources for contingency planning purposes based on the forecast missions and requirements of the Services, theaters, and commands. Unless otherwise directed at the time of the outbreak of war or other emergency, these allocations automatically become effective and supersede existing peacetime allocations.

c. At the direction of the Joint Chiefs of Staff, the U.S. Air Force designates strategic airlift forces to support oprations and contingency plans. The designated airlift force commander, in coordination with the supported Army force commander, is responsible for the development of a detailed air movement plan. The plan includes designation of departure airfields; number and type of aircraft; aircraft flow schedule, loading procedures; air routes and en route stopover points; arrival airfields or, for movements that terminate in a combat assault, the method and points of delivery into the objective area; and procedures for continued support of the assault force.

d. Certain Service responsibilities are fixed by joint regulation, regardless of the nature of the strategic movement. Details of these responsibilities are contained in AR 59–106/AFR 76–7, Operation of Air Force Terminals.

7–13. Support for Administrative Air Movements

a. Logistic and Administrative Assistance. Maximum logistic and administrative assistance is provided to the deploying force from agencies outside the force. For units deploying from CONUS, these services are furnished by the installation commander of the station from which the force is deployed. In oversea areas, the theater commander signates the support agencies.

b. Departure Airfield Control Group. A departure airfield control group (DACG) is organized from elements of the deploying organization that are not immediately required to accompany the deploying force. The mission of this group is to coordinate and control the outloading of the force and to resolve problems of an inter-Service nature which arise. As a minimum, the departure control group should consist of a command section and an operations section. Administrative and support sections are organized as required by the size and scope of the air movement operation. A summary of the organization and functions of the departure airfield control group is contained in FM 57–1.

c. Intermediate Staging Area. An intermediate staging area is a stopover point between the aerial port of origin and the objective area through which the deploying force passes. The purpose of the stopover may be to reconfigure a force deployed administratively into combat formations; regroup aircraft formations; prepare aircraft loads; unite forces drawn from several locations; or provide time for rest, acclimatization, and training of assault forces. To control operations in the intermediate staging area, the Army and Air Force component commanders establish a joint coordinating element composed of an Air Force airlift control element, a departure airfield control group and an arrival airfield control group from the deploying Army force, and an intermediate staging area command. The intermediate staging area command provides administrative and logistic services such as billeting, mess, maintenance, communications, supply, and health services to include assistance in rigging and outloading. Details on the organization and functions of the intermediate staging area command are contained in FM 57–1.

d. Arrival Airfield Control Group. When the strategic deployment terminates at an airfield controlled by friendly forces, an arrival airfield control group (AACG) will be deployed with the advance party to accomplish duties and responsibilities associated with the reception and off-loading of personnel, supplies, and equipment. The organization and the functions of the arrival airfield control group generally parallel those of the departure airfield control group.

e. Airlift Control Element. An ALCE is provided by the Air Force component commander to maintain operational control over airlift units and all airlift aircraft at the departure and arrival airfields. The ALCE is responsible for coordinating all operational aspects of the mission to include aircraft movement control, communications, coordination of onloading and offloading operations, aeromedical evacuation, marshaling of aircraft, and continuous liaison with all agencies to insure that the operation is proceeding according to plan. The ALCE assists the deploying unit with load planning and preparation.

Section IV. BASIC PLANNING CONSIDERATIONS

7–14. Worldwide Capability

All but a few Army units are air portable in the airlift aircraft of today. Although the large-scale deployment of armored and mechanized units by air is not expected, deployment of such units up to brigade size is practicable. This capability, coupled with the prepositioning of certain organizations and equipment in oversea areas, provides the means by which the United States fulfills its commitments to its allies and protects its interests abroad.

7–15. Concepts of Employment

a. The flexibility of an airborne force permits wide latitude in selecting the routes of approach and the area in which the force may be committed. The ability of such forces to move rapidly and to land on or near their objectives enhances the achievement of surprise and facilitates the massing of combat power. The presence of these forces constitutes a threat that affects the enemy's capabilities by compelling him to deploy his combat

power to protect vital installations in his rear areas as well as in the forward combat zone.

b. The primary prerequisites to success in air movement operations are the movement of forces to an objective area without incurring unacceptable losses and the provision to these forces of the required combat power. Measures to attain these objectives include suppression of the enemy's air defense capability and provision of adequate air defense in the marshaling area, en route to the objective area, and in the objective area.

7–16. Ground Combat Operations

Ground combat operations are initiated by an assault consisting of the landing and securing of initial objectives. After consolidation of the objective, the assault force may defend the airhead area; conduct further offensive operations; linkup with other forces; or restage or withdraw to engage in subsequent operations. Offensive operations may be conducted concurrently with the consolidation to secure additional objectives to facilitate future operations. The offensive phase, if undertaken, is initiated as soon as possible after the assault.

7–17. Effects of Nuclear Weapons

a. In a nuclear environment, the use of large airborne forces may be difficult because of the ease with which air movements are detected and the effect of nuclear air defense weapons against aircraft formations. For these reasons, en route air columns and tactical forces in the objective area are dispersed to the maximum consistent with missions and control capabilities. Tactical nuclear attack in the objective area before airborne assault may facilitate control of the area by the assault force. The advantages and disadvantages of this course of action must be carefully considered.

b. To obtain necessary dispersion, a battalion or brigade is usually the largest unit employed in an airhead under threat of, or actual, nuclear conditions. Corps airborne operations in which the bulk of the combat forces is parachuted or airlanded into the objective area will be rare. The success of airborne operations in a nuclear war will, therefore, depend on the ability of brigade or reinforced battalion-size units to conduct effective semi-independent operations.

7–18. Influence of Enemy Armor

When an enemy armored threat exists, armored-defeating weapons and armored units if feasible, should accompany the assault forces. The assault force initially uses close air support and its organic firepower, to include scatterable antitank mines; exploits terrain that limits armor employment; and concentrates antitank mines along avenues of approach.

7–19. Influence of Friendly Forces

Potential assistance from regular forces in the contemplated area of operations must be carefully evaluated. These forces may provide security for the airhead. They may block key approach routes into the objective area or secure vital installations. Once on the objective, U.S. forces can operate in direct concert with such forces. The security of operations involving these types of forces requires special consideration. The success of the operation must be independent of the actions of such forces. Additional assistance from guerrilla or paramiliary forces controlled by the host country or U.S. unconventional warfare organizations may be considered.

7–20. Support Requirements

The limited availability of aircraft requires that only equipment essential to mission accomplishment be moved to the objective area. Ground mobility may be reduced by an initial shortage of organic ground vehicles and, therefore, organic or supporting helicopters should be delivered (flown/airlanded) to the objective area as early as possible. Concerted efforts also are made to capture and exploit enemy supplies; equipment; weapons; vehicles; and petroleum, oils, and lubricants (POL). Long-range fire support in the battle area is provided primarily by close air support and missiles.

7–21. Coordination With Other Forces

All participating forces in an airborne operation must be completely integrated under a single command. Operations must be coordinated with other forces who are operating close to the objective area or whose weapons are capable of firing into the objective area.

7–22. Command, Control, and Communications

The command, control, and communications of the component forces in joint airborne operation are specified by the commander exercising joint con-

trol and supervision over the operation. Considerations in specifying these responsibilities include—

a. The mission and duration of the operation.

b. The functions and capabilities of the units involved.

c. The nature and size of the forces to be furnished by each Service.

d. Capabilities and limitations of available communications system.

e. Organization of the area; geographic location of the operations; and the strengths, dispositions, and capabilities of friendly and enemy forces.

f. The attitudes of the civilian populace and the governmental structure in the objective area.

7–23. Airborne Organizations

a. General. Airborne organizations are specifically equipped and trained to execute assault landings from the air. All equipment organic to these organizations is air portable or airdroppable in Air Force aircraft. Some of the bulky items require disassembly into major components for parachute delivery; therefore, it is preferred to airland this equipment. Airborne organizations include combat, combat support, and combat service support units.

b. Airborne Corps. An airborne corps headquarters is designed to control operations involving two or more airborne divisions. This corps supervises the execution of airborne operations by one or more of its subordinate elements when the entire corps is not employed in the airborne operation. The combat power of the corps may be augmented from elements of other supporting field army units and elements from other Services. These augmentations generally are required in the area of combat service support. The corps may also contain allied units. Airborne divisions in an infantry role require augmentation that will normally be provided to the divisions by assigned field army units attached to the corps. The airborne corps may also control linkup forces and guerrilla units when they fall within its area of operations.

c. Airborne Division. Airborne divisions are the largest units of combined arms and support organized primarily for the execution of airborne assaults. They are specially trained to enter combat by parachute and are capable of landing behind enemy lines in unprepared and defended areas to engage the enemy immediately and effectively.

7–24. Air-Portable Organizations

a. Airmobile Division. The airmobile division can participate in airlanding or in the airlanding phase of an airborne operation. The division's equipment is all air portable in Air Force airlift aircraft; however, certain aircraft require disassembly time which may preclude timely introduction into the objective area. When the distance to the objective and when the enemy air defense means permit, it is preferable to fly organic aircraft into the objective area to avoid partial disassembly.

b. Infantry Division. Most of the infantry division's equipment is air portable in an operational configuration in Air Force airlift aircraft. Exceptions are certain aircraft and heavy engineer bridging equipment, which require partial disassembly that may preclude timely introduction into the objective area. As with the airmobile division, organic aircraft are flown into the airhead if within range and if tactically feasible. The infantry division is well suited to participate in airborne operations in the airlanding role.

c. Armored and Mechanized Divisions. The armored and mechanized divisions do not normally participate in airborne operations because much of their equipment—particularly main battle tanks and self-propelled artillery—cannot be economically air-transported. Armored and mechanized brigades may be deployed with organic equipment for airborne operations if the situation requires and if sufficient aircraft are available. The armored and mechanized divisions are most often employed as the ground linkup force for airborne operations.

7–25. Organization for Joint Airborne Operations

a. Within CONUS, contingency plans established by Joint Chief of Staff direction provide for the conduct of strategic operations involving two or more Services. The unified commands, in response to the Joint Chiefs of Staff approved plans, direct Service component commanders to prepare supporting plans including necessary troop lists. Following completion of the implementing plans including troop lists supporting the Army task organization, the Army component commander passes them to the appropriate unified command

which, in turn, submits them to the Joint Chiefs of Staff for approval. Responsibility for the combat readiness of the troop units assigned in the contingency plans is retained by the parent Service. On receipt of implementation instructions from the Joint Chiefs of Staff, the unified commander issues an initiating directive to the component commander and passes operational command of the troop units to the predesignated joint task force commander.

b. In oversea areas, the theater commander may establish a joint airborne task force or he may direct attachment of one Service to another. The authority establishing the joint force or directing attachment will specify the purpose or mission, the effective date and duration of attachment, and the extent of authority to be exercised by the commanders to which other units are assigned.

7–26. Weather

Means of providing current weather information at departure sites, along approach routes, and in the objective areas are essential. Weather minimums are prescribed for each operation.

Section V. PLANNING AND CONDUCTING AIR MOVEMENTS AND AIRBORNE OPERATIONS

7–27. Procedures

a. Air movement and airborne operations planning is characterized by an inverse sequence of detailed planning and by continuous, close joint coordination. Specified procedures are outlined in FM 57–1, FM 61–100, and FM 100–27.

b. An air movement operation requires data on the mission of the airlifted force, availability of airlift, aircraft capabilities, departure area, special measures required to safeguard the security of the operation, and combat intelligence. From the time an operation is announced until it is completed or abandoned, coordination, briefings, and conferences between parallel echelons of Air Force and Army units are continuous. Both Services must agree on each operational detail before initiating operations. Points on which agreement cannot be reached are referred to the unified/joint force commander for resolution.

7–28. Planning Responsibility and Coordination

a. A senior headquarters considers many airborne operations and assigns planning responsibility for certain operations to subordinate headquarters. To assist participating and planning headquarters in developing plans concurrently, to reduce planning time, and to insure coordination, the senior headquarters issues planning directives that contain operational information, intelligence, weather information, and necessary combat support and combat service support information. The command charged with executing the specific operation develops the detailed plans. Aircraft requirements and the availability of aircraft must be determined as soon as possible. Communications security measures to be observed must be carefully considered during the planning phase.

b. In a division-size joint airborne operation, the division and corps headquarters must exchange liaison personnel to insure coordination and complete integration of all plans. The size, duration, and complexity of the airborne operation will determine the size of the liaison element from each headquarters.

c. In airborne operations, inter-Service coordination must provide a clear understanding of marshaling procedures, the air movement requirements, the concept of operations in the objective area, and the procedures for supply by air. Coordination between Army forces and units providing the airlift must be initiated early in the planning phase and must be continuous.

d. Plans for airborne operations that require detailed joint coordination include, as a minimum, the air movement plan and the marshaling plan.

7–29. The Ground Tactical Plan

a. The ground tactical plan forms the basis for all other plans. The assigned mission is translated into objectives, the early control, destruction, or neutralization of which is required to accomplish the mission.

b. In an airborne operation, there may be multiple airheads in the objective area. In selecting the airhead or objective area, consideration is given to enemy capabilities, particularly the nuclear capability and the probability of its use.

c. The ground tactical plan includes a determination of the strength, composition, and deploy-

ment of the forces required to accomplish early securing and defense of the objective area. The ground tactical plan must be logistically feasible.

d. The ground tactical plan includes an analysis of the capabilities of friendly guerrilla forces in the area that could assist in accomplishing the operation.

e. Based on the ground tactical plan, the force commander prescribes priority of movement and phasing of units into the objective area.

7–30. The Landing Plan

Based on the requirements of the ground tactical plan, the landing plan is developed to indicate the method, sequence, and place of arrival of troops and materiel in the objective area. Landing areas should be of sufficient number and size to accommodate the forces involved, reduce their vulnerability, and position them to execute the ground tactical plan.

7–31. The Air Movement Plan

The air movement plan phases the force into the objective area in the sequence determined by the Army airborne force commander. The plan prescribes the use and allocation of aircraft and related facilities to meet the requirements of the force commander within technical and tactical limitations. Specific aircraft loads are developed during air movement planning and are included in the air loading tables that may be appended to the air movement plan. This plan begins with the loading of the airlift aircraft and ends with the delivery of units to their objective areas. The air movement plan is prepared jointly and is approved by the joint force commander.

7–32. The Marshaling Plan

The marshaling plan is based on the air movement plan. This plan schedules the movement of units of the airlifted force to departure airfields. It delineates responsibility for providing facilities and services while units are marshaling in dispersed areas, and it includes plans for loading aircraft and briefing troops for the forthcoming operations. This plan is also jointly prepared and approved.

7–33. Subsequent Operational Planning

The ground tactical plan will include actions to be taken after initial objectives are secured. Typical missions include the securing of areas from which subsequent operations will be launched, conducting an exploitation from the airhead, conducting harassing and interdiction operations, reinforcing units beyond the reach of surface means, linking up with advancing forward elements, and withdrawing.

7–34. The Airborne Assault

Airborne operations are normally initiated by an assault phase, during which units may be committed under decentralized control until initial objectives are secured. Depending on the terrain and the enemy situation, the airborne assault is normally executed by the parachute delivery and assault landing of forces into the objective area. Normally, airlandings, as opposed to assault landings, are conducted in projected areas or areas free of the enemy.

7–35. The Securing and Organization of Objectives

The securing of assault objectives, organization of the airhead, offensive operations in the objective area, and establishment of security are initiated during the early part of the assault phase to capitalize on the elements of surprise and shock effect inherent in the air-delivered assault. The degree to which the objective area is occupied and organized for defense is determined by the mission, the type of airborne operation being conducted, enemy capabilities, and the characteristics of the area of operations and planned subsequent actions. The buildup in the objective area proceeds concurrently with its securing and organization. The extent of buildup will depend on the enemy situation and plans for linkup or withdrawal of the committed units. Airborne operations may be entirely offensive in nature and may require no securing or defense of an airhead, as in multiple independent attacks or raids that culminate in immediate withdrawal. This type of action requires a high degree of air and ground firepower, accurate and timely intelligence, and mobility.

7–36. Dispositions in the Objective Area

a. Forces in the objective area normally are disposed for defense of key terrain and are disposed to reduce vulnerability to air and nuclear attack. Multiple defensive positions are organized to cover the main routes of approach. Avenues of approach and gaps between defensive positions are covered by nuclear and other fires; small ground and aerial combat detachments; antitank weapons; and, when available, armor. Natural obstacles are exploited in the defense. Tactical

air reconnaissance, air surveillance, and ground reconnaissance provide information on enemy operations. Reserves are held in readiness in central locations to facilitate their rapid movement within the airhead and are positioned to add depth to the defense against the most threatened area. The reserve may be reinforced by units from forces not heavily engaged.

b. Rocket, missile, and air support is used in long-range interdiction missions to destroy or delay enemy reinforcements. The airborne force must have immediately responsive air support—

(1) To provide air reconnaissance to detect and report enemy activities that may affect the force.

(2) To perform close air support missions to defeat enemy targets in the battle area.

(3) To perform counterair operations to maintain air superiority over the areas occupied by the force.

c. Friendly forces operating in the objective area can assist the airborne force by interdicting enemy movement in and near the objective area; attacking enemy command, control, communications, and supply installations; and executing supporting attacks and deception plans. These forces also assist in evasion and escape; selecting, marking, and securing drop and landing zones; and collecting information. Although assistance from these forces is integrated into tactical planning, to include alternate plans, the successful execution of primary and alternate plans is not made contingent on their assistance.

7–37. Withdrawal

For all airborne operations, plans for withdrawal are prepared before initiating the operation. These plans necessarily include use of any available air, land, and sea transport means. Withdrawal from the objective area may be as planned, or it may be forced by the enemy.

7–38. Linkup

a. When a linkup between an airborne force and other friendly forces is planned, detailed coordination between the forces is essential. Provision must be made for linkup points, command and staff liaison, assumption of command, a system of mutual recognition and identification, early radio contact to establish forward positions, fire support, coordination measures, and actions following linkup.

b. Upon linkup, command of the Army element of an airborne force normally passes to the senior ground commander in whose zone the element is operating, providing he is able to control, support, or influence the action of the force.

Section VI. COMBAT SERVICE SUPPORT FOR AIRBORNE OPERATIONS

7–39. General

Combat service support is essential to any combat operation. The problems normally inherent in providing combat service support are magnified in an airborne operation by the displacement of forces and the limitations of airlines of communications. To deal adequately with these increased problems, planning for resupply, maintenance of equipment, evacuation of casualties, and handling of prisoners of war must be emphasized. Details on combat service support for airborne operations are contained in FM 8–15, FM 54–2, FM 57–1, FM 61–100, and FM 100–10.

7–40. Supply

Concurrent with tactical planning, consideration is given to the provision of all supplies and equipment required to accomplish the mission. The quantities and types of supplies and equipment carried by assault forces in airborne operations are dictated by initial combat requirements. Care must be exercised to insure that only those supplies required to satisfy the immediate needs of the force are delivered initially into the objective area because excess supplies and equipment constitute a burden to the force. Provision must be made to establish and maintain required levels of supply in the objective area. This is done by phasing supplies into the objective area on an accompanying, followup (automatic and on-call), and routine basis. In airborne operations, ammunition and POL products normally constitute the major tonnage items.

7–41. Maintenance

The problem of maintenance in airborne operations is magnified by the relatively few maintenance personnel in the objective area and by the damage to equipment that may occur during air delivery. To reduce requirements, operator maintenance must be emphasized and intensive mainte-

nance must be performed before departure to insure the highest standard of operational readiness of all equipment entering the objective area. The planned duration of the operation will affect maintenance planning. Maintenance requirements in short-duration operations may be largely satisfied by preoperational efforts, to include replacement of nonreparable equipment. However, for operations of longer duration, plans must include provision for maintenance personnel or units in the objective area. Major equipment items may be evacuated from the objective area to maintenance facilities, provided suitable landing areas and the required aircraft are available.

7–42. Transportation

Since transportation within the airborne objective area is normally limited, air delivery of supplies direct to the user is accomplished where possible. Maximum use is made of captured enemy vehicles to supplement limited transportation resources.

7–43. Evacuation

Evacuation by air, using the return airlift capability of assault and resupply aircraft, is normal in airborne operations. The sick and wounded, prisoners of war, selected indigenous personnel, captured enemy materiel, and damaged equipment are evacuated from the objective area in accordance with plans and as the situation requires. Evacuation of casualties from the objective area normally takes precedence over all other evacuation requirements. For details on Army and Air Force evacuation responsibilities, see FM 57–1 and FM 100–27.

CHAPTER 8
AIRMOBILE OPERATIONS

Section I. GENERAL

8–1. Scope

This chapter provides guidance for the fundamental concepts and conduct of airmobile operations. Specific areas discussed include concept of operation, performance of combat functions, and application of the principles of war to airmobile operations. Detailed discussion of airmobile operations is contained in FM 57–35.

8–2. General

In airmobile operations, combat forces and their equipment move about the battlefield in Army air vehicles of Army aviation elements under the control of a land force commander to engage in ground combat.

Section II. CONCEPT OF ARMY AIRMOBILE OPERATIONS

8–3. General

The concept of Army airmobile operations provides for the use of Army aircraft to obtain a better balance among the five functions of land combat—intelligence; mobility; firepower; command, control, and communications; and combat service support.

8–4. Performance of Combat Functions

a. Intelligence. Airmobile units, with their increased dispersion and mobility, generate an increased demand for timely and accurate intelligence. The increased dimensions and speed of airmobile operations demand a new tempo of information gathering and intelligence processing. This intelligence is the basis for command decisions on close air support requirements, maneuver planning, and the selection of landing areas and objectives. Particularly important is the requirement for detailed information concerning the enemy antiaircraft threat, so that countermeasures can be initiated to avoid or neutralize this threat. Closely associated with intelligence is security. The operating techniques of airmobile units place unique requirements on security. The disadvantages of increased dispersion and weakened mutual support between airmobile units are offset by the mobility of the force. Dependence on aircraft makes airmobile units more sensitive to antiaircraft fires and enemy airpower. The increased mobility of security elements appreciably reduces the size of forces required for this role. By providing timely intelligence at greater ranges and over larger areas of interest, the reconnaissance and surveillance means organic to airmobile units can help overcome the disadvantage of dispersion. However, these organic reconnaissance and surveillance means do not supplant Air Force air, visual, photographic, and electronic reconnaissance support. Timely intelligence is critical to full exploitation of the capabilities of the airmobile unit and to provision of the unit with required security.

b. Mobility. The basic difference between airmobile units and other land forces is the use of organic Army air transport as the primary means of maneuver. Rapid reaction time, the capability to overfly terrain barriers, decreased fatigue in combat elements, and increased areas of operational influence are direct advantages of air mobility. Because of these factors, airmobile units are capable of operating at a

greatly increased tempo and may redeploy their forces rapidly in the battle area.

c. Firepower. The firepower of an airmobile force consists of those weapons and fire support means with the force, as well as that fire support obtained from outside sources. Artillery with the force must be capable of being moved about the battlefield by aircraft in a tactical configuration to support the airmobile maneuver force. This artillery must possess mobility equal to or greater than that of the supported force. Air artillery units, as part of the airmobile force, provide an additional capability of delivering supporting fires on targets or objectives outside the range of field artillery units. Armed helicopters escort airmobile formations en route to and from the objective area. None of the above firepower means and employment preclude or reduce the requirement for fire support from other Services. Because of the depth envisioned for many airmobile objectives, greater reliance must be placed on close air support, at least during the initial stages or phases of the operation, than in other types of ground operations.

d. Command, Control, and Communications. Effective command and control of airmobile operations depends, to a large degree, on mission-type orders and standing operating procedures (SOP). Control is frequently decentralized. Every small tactical unit must have the ability to alter its plan on short notice. Most command and control information is transmitted by radio, and the distances involved often require the use of relays for radio retransmission. For these reasons, abbreviated instructions and SOP's are essential. The organization of tactical operation centers must be flexible so that they can be structured to suit particular situations as they develop. The advisory relationships between the ground force commander and the air mission commander in the planning and execution of airmobile operations are discussed in FM 57-35.

e. Combat Service Support.

(1) The use of aircraft in the combat service support role increases tactical mobility by reducing the loads carried by the assault elements of an airmobile force. For sustained operations, however, airmobile forces require a combat service support system with a mobility equal to that of the maneuver force. A complete air line of communications capability for combat service support forward of the supporting field army support command base may be required, whereas other types of forces normally need only supplemental airlift support.

(2) Supply and services in support of airmobile forces are organized to meet operational and maintenance mission requirements and are governed by the transport capacities of supporting elements. To maximize tactical mobility, supply levels are kept to a minimum consistent with the responsiveness of the resupply system. Mission-essential items are pooled at appropriate echelons to provide backup support. This precludes the requirement for dispensing large quantities of supplies in the forward areas. The basic concept of resupply is to reduce intermediate echelons wherever feasible to minimize echelonment of stockage and handling. Throughput distribution is used to bypass intermediate installations. An important consideration, however, is the capability of the recipient to handle, store, redistribute, or use the supplies.

(3) Patients are normally evacuated by air ambulance to the nearest medical facility capable of providing the necessary medical treatment. This may require evacuation of patients directly from the scene of combat to clearing stations or the mobile army surgical hospital operating in the force service area. To preclude unnecessary loss of combat effectiveness, only those patients who cannot be restored to duty following emergency treatment in the objective area are evacuated.

Section III. APPLICATION OF THE PRINCIPLES OF WAR TO AIRMOBILE OPERATIONS

8-5. General

The principles of war are not changed by the Army's airmobile concept, nor are they less applicable to airmobile units than to other types of combat forces. The advantages that may be derived from proper application of

these principles, however, require a thorough appreciation of the special characteristics, capabilities, and limitations of airmobile units. Because of the relative newness of the airmobile concept, the principles of war as they apply to airmobile operations are discussed in paragraph 8–6 through 8–14.

8–6. Principle of the Objective

The principle of the objective remains unchanged by the addition of airmobile resources to a command. Airmobile resources, however, permit the commander to expand his area of influence and offer him freedom from ground obstacles. Consequently, he is afforded the opportunity to assign deep, fleeting, and more numerous objectives. Airmobile units most often are assigned mission-type orders relating to the overall operation. Airmobile units are normally oriented toward the defeat of enemy forces rather than the securing of specific terrain objectives. Although numerous secondary objectives are assigned and the subordinate elements of an airmobile force may be committed on separate, limited, semi-independent missions, all operate to attain the overall objective.

8–7. Principle of the Offensive

The speed with which an airmobile force can mass and initiate offensive action, together with its ability to disengage, withdraw, and disperse if necessary, expands the commander's capability to conduct offensive operations. The fact that airmobile forces are relatively unimpeded by terrain obstacles increases their freedom of action. The intelligence-gathering means in airmobile units allow them to locate remunerative targets and to monitor enemy action. With these capabilities, the commander is able to commit his airmobile force at the most opportune time and place. When defending, the commander searches for opportunities to gain the initiative, even if only temporarily, to destroy or impede the attacking enemy force and to resume the offensive. Airmobile forces are appropriately equipped, organized, and trained to execute aggressive combat patrols, counterattacks, spoiling attacks, and reconnaissance in force to regain the initiative.

8–8. Principle of Mass

Airmobile forces are able to assemble combat troops and necessary support swiftly to concentrate combat power at a decisive time and place. These characteristics make airmobile forces appropriate for use in a reaction force role or in a reserve capacity. These forces can swiftly reinforce, envelop, counterattack, or otherwise engage the enemy and apply that amount of combat power necessary to defeat him. The ability to mass rapidly is a continuous and constant threat to the enemy, even when the airmobile force is in a dispersed posture on the battlefield or deep in friendly rear areas.

8–9. Principle of Economy of Force

The capability of airmobile forces to concentrate rapidly from widely dispersed areas favors their employment to screen extended frontages and extricate themselves rapidly before decisive engagement, freeing other friendly troops for use elsewhere. Airmobile troops are delivered into combat relatively fresh, and they can be swiftly withdrawn and employed elsewhere with minimum fatigue. When employed on an economy-of-force type role where enemy armor may be employed, plans should be made for rapid extraction or augmentation with adequate air or ground-mounted antitank means.

8–10. Principle of Maneuver

The relative freedom from terrain restrictions and the speed of maneuver of airmobile forces provide an increased capability for the successful application of the principle of maneuver. Airmobile resources permit a freedom of maneuver unequaled in other ground units, providing commanders flexibility and allowing them to avoid stereotyped operations. Airmobile forces can strike from unexpected directions deep into enemy territory. They may be swiftly redeployed on successive operations, creating confusion and causing commitment of enemy reserve forces. The rapid reaction capability and flexibility of airmobile forces permit the plan of maneuver to be quickly altered to capi-

talize on enemy weaknesses and to exploit success. The mobility advantage gained by use of aircraft, however, is accompanied by increased vulnerability to enemy air defense measures. This vulnerability can be reduced by effective application of the principle of maneuver and the careful selection of formation size, aircraft speed, and fire suppressive means. The maneuverability of airmobile forces is also sensitive to restrictions imposed by adverse weather conditions, but only the most persistent and severe weather seriously limits this ability for extended periods of time. Weather conditions that permit helicopter but not enemy fighter operations may prove advantageous.

8–11. Principle of Unity of Command

To maintain unity of command in an airmobile operation, supporting units are attached to, placed in direct support of, or placed under the operational control of the supported unit. Airmobile operations over large areas are characterized by decentralized control. Formation of task forces and attachment of supporting units insures unity of command.

8–12. Principle of Security

Airmobile forces often are employed on independent or semi-independent missions in enemy held areas. This, together with the sensitivity of an operation to enemy air and armor attack and the difficulty of concealing aircraft, requires the continuous readiness of security forces. Airmobile forces must use suitable formations and disposition, continuous and aggressive efforts to secure and evaluate information about the enemy, and deceptive measures and techniques when moving. Through the use of bold attacks, surprise, and rapid maneuvers the airmobile force can reduce its vulnerability to enemy action.

8–13. Principle of Surprise

Airmobile forces can achieve surprise through their ability to attack from any direction and the speed and flexibility with which airmobile operations can be extended over distances and terrain obstacles. The airmobile force has the increased capability of creating surprise by quick, response, even in flight. This provides the commander the means to change direction, orient on a moving enemy force, and engage on terrain favorable to the airmobile force.

8–14. Principle of Simplicity

As operations become more complicated the need for simplicity increases. In airmobile operations, simplicity is achieved through decentralization of control; clear, mission-type orders; and SOP's at all levels of command.

CHAPTER 9
AMPHIBIOUS OPERATIONS

Section I. GENERAL

9-1. Scope

This chapter deals with the fundamentals of amphibious operations. Specific areas discussed include concept of operations, force requirements, operational phases, command relationships, intelligence requirements, planning and conduct of operations, and the peculiarities of combat service support in amphibious operations.

9-2. General

a. An amphibious operation is an attack, on a hostile shore, launched from the sea by naval and landing forces, embarked in ships or craft. It normally requires extensive air participation and is characterized by closely integrated efforts of forces trained, organized, and equipped for different combat functions. Smaller scale amphibious operations include withdrawals, demonstrations, and raids. Airborne or airmobile operations may be conducted as part of, or in conjunction with, amphibious operations. Details on amphibious operations are contained in FM 31-11, FM 31-12, and FM 31-13.

b. The primary purpose of amphibious operations is to establish a landing force on a hostile shore to—

(1) Conduct further combat operations.

(2) Obtain a site for an advance base.

(3) Deny the use of an area or facilities to the enemy.

c. The amphibious operation includes planning; embarkation of troops and equipment; rehearsals; movement to the objective area; assault landing of troops and accompanying supplies and equipment; and support of the landing force until termination of the operation. The amphibious operation does not include marshaling of forces, preliminary training in amphibious techniques, and operations subsequent to the termination of the amphibious operation, which are Service responsibilities.

9-3. Force Requirements

a. An amphibious operation integrates virtually all types of land, sea, and air forces into a coordinated military effort. Clear command relationships and close coordination and cooperation among all participating forces are essential.

b. To achieve success, an amphibious operation must be assured naval supremacy against enemy surface and submarine forces, preponderant air superiority, substantial superiority over enemy land forces in the objective area, and reduction in the nuclear threat to a level justifying the risk involved. Besides superior power in the objective area, an amphibious task force should have reasonable assurance of freedom from effective interference by enemy forces from outside the objective area during the assault landing. The amphibious task force must be capable of providing continuous combat support and combat service support to the forces ashore. An amphibious operation may be undertaken on the basis of a reasonable superiority of the total combat power of the amphibious task force. For example, an operation may be justified even though the amphibious task force lacks the desired superiority in landing forces, provided its naval and air superiority can be employed effectively to offset the enemy's ground superiority.

9-4. Concept of Operations

a. The concept of amphibious operations envisages a thorough firepower preparation (de-

livered by naval guns, missiles, and aircraft), followed by an assault landing by forces moving rapidly from ship to shore in landing craft, air and amphibious vehicles. Frequently the amphibious operation is conducted in conjunction with an airborne operation. The area of the beach and its approaches constitute an obstacle to be passed, and movement inland is made whenever possible without loss of momentum. Following the securing of initial objectives, the landing force continues to move rapidly to intermediate and final objectives. The force is supported by naval elements until adequate organic combat support and combat service support forces are established ashore. Enemy nuclear capability may make it necessary to employ relatively small forces to proceed directly to deep initial objectives. This type of action adds depth to the beachhead through simultaneous operations.

b. An associated airborne operation facilitates establishment of amphibious forces ashore and enhances the amphibious capability. Such an airborne operation may be conducted as an integral part of the amphibious operation or as a separate but coordinated supporting operation The airborne operation may precede, be concurrent with, or follow the amphibious assault.

9-5. Operational Phases

a. As an entity, amphibious operations consist of five phases—planning, embarkation, rehearsal, movement, and assault. Planning, for example, occurs throughout the entire operation, but is dominant only in the period before embarkation. Successive phases fall into the category of the dominating activity taking place in the period covered.

(1) *Planning.* The planning phase is that period extending from issuance of the initiating directive to embarkation of the participating forces. Reconnaissance of the objective area and other necessary supporting operations are initiated during this phase. Although the preliminary training of the participating units in amphibious techniques and their marshaling are conducted concurrently with the planning phase, they are not included as an operational phase of the amphibious operation.

(2) *Embarkation.* Embarkation is the period during which the participating forces, with their equipment and supplies, are embarked in the assigned shipping. Embarkation may be accomplished simultaneously from several widely separated points.

(3) *Rehearsal.* The rehearsal phase of an amphibious operation is that period during which the prospective operation is rehearsed to test the adequacy of plans, the timing of detailed operations, and the combat readiness of the participating forces. All echelons are oriented and briefed to insure that they are familiar with the plans. Communications are tested and deficiencies corrected.

(4) *Movement.* The movement phase is that period during which the various components of the amphibious task force move from points of embarkation to the objective area.

(5) *Assault.* The assault phase begins with the arrival of the major assault forces of the amphibious task force in the objective area and terminates when the amphibious task force has accomplished its mission.

b. During the amphibious operation, air defense of the task force is the responsibility of the amphibious task force commander. Upon termination of the amphibious operation, air defense will be organized and conducted as prescribed by joint doctrine, and responsibility for air defense will pass from the amphibious task force commander to the landing force commander, provided he has the capability to control air operations, or to another appropriate commander ashore.

c. Following the amphibious operation, and particularly when extensive land operations are to be pursued from the beachhead, a period of consolidation and buildup of logistics and facilities may be necessary before further operations can be initiated.

Section II. ORGANIZATION AND COMMAND

9-6. Command Relationships

a. The directive issued by the commander initiating the amphibious operation allocates the component forces from the participating Ser-

vices and establishes the command relationships.

b. The amphibious task force commander is a naval officer. The command structure for the amphibious operation will depend on the purpose, extent, and complexity of the operation, as well as the magnitude and type of forces involved. In a joint operation, as distinguished from a Navy-Marine Corps team operation, control and coordination emanate from an initiating authority—a unified command, a subordinate unified command, a specified command, a joint task force, or directly from the Joint Chiefs of Staff. As directed by the initiating authority, component commanders of the joint amphibious task force report at the beginning of the planning phase to the joint amphibious task force commander, who has coordinating authority for the preparation of the overall plan for the amphibious operation. During planning, matters on which the amphibious task force commander and other component commanders are unable to agree are referred to their common superior for decision. The joint amphibious task force commander, upon commencement of operations at embarkation, assumes full responsibility for the entire operation and is vested with commensurate command authority.

c. Subject to the overall authority of the joint amphibious task force commander, responsibility for the conduct of operations ashore is vested in the landing force commander.

9–7. Joint Amphibious Task Force

A joint amphibious task force is formed for the purpose of assaulting a hostile shore. It is activated at the commencement of embarkation and includes a naval component, a landing force component, and it may include an Air Force component. The naval force includes elements necessary to move the landing force to the objective area, provide protection en route and in the objective area, accomplish the final preparation of the objective area, land assault forces with accompanying supplies and equipment, and support the landing force ashore.

9–8. The Landing Force

The landing force includes the troop units assigned to conduct the amphibious assault. It may be formed from Army forces, Marine Corps forces, or a combination thereof. The landing force normally operates under a single tactical commander; however, on occasion subordinate groups may be formed with specific delegation of command authority.

9–9. Formation of Subordinate Forces

a. If simultaneous or nearly simultaneous assaults are to be launched in widely separated areas, or if other factors prevent effective centralized control the amphibious task force may be divided into subordinate naval attack groups with corresponding landing groups.

b. The command relationship between the attack group commander and the corresponding landing group commander is announced by the amphibious task force commander after consultation with the landing force commander during the planning phase. In cases where it has been decided to delegate command authority over landing force elements below the level of the amphibious task force, the amphibious task force commander exercises his command authority through the commander of such subordinate attack groups. Whenever the amphibious task force commander issues to a subordinate commander an order affecting the corresponding landing force element, the landing force commander is informed and consulted before the issuance of the order. When command authority over landing force elements has been delegated to a commander below the level of the amphibious task force commander, the relationship between this commander and his related landing force commander is substantially the same as that between the amphibious task force commander and his landing force commander. The direct chain of command of each major component commander of the amphibious task force is reestablished upon dissolution of the subordinate task group or upon release therefrom of that portion of his command assigned to it.

9–10. Fire Support Coordination

Detailed fire support coordination and planning are important in amphibious operations because the landing force is initially dependent

on naval gunfire and close air support. The amphibious task force commander is responsible for coordinating fire support during the early stages of the landing. When conditions warrant and fire support coordination agencies are established ashore, the amphibious task force commander passes this responsibility to the landing force commander. Thereafter, the fire support coordination facilities of the amphibious task force revert to a standby basis and are available to assume fire support coordination functions in emergencies.

9–11. Termination of the Amphibious Operation

a. The amphibious operation is terminated by the originating authority upon accomplishment of the mission specified in the directive initiating the operation. The firm establishment of the landing force ashore is usually specified as a condition of such accomplishment.

b. The landing force is regarded as firmly established ashore, when, in the opinion of the landing force commander—

(1) The force beachhead has been secured.

(2) Sufficient tactical and supporting forces have been established ashore to insure the continuous landing of troops and supplies required for subsequent operations.

(3) Command, control, communications, and supporting arms coordination facilities have been established ashore.

(4) The landing force commander has stated that he is ready to assume responsibility for subsequent operations.

Section III. INTELLIGENCE

9–12. Responsibilities

Intelligence activities in amphibious operations are complicated by the remoteness of the enemy and the dependence of subordinate echelons on information and intelligence from higher echelons. The information required in planning an amphibious operation includes strategic intelligence, weather data; hydrographic conditions of the beaches, ports, and harbors; airfields; landing and drop zones; enemy political, sociological, and economic conditions; and the combat intelligence required to conduct land operations in the objective area. During the planning phase, the joint amphibious task force commander is responsible for coordinating the intelligence requirements of the various elements of the amphibious task force and for requesting the necessary support from higher headquarters. During the movement to the objective area, higher echelons continue to assist the amphibious task force commander in the collection and processing of information required by the task force. The intelligence collection agencies of higher echelons, which may include surface and subsurface vessels, underwater demolition teams, amphibious reconnaissance units, and covert networks, are used to the maximum extent in a coordinated effort to provide timely and accurate and strategic intelligence. When elements of the amphibious task force reach the objective area, the collection agencies of the force become active, and greater emphasis is placed on producing the required intelligence within the force.

9–13. Counterintelligence and Communications and Electronics Security

Counterintelligence, communications security, and electronic security are essential because amphibious forces are extremely vulnerable during preparation, rehearsal, movement to the objective area, and the initial stages of the assault.

Section IV. PLANS AND OPERATIONS

9–14. General

a. Early in the planning process, certain interrelated, basic decisions must be made at amphibious task force level. The factors on which these decisions are based must be considered from the viewpoint of all components of the

task force. In general, each basic decision will be evolved by the Service component commander having principal interest; but when finally determined, it is applicable in subsequent detailed planning by all components. Those items on which Service component commanders are unable to agree will be referred to the establishing authority for decision. These basic decisions, mutually developed by the amphibious task force commander and the landing force commander, culminate in the selection of a general course of action for the entire force to accomplish the amphibious task force mission. On the basis of this initial decision, these commanders arrive at a mission for the landing force that is designed to attain the objectives of the amphibious task force. Based on this mission, the landing force commander formulates his concept of operations ashore, including the selection of terrain objectives, the capture of which will assist in accomplishment of the mission of the amphibious task force. The development of the concept of landing force operations ashore must precede detailed planning for surface and air operations to support the assault. The concept for operations ashore must be such that the operations can be supported reasonably by the surface and air elements. The concept, therefore, must be examined by all commanders concerned to determine its feasibility in this respect. It must be concurred in by the amphibious task force commander before commencement of detailed planning. It is imperative that the landing force concept of operations ashore be formulated expeditiously, because other planning is based on this concept. However, all commanders who provide support for the assault must be prepared to alter and accommodate their supporting plans to changing requirements of the landing force resulting from changes in the enemy situation.

b. While the basic considerations of military planning are applicable, planning for an amphibious operation is characterized by the necessity for concurrent, parallel, and detailed planning by all participating forces. The planning is complicated by the following factors:

(1) The security of the various participating forces and the necessity for attaining maximum strategic and tactical surprise may dictate that the movement of forces originate from widely separated areas and converge in the objective area at the appropriate time. The problem becomes more complex when preassault operations are required to gain air, naval, and fire superiority and to reduce enemy reinforcement capabilities. Only by the closest and most detailed joint planning can the various joint and supporting uni-Service plans be coordinated.

(2) Planning must frequently be based on incomplete information concerning the physical characteristics of the objective area and the strength, composition, and disposition of the enemy forces therein. The assumptions on which planning is initiated may be invalidated as additional information becomes available. Enemy forces cannot be expected to remain static while friendly planning, embarkation, and movement are completed. These contingencies will frequently dictate the preparation of several alternate plans. Flexibility is essential.

(3) Adequate combat support must be provided the landing force in the period between the initial assault and the establishment ashore of the landing force. During this period, the landing force will require fire, communications, and combat service support from other elements of the amphibious task force. Detailed planning is necessary to insure the adequacy, responsiveness, and continuity of this support.

c. Planning must be conducted concurrently at all echelons of the participating Services. To enable subordinate commanders within the landing forces to initiate their plans, they must be provided with the following information as soon as it has been determined:

(1) Assigned mission.
(2) Troop lists.
(3) Available intelligence.
(4) Levels of supply to accompany troops.
(5) Allocation of shipping and transport aircraft.
(6) Availability of landing craft and amphibious vehicles.
(7) General landing areas.
(8) Beach control measures.

(9) Naval gunfire and air support allocated to the operation.

(10) Employment and allocation of nuclear weapons.

(11) Availability of biological and chemical munitions.

d. To gain surprise and reduce the vulnerability of the amphibious forces during embarkation, movement, and assault, cover and deception plans must be developed early in the planning phase. To be effective, these plans must be implemented in advance of the operation.

e. Rehearsals provide a valuable means of testing the adequacy of plans and the timing of various aspects of the operation. Necessary rehearsal plans are formulated and incorporated in the overall plan for the operation.

f. A major consideration in planning is the nature and extent of preassault operations in the objective area. The decision regarding these operations must be based on such factors as relative air, naval, and land strengths; enemy reinforcement capabilities; the character and extent of enemy defensive installations; the effect of the loss of surprise that may result from such operations; the relationship with cover and deception plans; and the availability of nuclear, biological, and chemical weapons. Preassault operations may vary from a short but intensive pre-H-hour air, naval, and missile attack to a methodical, deliberate reduction of the defender's capabilities by extensive operations requiring a considerable period of time.

g. The threat of use of nuclear weapons by the enemy may preclude massive concentrations of forces and supplies. Forces and supplies for an amphibious operation must be dispersed during mounting and staging, movement to the objective area, and during the assault and securing of the beachhead. Dispersion, which requires the landing of forces on widely separated beaches and landing zones, necessitates the organization of the forces into balanced, mobile landing teams capable of independent action. Passive protective measures are particularly important when there is a nuclear threat.

9–15. Training

The troops of the landing force require specialized training in amphibious techniques, to include embarkation and debarkation, loading and unloading equipment and supplies; naval gunfire and air support procedures, and ship-to-shore movement and control. This training requires joint plans and joint support, but is a Service responsibility.

9–16. Marshaling and Embarkation Considerations

Concentration of troops and equipment during mounting operations is avoided by establishing camps some distance from embarkation sites. Troops are kept in marshaling camps and staging areas for minimum periods of time.

9-17. Ship-to-Shore Movement

a. The overall planning for and execution of ship-to-shore movement is the responsibility of the joint amphibious task force commander.

b. The landing force commander is responsible for presenting his requirements for landing craft, amphibious vehicles, and transport aircraft to the joint amphibious task force commander and for advising him of landing craft, amphibians, and helicopters that will be available from landing force sources for use in the ship-to-shore movement.

c. The ship-to-shore movement plan is designed to support the scheme of maneuver ashore. Consequently, this plan cannot be completed until the tactical plan has been approved. Such factors as hydrographic conditions, availability of landing vehicles, and availability of beaches and helicopter landing sites frequently influence the scheme of maneuver. Close coordination of the ship-to-shore movement plan and the scheme of maneuver is essential.

9–18. Scheme of Maneuver Ashore

a. The scheme of maneuver of the landing force ashore is based on the fundamentals applicable to normal ground combat, although certain considerations may require additional emphasis.

b. The objective of the landing force is to secure sufficient terrain to accommodate troops,

equipment, and supporting installations without dangerous congestion. This beachhead area should include terrain suitable for defense against enemy counterattack.

c. Intermediate objectives must provide for the early securing of key terrain features that control beaches and boat and air lanes, and that might be used by the enemy to interfere with the ship-to-shore movement of troops and supplies.

d. The employment of airborne forces and the utilization of aircraft in the ship-to-shore movement may permit the securing of final objectives before, or concurrently with, reduction of intermediate objectives. Airborne forces, landed deep in the beachhead, can materially contribute to the movement inland of the forces landed over the beaches.

e. Airmobile forces from the amphibious task force may secure intermediate objectives. The plans for the employment of these forces must include provisions for combat support and combat service support.

f. While reserve forces are employed in a manner similar to that in other types of ground warfare, their employment is dependent on the availability of landing craft, amphibious vehicles, and transport aircraft as well as adequate landing zones. Availability of these vehicles will rarely permit withholding any of them for exclusive use by reserve forces.

9–19. Security

Special measures are required to safeguard the security of the operation, with particular emphasis on communications and electronic security measures. Disclosure of planning information is held to a strict need-to-know basis. Personnel with knowledge of the operation are not permitted to take part in prior operations where they would be subject to capture. Briefing of troops is delayed until they arrive in sealed marshaling areas or until after embarkation and sailing of convoys.

9–20. Communications Requirements

Coordination between corresponding echelons of the participating Services and within the Services places a heavy burden on signal communications facilities. The amphibious task force commander is responsible for providing adequate and secure signal communications facilities to the landing force commander until organic facilities have been established ashore.

Section V. COMBAT SERVICE SUPPORT

9–21. Types of Combat Service Support

In invasion-type amphibious operations, the combat service support *buildup* of forces and materiel to support future combat operations must be accomplished concurrently with operations against the enemy. In a limited-objective-type amphibious operation, combat service support usually is limited to maintaining the current requirements of the force.

9–22. Combat Service Support Planning

Combat service support plans must be designed to provide maximum flexibility and the most effective and economical use of resources. The most significant influence on combat service support planning for amphibious operations is the necessity to rely on forces afloat to provide continuing and coordinated combat service support to the assault echelon of the landing force during that period in which the combat service support system is primarily ship based. The most significant departure from the normal combat service support system is the necessity for a greater than normal degree of administrative self-sufficiency in elements of the assault echelon of the landing force pending establishment of the normal combat service support system ashore. Combat service support in the amphibious assault starts from a ship-based status and proceeds through decentralized beach support areas established ashore. In general, the subordinate echelon beach support activities come under centralized control and are expanded as successively higher command and control agencies are established ashore. This progressive development provides required administrative self-sufficiency initially to the assault echelon of the landing force; methodical progression to a centrally controlled combat service support effort; and early relief of each subordinate echelon from other than

normal combat service support responsibilities.

9-23. Combat Service Support Operations

Supplies must be unloaded rapidly and dispersed in balanced supply points well inland. To avoid undue concentration, careful scheduling, rapid unloading, and dispersion of supply ships are required. Detailed control plans and measures for movement and traffic circulation on the beach are developed and implemented. These plans must be flexible and provide positive control to insure accomplishment of the combat service support mission. Ship-to-shore vehicles, including surface vessels and helicopters, used for logistic purposes speed unloading, facilitate dispersion, and increase flexibility of combat service support operations.

9-24. Combat Service Support Responsibilities

The component force commanders of the amphibious task force are responsible for determining combat service support requirements of their commands and for making arrangements for such support from appropriate agencies, either of their own Service or of other Services when common-servicing, joint-servicing, or cross-servicing agreements or assignments are in effect. The amphibious task force commander is responsible for the overall supervision of the support activities of the component force commanders to insure that shipping and handling facilities are adequate for the combat service support of all elements of the amphibious task force.

9-25. Shore Party

Development of the combat service support system ashore requires employment of special task organizations called shore parties. Shore parties provide the interim combat service support capability in beach support areas until normal systems are operating ashore. They are formed to facilitate the landing and movement through the beaches of troops, equipment, and supplies; to evacuate from the beaches casualties and prisoners of war; and to facilitate the beaching, retraction, and salvaging of landing ships and craft. Shore parties contain elements of both the naval and landing forces. Advance elements of Air Force organizations are attached as required to receive their aircraft and special supplies and equipment. The conduct of shore party operations is a command function of the landing force. This command function is executed by the Army landing force commander, at each echelon that organizes a shore party, through the commanders of specialized organizations attached for shore party operations. Functions performed by shore parties vary in emphasis and magnitude, depending on the echelon and the stage of development. For example, combat engineering tasks to expedite landing team movement through the beach predominate during the assault. Work to develop and improve the beach support area is initiated by the landing team shore party as early as the combat situation permits. By the time general unloading begins during later stages, the shore party will normally be devoting its principal efforts to combat service support tasks. For details, see FM 5-144.

CHAPTER 10

★AIRSPACE UTILIZATION AND COORDINATION

Section I. GENERAL

10–1. Scope

This chapter deals with the coordination of the land and air battle. It outlines the doctrine and procedures for airspace utilization in a theater (area) of operations to facilitate its best use and to insure that each Service can exploit the capabilities of its weapons and materiel. It discusses air superiority, air defense, and air traffic regulation.

10–2. Relationship of Land and Air Operations

a. Land operations are critically affected by, and are inseparable from, air operations. The land force commander is vitally concerned with the ability of either belligerent to use the air to influence the land battle.

★*b.* The airspace over the theater (area) of operations is used by surface-to-surface fire support means, surface-to-air fire support means, aircraft, and the fire delivery systems of all participating Services, to include supporting strategic forces. The major users of the airspace are Army aviation, field artillery, air defense artillery, and the air components of the other Services.

★10–3. Coordination of Use of the Airspace

a. Competition for the use of the airspace results in conflicts between the users that can best be resolved by the joint force commander. He must establish responsibilities, priorities, and broad guidance for the use of the airspace in the theater (area) of operations. These coordination measures must insure minimum conflict between operations of all Services seeking the use of the airspace without denying any the full exploitation of its assigned means and intrinsic capabilities.

★*b.* The joint or unified commander normally designates the Air Force component commander as airspace control authority. The airspace control authority accomplishes the overall coordination of airspace utilization. In conjunction with the other component commanders, he recommends to the joint or unified commander required coordination and regulatory procedures and policies. Airspace control denotes a service provided to permit flexibility of action in controlled airspace, while authority to approve, disapprove, deny, or delay air operations is vested only in the joint force commander. These procedures and policies are published as directives by the joint or unified commander and should cover the entire spectrum of airspace utilization; i.e., surface-to-surface, surface-to-air, and friendly air traffic control. As an inseparable corollary to the identification problem inherent to air defense, air traffic control must provide an effective and reliable system without undue restrictions on air defense, friendly air traffic, or fire support systems.

★*c.* The Army component commander establishes an air traffic regulation system compatible with that established by the area air defense commander. This system must be responsive to the needs of Army air traffic control and provide for liaison with the air traffic regulation centers of the Air Force. Coordination/management of air traffic is accomplished through the Army and Air Force regulatory systems.

Section II. AIR SUPERIORITY

10–4. General

a. In the air battle air superiority is that degree of dominance of one force over an opposing force which permits the conduct of operations by the former and its related land, sea, and air forces at a given time and place without prohibitive interference by the latter.

b. Air superiority is desirable for successfu

possibility that the enemy may strike first, there is a possibility that Army forces will be forced to fight without air superiority. Further, in the situation where friendly forces have air superiority but an enemy air threat exists, the enemy must be credited with the capability of establishing control of the airspace over a specific portion of the battlefield for a limited period of time. Air superiority is a prerequisite for large-scale airmobile, airborne, or amphibious operations.

c. Air superiority may be relative in degree, in area, and in duration. It may vary from an ability to control a limited area for a limited period of time to an ability to control of the antire opration with little or no interference from enemy air action.

10–5. Attainment and Maintenance of Air Superiority

a. Air superiority is gained and maintained through offensive and defensive operations that exploit the capabilities of all participating forces. Offensive counterair operations are conducted primarily by the US Air Force. Active air defense operations are conducted jointly by the U.S. Army and the US Air Force. Specific objectives of counterair and active air defense operations, both on the ground and in the air, are to—

★(1) Attack and destroy enemy missiles; aircraft, including drones and helicopters; and air defense artillery.

(2) Nullify or reduce the effectiveness of attack by enemy missiles; aircraft, including drones; and air defense artillery by electronic warfare (EW) against electromagnetic radiations.

★(3) Destroy or prevent establishment of enemy installations to supply and support his offensive air firepower and active air defense means.

(4) Wage offensive warfare against the sources of enemy military and economic strength under approved war policies.

b. All forces employ passive air defense measures. These include all measures, other than active air defense operations, to reduce the effects tion, control of movement, and appropriate communications and electronic security measures.

c. Offensive counterair and active air defense operations in a theater of operations support strategic and tactical plans. These operations usually are joint in nature; their success is assured only by adequate joint planning and training.

d. Complete air superiority results only from total incapacitation of the enemy's aircraft, missiles, and air defense artillery. Since this is seldom attainable, offensive counterair operations must be continuous and intensive, while effective air defense operations seek to gain and maintain the required degree of air superiority and to provide security from enemy offensive firepower operations.

e. Offensive counterair and active air defense means must be able to shift quickly from one objective to another in a theater of operations. This flexibility is attained only by close coordination of the operations of participating units.

f. Air superiority may result by default when the enemy does not possess, or fully employ, significant air and missile capabilities. Such conditions may exist in a limited war.

10–6. Operational Considerations in Land Operations

a. Long-range offensive counterair and active air defense operations may precede or accompany the initial contact of surface forces. The success of early long-range offensive counterair operations and active air defense aids in the orderly mobilization and strategic concentration of field forces and in movement of these forces from concentration areas in accordance with strategic plans.

b. The degree of air superiority that can be achieved is a major consideration in assigning strategic and tactical tasks to land forces. In determining the required degree of air superiority, the commander must weigh the risk involved. A commander may have to conduct or order land operations when air superiority is marginal or lacking.

Section III. ARMY PARTICIPATION IN AIR SUPERIORITY OPERATIONS

10-7. General

Army weapons and forces participate in offensive and defensive operations to gain and maintain air superiority. Offensive activity includes the employment of weapons with surface-to-surface capabilities, the maneuver of land forces, and the employment of guerrilla forces. Defensive activity includes the employment of surface-to-air weapons, EW, and passive defense measures.

10-8. Army Surface-to-Surface and Surface-to-Air Weapons

a. Army surface-to-surface weapons are used in offensive operations to assist in gaining air superiority as part of Army fire support plans and Army or joint interdiction programs.

b. Army surface-to-air weapons are used to defend the combat zone, the communications zone, and critical units and installations therein. In a secondary role, surface-to-air weapons using surface-to-surface capabilities may augment surface-to-surface weapons.

10-9. Maneuver of Land Forces

The maneuver of land forces may contribute to air superiority operations. By threatening enemy bases or cutting lines of communications to enemy airbases and missile sites, land forces, may make such areas untenable and may place friendly offensive counterair means in a more advantageous position. Such maneuvers may force the enemy to commit his aircraft and missiles under conditions that reduce their effectiveness. Airmobile and airborne forces are particularly suited for offensive operations against enemy bases.

10-10. Guerrilla Forces

Guerrilla forces participate in air superiority operations by subversion and attack against enemy airbases and missile sites, including launching and support installations; lines of communications critical to enemy air and missile capabilities; and the production base.

10-11. Electronic Warfare (EW)

EW is used to nullify or reduce the effectiveness of attack by enemy aircraft and missiles. EW is directed against enemy electromagnetic means for airborne communications, navigation, fire control, identification, EW, fuzing, or other purposes.

Section IV. AIR DEFENSE

10-12. General

a. The mission of air defense is to destroy enemy airborne aircraft and missiles or to nullify or reduce their effectiveness.

b. Forces contributing to the air defense effort may be furnished by the Army, Navy, Air Force, or in combined commands by allied nations. These forces employ surface-to-air weapon systems, air-to-air weapon systems, EW systems, antiradiation missiles and decoy systems, fire distribution systems, identification systems, and information and warning systems.

c. A coordinated and joint air defense system under a single commander is essential to successful area operations. Air defense measures in the theater (area) of operations are coordinated by a theater-level area air defense command. Coordination generally involves the longer range, more complex, and more powerful air defense means of all Services. Air defense means designed for local air defense may also be included in this coordination.

d. Detailed coverage of U.S. Army air defense employment is contained in FM 44-1.

10-13. Air Defense Actions and Means

a. Regardless of the nature of the air threat, air defense forces must perform four basic actions to accomplish their mission.

(1) *Detection.* Potential targets must be detected at the earliest possible time.

(2) *Identification.* Identification must be timely and positive to reduce danger to friendly aircraft and exploit the quick reaction inherent to air defense systems.

(3) *Interception.* Interception is accomplished by a variety of weapon systems, each complementing the others' capabilities.

(4) *Destruction.* Enemy weapons or systems must be destroyed before it can accomplish its mission.

b. Air defense is classified as—

(1) *Active air defense.* Direct defensive action taken to destroy or reduce the effectiveness of an enemy air or missile attack. It includes the use of aircraft, air defense artillery, nonair defense weapons in the air defense role, electronic countermeasures, and electronic countercountermeasures.

(2) *Passive air defense.* All measures, other than active defense, taken to reduce the effects of enemy air action. These include the use of cover, concealment, deception, camouflage, dispersion, and protective construction.

c. Surface-to-air missiles are quick-reaction, high-velocity weapons with a high-kill probability and warhead lethality; they may include a nuclear capability. Combined with manned interceptors, they provide composite air defense of an area against enemy air operations. Their capability to operate autonomously provides effective air defense under adverse conditions.

d. Manned aircraft armed with conventional weapons or air-to-air nuclear missiles are capable of engaging the enemy at great distances from the defended area.

e. Air defense applications of EW reduce the enemy's effective use of electronic ranging, detection, guidance, fuzing, and radio communications equipment.

f. Air defense automatic weapons and the concerted effort of organic nonair defense, automatic, and small-arms weapons and shoulder-fired surface-to-air missiles can provide local, limited protection for ground forces, especially those in a forward combat area. Employment of nonair defense weapons should be controlled to preclude disclosure of positions.

10-14. Organizational Requirements

The air defense organizational structure must—

a. Incorporate air defense command and control systems capable of rapid coordination with adequate and secure communications, integrated staffs, and direction of force employment and operations at all levels so that it can respond instantly to the responsible commanders.

b. Provide centralized control by higher air defense centers over the establishment of rules for engagement and air defense policies and operating procedures and provides maximum decentralization of control over the execution of air defense operations. During operations higher air defense centers exercise command only to the extent necessary to authorize the initial engagement of targets, to release nuclear weapons, or to change established rules for engagement or operational policies and procedures.

c. Provide for appropriate integration of air defense means with all other means of the combined arms force to gain maximum combat power.

d. Incorporate intelligence systems capable of high-speed data collection, collation, and dissemination.

e. Permit timely identification of friendly aircraft.

10-15. The Theater Commander

The theater commander determines air defense priorities and allocates air defense means. He designates an area air defense commander—normally the air component commander—and assigns him overall responsibility for air defense. The area air defense commander coordinates and integrates the air defense activities of the force and coordinates air defense with forces outside the theater. He integrates all theater air defense means and decentralizes control authority to support the theater commander's concept of air defense. He normally establishes air defense regions. The number of these regions may vary, depending on geographic and political factors and the complexities of the air defense problem.

10-16. The Field Army Commander

The field army commander is responsible for Army operations in the field army area, including enemy-held territory, to a depth designated by higher headquarters. He is normally delegated authority for control and operational employment of organic Army air defense

means within the field army area. He is provided means and authority commensurate with this responsibility, including weapons and forces, to defend against air attack. Normally, he will be delegated full operational control of the organic, assigned, and attached air defense artillery means of his area, subject to the theater commander's operational procedures and the coordinating procedures prescribed by the area or regional air defense commander.

10–17. Coordination of Air Defense in the Area of Operations

a. The primary objective of coordinated and integrated air defense operations is to provide maximum tactical warning and active defense of all forces in the area. Early identification of air traffic, rapid dissemination of air defense information, and effective application of air defense weapons are essential to achieve this objective.

b. The field army commander designates a field army air defense officer who is responsible for the active air defense of the field army. The field army air defense officer commands all active air defense artillery means assigned or attached to the field army, less those assigned or attached to subordinate echelons. He prescribes, to the degree necessary, coordinating procedures for all active air defense artillery units in the field army area as approved by the field army commander. He coordinates all air defense artillery fires and forces so that their efforts are fully integrated with those of the entire force.

c. The field army staff coordinates air defense with combat and with other combat support capabilities.

10–18. Defense of the Communications Zone

a. All air defense resources behind the field army rear boundary are under the operational command of regional air defense commanders designated by the area air defense commander. The theater commander determines the priority of defense of areas in the communications zone.

b. When large numbers of Army air defense artillery units are present, a theater army air defense commander may exercise command (less operational command) of Army air defense artillery units in the communications zone.

10–19. Air Defense Planning

The objective of air defense planning is to provide the various portions of the defended area with a capability to limit the effectiveness of enemy offensive air efforts to a level that permits freedom of action to friendly forces. The accomplishment of the objective may vary with the mission of the planner; e.g., determining the number of each type of air defense units required to provide a specific degree of protection for an industrial, metropolitan, or military area of strategic or tactical importance or planning the best allocation and disposition of a fixed number of units for any of these areas.

10–20. Planning Considerations

Air defense planning is based on—

a. Air defense means available.

b. Relative priorities of areas to be defended.

c. Specific attack threats for each area to be defended.

d. Amount of damage that can be sustained by defended areas and still permit the occupying installations and organizations to accomplish their missions.

e. Coordination of the use of the airspace.

10–21. Determination of Priorities and Allocation of Means

The establishment of priorities and the allocation of means for the air defense of the force require command decisions based on:

a. Mission requirements.

b. Enemy strike capabilities.

c. Criticality, vulnerability, and recuperability of potential targets.

d. Air defense means available.

10–22. Standing Operating Procedures

a. The area air defense commander prescribes joint air defense standing operating procedures (SOP) as approved by the theater commander. These SOP insure the efficient employment of air defense weapons, minimize in-

terference with the performance of missions, and provide protection to friendly aircraft and troops. Missions assigned to uni-Service commands may involve operational functions and responsibilities that affect other forces participating in the air defense of an area. These overlapping functions must be defined clearly to insure an effective air defense. The details of air defense SOP vary widely with operational conditions.

b. Procedures for the organic short-range shoulder-fired air defense weapons provide for retention of operational control by ground combat units. Protection of friendly aircraft must be insured. Criteria for this protection should be through determination of rules for engagement and appropriate weapon control status and by provision of information on major friendly air activity. Ground combat unit commanders may increase firing restrictions, but cannot relax the restrictions imposed by air defense rules for engagement. In the absence of orders to the contrary, however, operators of these weapons will defend themselves against *direct* air attack with maximum fire.

Section V. AIR TRAFFIC REGULATION

10–23. General

a. Air traffic regulation is a service provided by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic. It incorporates active supervision of aircraft in flight by radar, radio, telecommunications, or directive. It does not exercise operational control over aircraft operating in its area.

b. The Army component commander establishes an air traffic regulation system capable of regulating aircraft traffic below established coordinating altitudes. The coordinating altitude is a level above mean sea level established over a specified area to delineate segments of air space where different aircraft air traffic coordination and regulation procedures are applicable. Communications between the Army air traffic regulation system and that established by the Air Force are provided by the Air Force component commander. He accomplishes the integration of the operations of the two systems by executing the overall responsibility for coordination of aircraft traffic delegated to him by the joint force commander.

c. Positive and continuous separation of all traffic being conducted under instrument conditions above or below the instrument flight regulations coordinating altitude will be accomplished through the respective Army and Air Force air traffic regulation systems. Component commanders will determine the degree of regulation required for their aircraft operating under visual flight conditions below the visual flight rules coordinating altitude.

d. Additional details on Army air traffic operations are contained in FM 1–60.

10–24. Army Air Traffic Regulation System

The Army air traffic regulation system and its operations are based on principles and procedures that permit maximum use of airspace by unit commanders to respond to the requirements of the tactical situation. The basic means of coordination and regulation in the combat zone is through unit command and control of aircraft. Positive air traffic control is normally exercised in the Army air traffic regulation system only during instrument flight conditions. Army air traffic units provide advisory and warning services for all aircraft and assist commanders in the regulation of visual flight rules by monitoring flight progress if desired. They provide advisory and warning services and coordinate flights with other Army agencies, such as field and air defense artillery units, and with other Services when required.

CHAPTER 11
UNCONVENTIONAL WARFARE

Section I. GENERAL

11-1. Scope
This chapter deals with the doctrinal concepts and the conduct of unconventional warfare (UW). It contains the basic considerations pertinent to the conduct of UW during other military operations and specific discussions of guerrilla warfare, evasion and escape, and subversion.

11-2. General
a. UW includes the three interrelated fields of guerrilla warfare, evasion and escape, and subversion. UW operations are conducted in hostile territory by predominantly indigenous personnel and are usually supported and directed in varying degrees by an external source.

b. UW operations may be either strategic or tactical in nature and are normally conducted under a unified command, primarily for the purpose of assisting and supporting the conventional military effort.

11-3. Conduct of Operations
UW is conducted by organizations trained and equipped to operate directly against enemy targets in hostile areas. UW must be closely coordinated with those civilian agencies of the U.S. Government that have responsibilities in the fields of economic, political, and psychological operations. Normally, it involves close working relationships with, and support of, the local populace in the enemy-controlled areas. Because UW is carried on in hostile territory, special emphasis must be placed on counterintelligence measures and combat service support.

11-4. Employment of Means
UW activity may vary from clandestine active or passive resistance by the local population to overt resistance by individuals or groups along conventional military lines. The means used will vary according to the specific activity undertaken.

11-5. Coordination of Operations
a. UW operations are planned and coordinated at the national level and may require the participation of several agencies of the U.S. Government. The theater commander is responsible for the conduct of UW in his area.

b. To discharge this responsibility, the theater commander may designate a theater UW command to develop, organize, plan, conduct, and support UW operations in the theater.

11-6. Related Activities
a. To produce the desired effect, UW operations must be supported by psychological operations (PSYOP) designed to influence the target population and by civil affairs operations designed to reintroduce a governmental capability.

b. UW forces produce intelligence to support their own operations, and may be directed to provide intelligence support to friendly conventional forces. Security of the UW force and limited communications capabilities must be considered in assigning intelligence tasks.

Section II. UW IN SUPPORT OF CONVENTIONAL MILITARY OPERATIONS

11-7. General
a. Commanders in the field insure that UW operations support conventional military operations.

b. The nature of a particular operation in a target area will be influenced by many factors, such as ideological matters, the effectiveness of mass communications media, the nature and extent of available weaponry and transportation, the availability of Special Forces units, and the scope of PSYOP.

c. UW is particularly useful when the application of force must be limited or discrete or when a commitment of conventional forces is not practical. UW operations can be directed against selected military, economic, psychological, or political targets.

11–8. Psychological, Political, and Economic Influences

a. Psychological, political, and economic effects of other military operations may have immediate or long-term impact on UW operations.

b. The political and economic foreign policy of the U.S. or allied governments toward the target country will influence the development of U.S. or U.S.-supported UW forces in that country. Close coordination of conventional, psychological, civil affairs, and UW operations is required to obtain the necessary support of the local population.

c. The political consequences of sponsoring guerrilla or other resistance forces must be carefully considered. Undue prestige may accrue to the guerrilla leaders as a result of support provided by the United States. Support of political groups that are unpopular with the local population or incompatible with friendly national interests may be detrimental to long-term U.S. objectives. The commander may be directed to sponsor certain elements primarily for political reasons, including furtherance of U.S. postwar political objectives.

d. Guerrilla forces may develop diverse political objectives. Rivalries among leaders may result from personal ambitions. Every effort must be made to insure that the operations of all guerrilla forces are directed against the enemy and not against one another. However, it may become necessary to conduct operations against rival guerrilla forces whose objectives are opposed to those of the U.S.-sponsored guerrilla forces.

11–9. Influence of Conventional Operations

a. Conventional operations may affect the attitudes of the local population in a manner that influences the effectiveness of UW operations. For example, use of excessive force; destruction of religious, cultural, social, agricultural, and humanitarian facilities; and violation of the rules of warfare could alienate the population, making UW operations less effective and the attainment of U.S. objectives more difficult.

b. PSYOP directed at the enemy civilian population can contribute to popular acceptance of U.S. objectives and influence the people to cooperate with U.S. military operations in the area.

11–10. Civilian Population

Refugees, displaced persons, and local residents are a valuable source of manpower for UW operations. Close coordination with civil affairs, military police, and intelligence elements is required to utilize this source. Selected refugees may be infiltrated into the operational area as members of the UW force, or they may provide information to support these operations.

11–11. Effect on Conventional Operations

Destruction of enemy rear facilities and dissipation of his strength and resources by UW forces can directly support conventional military operations. It may be desirable to destroy certain installations in an enemy-controlled area. Conversely, if friendly forces will occupy the area soon, UW forces may be employed to prevent the enemy from destroying key installations and facilities.

11–12. Countermeasures

Enemy UW operations must be countered. Countermeasures include the use of consolidation PSYOP, in conjunction with civil affairs, and the use of combat troops or irregular or paramilitary units in a counterguerrilla role. In developing the overall plan, identification and defeat of the insurgent infrastructure, guerrilla bands, and guerrilla main forces are important considerations (para 6–38—6–39).

Section III. GUERRILLA WARFARE

11-13. General

a. Guerrilla warfare comprises combat operations in enemy-controlled or hostile territory by irregular, predominantly indigenous forces of a military or paramilitary nature to achieve limited military objectives.

b. Normally, the primary mission of guerrilla forces is to interdict enemy lines of communication and conduct attacks against critical enemy installations as prescribed by the commander of the unified command. Other missions of the guerrilla forces may include intelligence, PSYOP, evasion and escape, operations, and subversion.

c. Guerrilla warfare is characterized by offensive actions, carried out by relatively small forces, with emphasis on mobility, elusiveness, and surprise. Besides such offensive action, guerrilla forces may use the tactics of passive and active resistance, subversion, diversion, and PSYOP.

d. Tactical guerrilla operations are closely coordinated with and can support the tactical operations of conventional military forces. Strategic guerrilla operations are conducted independently against target complexes deep in enemy territory. Guerrilla operations may provide major support to the unified command.

e. In nuclear war, the fluidity of operations, the disruption of communications, the dispersion of units, and the mass movement of people will lead to opportunities for development and effective employment of guerrilla forces. Coordination of nuclear fires with guerrilla forces is required. However, this coordination may present security problems, which must be considered.

f. Mountains, forests, jungles, swamps, and rural areas are favorable types of terrain in and from which guerrilla forces can operate. However, since guerrilla forces usually require access to population centers for support, the guerrilla warfare operational area may encompass rural communities. The advantages of operating from favorable terrain can be reduced if the enemy commits sufficient highly mobile security forces to deny the area to guerrilla forces.

g. In exceptional circumstances, conventional forces may conduct guerrilla operations.

11-14. Influence of Popular Opinion

Guerrilla warfare operations are most effective when the guerrilla force has the approval of the local populace. Support is normally given to guerrilla forces representing local aspirations. A typical political aspiration is the desire for liberation from oppression. This desire, however strong, will not commonly result in overt rebellious action to support dissident forces unless there appears a reasonable chance of success. Operations, both conventional and unconventional, can be used to convince the local populace of the inevitability of ultimate security and victory. Existing resistance potential should be energetically exploited, or generated where it does not already exist.

11-15. Spontaneous Resistance

a. Resistance elements in enemy-controlled areas may spontaneously undertake guerrilla operations that may or may not be consistent with U.S. objectives. Weapons and other supplies may be provided these elements to assist them in developing an effective friendly resistance force. A PSYOP campaign designed to guide the efforts of the people and to provide additional motivation should accompany and complement the provision and distribution of these weapons. Provisions for recovery of weapons should be made early to preclude problems during demobilization.

b. The process of providing weapons to resistance forces in most likely to be effective in areas where strong resentment of the controlling government exists, where effective local resistance leaders are present, and where the temperament of the people is such that significant numbers will openly resist if given the means. The disadvantage of arming indigenous forces in this manner is that the resulting guerrilla organization may be difficult to control and coordinate with other operations. Inability to exercise adequate control may later cause major political instability. For this reason, it may be best to infiltrate Special Forces

operational detachments into the area at an early stage, thereby insuring that control is established and maintained.

11–16. Special Forces

a. Special Forces operational detachments are used to develop, organize, equip, train, and direct indigenous forces in guerrilla warfare. These detachments are organized and trained to operate with guerrilla forces for an indefinite period of time. They enter enemy-controlled territory by air, water, or land infiltration or, during retrograde operations, by staying behind after the withdrawal of friendly forces. See FM 31–21 for details.

b. A Special Forces operational base may be established by the Special Forces group in friendly territory to provide direction and support for Special Forces UW operations in a U.S. theater (area) of operations.

c. Special Forces units must receive extensive area study training and during the preinfiltration period must be thoroughly oriented on all aspects of operations in their planned area of employment.

11–17. Coordination With Conventional Forces

a. Guerrilla forces normally are commanded by indigenous leaders. Unity of effort between U.S. and guerrilla forces is usually attained through cooperation rather than command.

b. The commander of the unified command coordinates the entire guerrilla effort in his area of responsibility through the theater UW command and the Special Forces operational base, when established. Guerrilla warfare operations are planned, coordinated, and executed from the theater level.

c. As a conventional ground force approaches areas in which friendly guerrilla forces are operating, the major ground force commander may assume operational control of guerrilla forces in the command's area of influence. When this occurs, liaison personnel from the Special Forces operational base are attached to the conventional force to facilitate coordination of unconventional and conventional operations. This operational control, seldom passed below division level, continues until the tactical situation dictates otherwise. Subsequent to linkup, guerrilla units may be assigned missions in support of conventional forces.

11–18. Guerrilla Missions

a. Guerrilla forces provide maximum assistance in support of advancing ground forces by attacking targets in enemy rear areas at decisive times or over a prolonged period. They attack to disrupt enemy command and control; to cause withdrawal of enemy troops from forward areas; and to harass and interdict enemy transportation, repair, and maintenance capabilities.

b. Guerrilla operations should be coordinated with the overall interdiction program. Lack of friendly air superiority greatly increases the requirement for interdiction by guerrilla forces.

c. Missions assigned guerrilla forces must be within their capabilities, otherwise their potential may be dissipated without achieving effective results. The attack of static, difficult-to-guard, yet vital targets will normally yield the greatest return for the effort expended.

d. Guerrilla forces may be used to assist airborne and airmobile operations by occupying key terrain, such as drop and landing zones, or by performing reconnaissance and security missions.

e. Guerrilla forces can furnish target information, exploit the effects of nuclear and other fires, and gather data for damage assessment.

f. After linkup, guerrillas can assist civil affairs and counterintelligence units, protect routes and installations, or be used in mopping up bypassed pockets of resistance. If the guerrilla units are suitably trained, organized, and equipped, they may be employed as conventional combat units. However, consideration must be given to providing them adequate combat and combat service support resources to accomplish the assigned missions.

11–19. Coordination of Supporting Fires

Since nuclear fires, biological or chemical agents, and close air support may be furnished by conventional forces to support guerrilla operations, the commander must consider the safety of guerrilla forces and coordinate with these forces when such weapons are to be used

in the guerrilla operational area. Indiscriminate use of such weapons in these areas could have a marked adverse effect on the attitudes of guerrilla elements and on the population from which they derive their support. If adequate and timely coordination is not accomplished, the guerrillas may become reluctant to provide information that might result in the destruction of their home areas.

11-20. Reinforcement of Guerrilla Forces

Guerrilla forces may be reinforced with fire support, aircraft, and other combat and combat support elements. Army aircraft can assist guerrilla units with combat service support, communications, and fire support. Airmobile, airborne, or surface-infiltrated elements may reinforce guerrilla units in accomplishing specific missions.

11-21. Communications

Special Forces operating in enemy-controlled areas must be provided communications equipment, to include a secure communications capability. Normally, rugged, lightweight, long-range radios are required. Guerrilla forces and their civilian support elements must have alternate means of communications in the area of operations. These are normally nonelectronic means, e.g., messenger or visual, signals that provide maximum security to the users.

11-22. Combat Service Support Considerations

a. Guerrilla forces make maximum use of supplies obtained from civilian sources and those acquired from the enemy in the operational area. However, if the guerrilla forces are to achieve maximum effectiveness, a significant proportion of basic supplies and equipment may have to be delivered into the operational area from an outside source of supply. Adequate combat service support increases the operational effectiveness of guerrilla forces because it permits them to concentrate their efforts on their combat mission. This support also decreases the burden on the friendly population supporting the guerrilla force.

b. Combat service support for the guerrillas is usually provided through the Special Forces units as a means of insuring U.S. control. An effective way to influence guerrilla activities is to withhold combat service support from uncooperative guerrilla forces. The Special Forces commander must be provided guidance on the application of such measures.

c. Initial combat service support consists of minimum-essential supplies and equipment commensurate with the size of the guerrilla force and its intended operations. The requirement for guerrilla support should be anticipated in long-range combat service support plans. Foreign and nonstandard items of equipment and supplies may be required to support guerrilla forces adequately. Combat service support requirements for guerrilla forces may compete with the requirements for conventional forces.

d. Normally, air transport is the most effective method of delivering supplies to guerrilla forces, although delivery across beaches may sometimes be required. Supply operations should be controlled by Special Forces personnel until linkup occurs with advancing forces. At this time supply responsibility is passed to the linkup force. In assessing supply requirements and packaging quantities to be delivered, consideration must be given to the available means of delivery, enemy capabilities, and guerrilla capabilities to secure the delivery area and to receive and move the supplies from the delivery area before detection by enemy forces.

11-23. Demobilization

As friendly conventional forces uncover the areas of guerrilla operations, the ability of guerrilla forces to support operations effectively diminishes. Guerrilla units retained beyond their period of usefulness may become a liability. Instructions for the demobilization or incorporation of guerrilla units into friendly military or paramilitary units in sectors occupied by friendly forces will be provided by the unified commander.

Section IV. EVASION AND ESCAPE

11-24. Evasion and Escape

a. Evasion and escape is that part of unconventional warfare whereby friendly military personnel and other selected individuals are enabled to emerge from enemy held or hostile areas to areas under friendly control.

b. The objectives of evasion and escape are to provide U.S. and allied military personnel and other selected individuals the means to avoid capture in, escape from, or be removed from enemy-held or hostile territory. Evasion and escape also denies the enemy sources of intelligence, information, propaganda, and other prisoner exploitation and contributes to the morale of combat forces.

c. Evasion and escape systems normally are organized independently of guerrilla forces. However, guerrilla forces may provide important links in these systems.

d. FM 21-77A provides detailed guidance concerning the principles and techniques of evasion and escape.

Section V. SUBVERSION

11-25. General

Subversion consists of covert and clandestine actions by resistance groups to reduce the military, economic, psychological, or political potential of an enemy. It includes such activities as infiltration, espionage, propaganda, sabotage, or terrorism.

11-26. Employment of Subversion

Subversion is used to undermine confidence and disrupt social institutions to achieve a desired political objective. Subversion is designed to probe and exploit such potential vulnerabilities as widespread popular grievances and dissatisfaction; corrupt, oppressive, or weak governments; economic underdevelopment; social inequities; power vacuums; or premature nationalistic ambitions of the people or their leaders. For further details see FM 31-21A.

CHAPTER 12

COLD WAR OPERATIONS

Section I. GENERAL

12–1. Scope

This chapter deals with the employment of forces in cold war operations. Except for brief mention as required, stability operations—which are a part of cold war operations—are not included in this chapter but are discussed in detail in chapter 13. The characteristics of cold war operations and basic considerations for the employment of forces in this environment are discussed. Also covered are the intelligence, security, and training requirements that are peculiar to cold war operations.

12–2. Characteristics

Cold war operations are necessitated by a direct threat to U.S. interests by acts of a hostile power. These acts include illegal occupation, subversion, or coercion of friendly countries; a show of force; or the establishment of hostile military forces near U.S. territory. Such actions by a hostile power may include the seizure of control of a friendly government, the occupation or intimidation of a weaker country, or the defeat of friendly elements in the country. The scope of military operations in cold war may range from incidents between regular forces to actions against irregular forces.

12–3. Participation of U.S. Forces

Cold war operations may result from alliances or coalition agreements, or may be undertaken unilaterally. Military forces participate in these operations only by specific order of responsible U.S. Government authority. Within the broad scope of cold war operations, military actions may be designed to—

a. Encourage a weak and faltering government.

b. Stabilize a restless area.

c. Deter or thwart aggression.

d. Reinforce a threatened area.

e. Check or counter aggressive moves by opposing powers.

f. Maintain or restore order.

12–4. Force Capabilities and Requirements

a. Strategic mobility, self-sufficiency, and the ability to apply measured force characterize forces involved in cold war operations. These forces may be held in reserve in the United States or deployed to oversea bases.

b. Special action forces are specially trained, area-oriented, partially language-qualified, operationally ready forces, available for support of cold war operations. The mission of these forces is to provide training, advisory support, and operational assistance to host country forces.

c. A division or brigade-type organization is suitable for use in cold war operations. Certain divisions in the strategic reserve are organized specifically to provide the balanced strategic mobility and combat capability required for these operations.

12–5. Missions

a. Missions assigned forces in cold war operations include—

(1) Show of force.

(2) Truce enforcement.

(3) International police action.

(4) Legal occupation.

(5) Stability operations.

b. Specific operations within these missions may include parades, maneuvers, demonstrations, police and patrol duty, operations against irregular forces, or reinforcement of a threatened area.

Section II. BASIC CONSIDERATIONS

12-6. Command Requirements and Limitations

a. Cold war operations normally entail mission-type orders. While the limits of the commander's authority will be prescribed, particularly in relation to the responsibility of diplomatic officials, the commander will usually be given the necessary latitude to determine how best to accomplish his assigned mission.

b. The commander must use the minimum force required to accomplish force objectives and discontinue the use of force when it is no longer required. The ground commander is in a position to estimate the degree of force required. Excessive use of force usually leads to a need for ever-increasing force to maintain the same degree of order, and always to the loss of sympathy and support of the local populace. At the same time, the use of inadequate force not only will jeopardize accomplishment of the mission, but also will have an adverse or reduced impact on the local populace. If efforts to gain confidence of the local populace are not to be defeated, hostile terrorists and insurgent elements must be treated humanely and with justice when captured, no matter how despicable their acts.

12-7. Joint and Combined Operations

Cold war operations usually involve cooperation and coordination among the Services. Army forces require the support of other Services for transportation to the area. Frequently, support will be required for the establishment of supply bases and for combat support and combat service support. The Army force may be subordinated to another Service, which may have overall responsibility for the operation; or it may be the predominant force and have Navy, Marine Corps, and Air Force support. The Service that is predominant in strength normally will be charged with cross-service or common-service support to other elements of the joint force. The commander often may cooperate with allied forces or act as a subordinate of an allied commander. The commander and his staff must understand joint and allied command staff relationships and procedures.

12-8. Relationships With Foreign Governments

a. State Department officials handle transactions with the foreign government when such officials are present and when civil government exists. In those cases when permanent State Department officials are not present, the military commander should be provided a political adviser. In most instances, political considerations are overriding in cold war operations. The military commander's authority for political matters normally will be specifically prescribed. Sound and cooperative working relationships must be established and maintained with the responsible U.S. political authorities.

b. Wherever political arrangements exist, military commanders will normally deal with foreign governmental officials, local military personnel, and civilian leaders. Commanders must understand the responsibilities of the local government as they affect their own responsibilities. If the local civilian government becomes ineffective, commanders may be required to play a major role in its reestablishment. Publication of guidelines for subordinate commanders in their relationships with military and civil officials can assist in avoiding misunderstanding and can foster cooperation. The civil affairs staff officer is the principal link between the commander at higher echelons and the civil government and population. Civil affairs units and teams, as available and appropriate, participate in civil-military activities. For further information, see FM 41-10.

c. Cold war operations are often conducted in politically unstable areas in which limited or general war is an ever-present threat. The commander must maintain a high state of military readiness in his unit regardless of the requirements of his immediate mission. He may have to execute his mission with the knowledge that his unit may be placed in a disadvantageous position initially if the situation erupts into war. In any event, the commander must insure that his actions do not inadvertently

convert a cold war operation into a limited or general war.

12–9. Legal Implications

a. In carrying out the mission, the force commander may be required to make decisions that involve life and property and civil matters in a sovereign country. It is essential that the force commander recognize the impact of local law and custom and that he have the advice of a competent legal and civil affairs staff. Even when the legality of an action cannot be immediately determined, his actions must not exceed those that can be justified by military operations and necessity, and must be tempered by justness that can be universally recognized.

b. Operations with a civil government may be subject to review or court proceedings. Therefore, it is important to keep an official record of all major transactions, agreements, decisions, and military actions affecting the civil population.

Section III. INTELLIGENCE AND SECURITY

12–10. Intelligence

a. In cold war operations, intelligence activities are wider in scope and more difficult than those experienced in other types of military operations.

b. Commanders of higher echelon forces must obtain and maintain current general knowledge of conditions in areas of the world in which military forces may be employed. Intelligence summaries of critical areas should be furnished to these commanders.

c. When the mission is assigned, the force commander must be given strategic intelligence of the specific area of operations. In addition, he must be informed of U.S. and allied intelligence services that are available and authorized for use when the force arrives in the operational area.

d. After the force arrives in the area of employment, the commander must evaluate and exploit the intelligence agencies at his disposal and insure that his own intelligence collection efforts contribute to the broad requirement of interested U.S. agencies. He develops an efficient and secure operational intelligence system. This system develops the background of the unrest, identifies dissident elements, and provides detailed information and topographic data on which military action can be based. Close cooperation with the local police establishment normally is required. When local police cannot be used, the commander may be required to develop his own non-U.S. intelligence assets. In this event, authority must be granted to develop these assets with safeguards to insure that such operations do not conflict with the assigned responsibility of other established agencies.

12–11. Security

a. Security precautions are essential from receipt of the mission through movement to the objective area. Cold war objectives can be compromised by enemy counteractions if prematurely disclosed.

b. Security in the objective area is complicated by the necessity to coordinate and cooperate with local civilian officials and allied forces. The security of communications, supplies, equipment, and installations must be insured. Neglect leads to pilferage and black-marketing activity, provides a source of supplies and arms for dissidents, and provides a basis for enemy propaganda to discredit the friendly force. Adequate security measures must be established to counter such hostile activity. Paragraph 13–16*c* contains a discussion of base defense.

c. When censorship regulations are not in force, the unrestricted flow of information through personal correspondence and the public information media will present security problems to the command. Within security limitations, cordial and straightforward treatment of accredited correspondents and an effective command information program will contribute to public understanding of the issues and facilitate accomplishment of the mission.

12–12. Use of Interpreters

Transaction with civilian officials and the local

populace will normally require interpreters. Arrangements must be made for obtaining and clearing interpreters locally. In addition, lists should be developed and maintained concerning language fluency of assigned personnel. Personnel must exercise caution when conducting business through interpreters. Some U.S. personnel in every organization that deals with local officials and populations should have some proficiency in the local language. All individuals of the command should be encouraged to learn the local language and to increase their proficiency in its use.

Section IV. EMPLOYMENT OF FORCES

12-13. General

In cold war, a force is confronted with a wide range of factors influencing operations. These include political considerations, attitudes of the local populace, indigenous armed forces, enemy concepts and capabilities, environmental conditions, and command arrangements peculiar to the force organization and mission. Flexibility and imagination in leadership, command and planning are required.

12-14. Army Component Capabilities

The following component elements of Army forces have characteristics and capabilities that make them suitable for use in cold war operations:

a. Infantry units should be used to provide troops for patrol operations, area search and security, outposts, strongpoints, and control posts and for action in such terrain as mountains, swamps, and jungle. Mobile infantry task forces equipped with Army aircraft, armored carriers, and/or amphibious vehicles are effective forces for employment against guerrillas. Airmobile forces are particularly valuable in the conduct of widely separated actions against dissident elements.

b. Armor units are excellent show-of-force-type units and can provide communications assistance for other forces. When reinforced with motorized or mechanized infantry, tank units provide powerful mobile forces. When employed with dismounted infantry or military police, tanks are effective in quelling riots and civil disturbances. Because of their mobility and excellent communications, cavalry-type forces can provide reconnaissance and security forces capable of being deployed over wide areas. Armor forces may also be used for convoy escort.

c. Army aviation units can conduct surveillance over wide areas and provide fire support, troop lift, liaison, and courier service. These units can operate from hastily prepared airstrips in protected areas. Helicopters can be used to supply isolated outposts and detachments located away from the main body of the force.

d. Engineer forces may be required for mine detection and removal and for construction of airfields, fortifications, bridges, roads, and civil works.

e. Signal units are required to provide a communications network. Considerable reliance must be placed on radio because of the problems involved in maintenance of wire communications systems in areas that may be infested by hostile insurgent or subversive elements.

f. Military intelligence units play a vital role in cold war operations. The successful prosecution of cold war operations is only possible through the use of timely and accurate intelligence.

g. Combat service support units are well suited to provide humane and civil relief services, such as restoration of civil works, provision and issuance of food and clothing, and medical treatment. When required, and when the necessary units and supplies are available, assistance of this type facilitates accomplishment of the force mission.

h. Military police units, with their organic mobility and communications, can be used effectively for patrolling, route reconnaissance, surveillance, physical security of installations, and liaison missions. These units are also effective in quelling riots and civil disturbances. These units are highly effective when used in a normal police role against dissident elements because of their knowledge of the area and

constant police-type activities, such as searches and seizures and populace and resources control.

i. Civil affairs units assist in developing good working relationships between U.S. military forces and the local population as well as between host country's military forces and its own people. These units analyze and solve problems stemming from the political impact of military forces in the area; the use by military forces of local areas, facilities, goods, and manpower; the application of local laws and customs to the military forces, and the social relationships between military forces and civilians.

j. Psychological operations units play an important role by supporting U.S. Army Operations which assist the host country's government in winning the support of the population and assist in developing a psychological operational capability that is conducted by indigenous personnel and attributed to the host government.

k. Special Forces detachments may be used to assist in developing military, paramilitary, and irregular forces; to extend communications and intelligence capabilities of U.S. and host country forces; and to conduct operations against irregular forces. Special Forces detachments may also serve as bases for the activities of civil affairs and psychological operations teams in the internal development of remote areas. For additional information, see FM 31-21.

12-15. Support by Other Services

a. Naval and aviation units of component forces employed in cold war operations can be employed in a show-of-force role and can conduct long-range surveillance and reconnaissance, logistic support, and other missions assigned by the force commander.

b. Air movement of forces facilitates their employment and redeployment over wide areas when sufficient organic or supporting aircraft are available.

12-16. Discipline

a. Operations in cold war situations call for the highest standards of discipline. The smart appearance of well-disciplined troops impresses the civilian population. Courtesy combined with dignified bearing gives confidence in the forces of law and order. Troop and civilian curfews, when imposed, control and assist in maintaining discipline.

b. Sound troop discipline of combat units is the best possible basis for the special troop training required for operations in cold war. Intelligent, good behavior of troops is important in these operations, where the serious misbehavior of the individual may jeopardize the entire mission.

12-17. Training Considerations

a. During normal training, the commander must insure that troops receive orientation on conditions in various areas of the world and on their roles in situations short of war. This orientation can be accomplished, in part, through a sound, continuing command information program.

b. Either before or after arrival in the area of employment, troops must receive special combat training required by the specific mission. All units whose mission and capability create a possibility of their employment in situations short of war should receive specialized training in counterguerrilla warfare and riot control.

c. When he receives the mission, the commander must insure that troops are briefed on the force mission, local customs, and conditions in the area of operations. This orientation must include security procedures, relationships with the civilian populace, injunctions against black-marketing, and related matters.

d. The psychological impact on troops of operations under conditions of stress and restraint over long periods should be recognized and considered in the planning and conduct of operations.

12-18. Training of Local Forces

Cold war operations may require the organization and training of local military forces as an added mission. The relationships with military leaders must be harmonious. Mutual trust and confidence are prerequisites. Professional competence and positive attitudes in the soldiers

and junior officers of training cadres, which may be provided by the force, will foster trust and confidence. National traits must be exploited to the maximum in training local forces.

CHAPTER 13

STABILITY OPERATIONS

Section I. GENERAL

13–1. Scope

This chapter provides general doctrine for U.S. Army participation in U.S. efforts to aid friendly nations in preventing and combating insurgency. Included are the concept of operations and a discussion of U.S. Army-host country coordination. Sections of this chapter also discuss those aspects of military intelligence, civil affairs (CA), and psychological operations (PSYOP) important to the conduct of internal defense and internal development.

13–2. General

a. Stability operations are that type of internal defense and internal development operation and assistance provided by the Armed Forces to maintain, restore, or establish a climate of order within which responsible government can function effectively and without which progress cannot be achieved. The term "counterinsurgency" is used by the joint services, other governmental agencies, and many foreign countries. Within the U.S. Army, depending on the context, use of "stability operations" or "internal defense and internal development" is preferred to "counterinsurgency." Substitution of "internal defense and internal development" is appropriate when reference is made to the overall national program to defeat subversive insurgency. Substitution of "stability operations" is appropriate when reference is made to the military portion of the overall national program. The Army's readiness for such activities commands a full share of its resources and professional military thought and equal priority with readiness for limited and general war missions.

b. Internal defense and internal development operations are conducted within the cold war spectrum. These actions, taken to prevent and defeat insurgencies, encompass the full range of military, paramilitary, political, economic, psychological, and sociological actions. Army forces may be required to assist the government of a host country, directly or in support of another U.S. agency, in fostering conditions that will permit development of a climate of peace and stability. Assistance in internal defense and internal development is a normal function of U.S. Army operations. This function may be the sole purpose of Army operations, or it may be conducted in conjunction with any of the other Army roles. For a detailed discussion of insurgency and the employment of U.S. Army forces in stability operations, see FM 31–23 and FM 100–20.

13–3. Principles

a. The primary task of military assistance in the internal defense and internal development of a friendly country is to help protect the local government from subversion. Particularly dangerous are those subversive elements that gather their strength from the support of external powers.

b. In a country suffering from the problems of insurgency, the cost of internal defense may arrest the rate of internal development to the point that the government of the host country steadily loses the confidence of its citizens. To relieve the host country of much of this heavy load, U.S. internal development assistance may be required.

c. The extent of Army commitment to a host country usually stems from a U.S. internal defense plan. This plan is a U.S. blueprint for assisting the host government in achieving its objectives through internal defense and inter-

nal development. Thus, the internal defense plan provides guidance for the coordinated commitment of resources and the delineation of responsibility between the various U.S. departments, agencies, and Military Services. In-country coordination of the plan is accomplished by the country team.

d. To attain its objective of establishing a peaceful climate for permitting modernization, military assistance and operations are directed to strengthening the host country's military capabilities, to include the invigoration of its regular and paramilitary forces and, in some instances, the civil police organizations.

e. Successful accomplishment of Army assistance missions for internal defense and internal development requires the integration of highly complex psychological, social, economic, political, and military actions.

13–4. Concept of Operations

a. Anticipation and early detection of legitimate grievances, coupled with national confidence in the government's ability and desire to seek acceptable solutions, is the best method of preventing the development of a serious insurgency problem. Under the general direction of the U.S. ambassador, U.S. Army assistance may be employed to help a host country establish and effectively undertake its own internal defense and internal development.

b. For the country suffering severely from insurgent war, the solution to the problem frequently requires prompt and radical measures. No area or territory ravaged by insurgency can be restored until the insurgent force has been cleared from the area, the insurgent organization and its support have been neutralized, and the legal government has been reestablished. To achieve these conditions, internal defense and internal development operations must be planned, organized, and applied as a combined civil-military effort. The objectives of the operations are to defeat guerrilla bands and insurgent main forces; to detect and remove the insurgent infrastructure; and, at the same time, to win or maintain the support of the people. The extent of U.S. Army assistance is determined by U.S. policy; by the attitudes, capabilities, and available resources of the host country government; and by the level of insurgent activity.

13–5. Operational Environment

a. Government ultimately depends on the acquiescence if not the active support of its citizens. To maintain popular support, accelerated internal development is frequently necessary to satisfy popular needs and demands. Frequently, the process of development lags or is ignored, and opposition to the government and its policies may develop. Resulting attempts to change the government and the associated basic socioeconomic-political structure can easily turn into violence. Organized terror, insurgency, and belligerency may then develop. In this political climate, progress and development are difficult. Thus, the basic causes of insurgency are the existence of one or more grievances and lack of faith in the government's ability or desire to correct them. Leadership, from within or without, converts the discontent into a cause and transforms the dissatisfied into insurgents.

b. Insurgent activity may encompass a broad spectrum—from distribution of literature and presentation of speeches, through acts of brutality and terror, to guerrilla warfare and conventional battle. Guerrilla warfare, as developed in modern communist insurgency, is not waged by uncoordinated and sometimes mutually hostile bands of insurgents who are indiscriminately armed and whose tactics are not easily distinguished from those of mere banditry. Modern insurgent hostilities are usually led by a hard core of professionals who employ highly developed guerrilla techniques to achieve well-defined political objectives. The insurgent organization, assisted by its guerrilla arm, uses the civilian population as an intelligence network, for logistic support, for its personnel replacements, and for refuge. Insurgent forces can disappear into their secure land bases or merge into the civilian population as the need arises. When conditions are favorable, the insurgent force may fight conventional battles, using regular formations and heavy weapons. Without civil support or, as a minimum civilian acquiescence, the insurgent organization is isolated and, unless supported

from external sources, will wither and tend to degenerate into banditry. In any event, insurgent support and capabilities usually will not increase at a uniform rate throughout the country. Consequently, the entire range of insurgent violence may be present in different geographic areas.

c. The growth of insurgency may be identified generally, according to the predominant type of insurgent activity, in three phases—

(1) *Phase I.* The latent or incipient subversive activity phase, during which subversive incidents occur with frequency in an organized pattern; however, it involves no major outbreak of violence or uncontrolled insurgent activity.

(2) *Phase II.* This phase is reached when the subversive movement has gained sufficient local or external support and can initiate organized guerrilla warfare or related forms of violence against the established authority.

(3) *Phase III.* The situation moves from Phase II to Phase III when the insurgency becomes primarily a war of movement between organized forces of the insurgents and those of the established authority.

Section II. EMPLOYMENT OF THE U.S. ARMY

13-6. General

U.S. Army assistance to a host country can range from the provision of small, mobile training teams administered by the U.S. Army attache, through the in-country establishment and operation of a U.S. military assistance advisory group or mission, to the operational involvement of U.S. combat, combat support, and combat service support forces. The effectiveness of U.S. Army participation in stability operations depends on how well this assistance is integrated into the internal defense and internal development efforts of the host country. In this respect the U.S. commander must consider three types of operations—

a. Those against regular and main force elements.

b. Those against local guerrillas.

c. Those aimed at elimination of the infrastructure.

13-7. Internal Defense

a. In conjunction with the U.S. Navy and the U.S. Air Force, the U.S. Army may assist host country internal defense by—

(1) Organizing, equipping, and training military and paramilitary forces.

(2) Advising host country forces during the planning and conduct of tactical operations.

(3) Assigning U.S. Army personnel at various echelons in forces of the host country to act as advisers on all aspects of internal defense.

(4) Furnishing U.S. Army combat support or combat service support units to reinforce the host country internal defense effort.

(5) Providing combat elements to reinforce host country capabilities.

(6) Participating in a show of force as a demonstration of U.S. support of the host country government.

(7) Assisting the host country, if necessary in border-sealing activities and other measures designed to reduce or prevent unwanted foreign interference.

b. The Special Action Force is a specially trained, area-oriented, partially language-qualified ready force available to the commander of a unified command primarily for support of cold war operations. This force is organized with the skills necessary to provide assistance to developing nations or faltering governments in stability operations.

c. Tactical principles generally have universal application in internal defense operations. However, since the guerrilla normally conducts his operations on the most difficult terrain in an area of operations, counterguerrilla force commanders must adapt tactical principles and operational techniques to fit the particular terrain in which they must operate. Night operations must be emphasized to benefit from surprise and maintain pressure against insurgent forces. Terrain in itself is not usually an insurgent objective. Caches, insurgent safe areas, and sympathetic or dominated populations may

be dispersed in such a way that insurgent units are not dependent on a few critical logistic bases that require protection. Consequently, envelopments and penetrations used against guerrilla forces may not be as effective as in conventional tactical operations. For example, an envelopment intended to cause an insurgent force to react to protect a base, may produce entirely different reactions from those anticipated. Having developed multiple base areas, the insurgent force may maneuver in any direction in reaction to an offensive maneuver against it and still not sacrifice logistic support. Successful internal defense requires that the civilian population refuse to support the insurgency. Operations against the insurgent forces must avoid alienation of the local population. The commander of the internal defense forces must weigh the impact of contemplated operations on the attitude of local civilians and toward the host government.

13–8. Internal Development

a. Besides furnishing support to host country and U.S. forces, U.S. Army combat support and combat service support units may conduct military civic action projects to assist internal developmnt. The military is a repository of many skills (e.g., electronics, engineering, law, medicine, meteorology, management, communications, firefighting, and transportation) that can be used to support or improve the civilian economy. Many military undertakings, particularly the construction of transportation or communications routes and base areas, aid in the development of the economy. These projects may include construction (schools, dispensaries, roads), mapping, communications facilities, medical service, transportation, youth activities, information, and education. In addition, training and education of selected host country personnel at U.S. Army schools located outside the host country result in development of needed skills and foster mutual understanding of U.S. and host country objectives.

b. Internal development is so interwoven with internal defense that personnel from U.S. combat forces normally undertake military civic action projects as an aid to mission accomplishment. The proper balance of effort between combat and internal development is a command decision based on how best to defeat the insurgency in the specific area of operations.

13–9. Command Relationships

a. U.S. Army operations against insurgent forces are usually conducted within the command structure established for the particular theater. Thus, the senior headquarters conducting the overall operation may be joint, combined, or uni-Service.

b. Uni-Service headquarters frequently control operations against insurgent forces in internal defense operations; however, immediate establishment of a joint command is usually advantageous when forces or more than one Service are involved. U.S. participation with the forces of the host country can be accomplished on a coordinated basis, but may make a combined command particularly desirable.

c. Political considerations materially influence military operations. A political adviser may be provided the senior military commander. A campaign is planned and conducted in close coordination with State Department and other U.S., host country, or allied agencies represented in the area. In countries where a chief of mission is present, this coordination is accomplished through the country team. The limits of the military commander's authority are carefully prescribed, particularly in relation to civil responsibilities.

d. After gaining control of an area from the insurgents, U.S. military operational commanders may be faced with the problem of restoring control to the host country authorities. Based on treaty agreements, the judgment of the commander, and the ability of the host government to provide reasonable protection and tranquility under law, responsibility for host country inhabitants and their areas is transferred to local authorities as soon as effective and acceptable host country control has been established. The assurance of reasonable protection and tranquility can be provided only in those areas freed from insurgent activities and penetrations.

Section III. MILITARY INTELLIGENCE

13-10. Requirements

The interdependence of internal defense and internal development, the consequent greater sensitivity to civilian attitudes and opinions, and the elusiveness of the insurgents place increased demands on the intelligence system. The detection or anticipation of hostile sentiment or activity in an area is of critical importance. The integration of strategic, political, economic, combat, and civilian police intelligence procedures characterize intelligence operations at all levels. Consequently, in conducting stability operations, intelligence activities at battalion, brigade, and division levels increase in intensity and scope.

13-11. Use of Host Country Intelligence and Security Agencies

a. Host country intelligence organizations and personnel must be used to the maximum extent. The nature of intelligence operations requires that U.S. personnel have a detailed knowledge of local customs, languages, cultural backgrounds, and personalities. As a result, compared with conventional combat, U.S. intelligence staffs and organizations must give full attention to the utilization of host country military or police operations, such as populace and resources control activities, search and seizure operations, and the monitoring of civilian-organized groups or parties.

b. During all phases of stability operations, accurate and timely information on the organization and operations of the internal insurgent political structure (infrastructure) will be required for U.S. operating forces. U.S. Army intelligence staffs and units make every effort to gain exploitable data on the insurgent organization to assist in its early destruction or neutralization. For additional details on intelligence in stability operations, see FM 30-31.

13-12. U.S.—Host Country Coordination

The requirement for integration and cross utilization of U.S. and host country intelligence activities should provide for the greatest efficiency. Definition of the level and extent of U.S. Army and host country intelligence integration is the responsibility of the senior in-country U.S. military commander, who must weigh requirements against the possible risks. Since the risks will vary from time to time during stability operations, U.S. and host country intelligence coordination must be continuously reviewed.

13-13. Counterintelligence

Counterintelligence is complicated by the degree of reliance that must be placed on local organizations and individuals in operations and the difficulty in distinguishing between friendly and hostile members of the population. Political considerations frequently hinder proper counterintelligence screening. Close and continuing coordination and liaison with CA staff sections and units assists, in some measure, in resolving these problems. Among the measures that may be taken to contribute to security are extensive use of tactical cover and deception and electronic countermeasures.

Section IV. COMBAT SERVICE SUPPORT

13-14. General

a. U.S. laws, policies, and agreements usually limit the value and volume of support provided a country requiring assistance in its internal defense and internal development. To insure maximum utilization of U.S. assistance resources, U.S. advisers must at all times provide their host country counterparts with the guidance necessary to provide the most efficient utilization of combat service support with the minimum waste.

b. Since internal defense is interwoven with internal development, in-country participation by other U.S. agencies and departments is highly probable. As a result, additional U.S. Army combat service support may be required.

c. CA organizations assist the military commander in the fulfillment of his combat service support obligations to the local inhabitants, government, and economy by providing guidance and advice.

13-15. Logistics

a. The extent of development of the country being assisted will vary. Planning must scale U.S. Army consumption factors, basic loads, stockage levels, and bases of issue to the operational area. Similar factors must be developed for support provided the host country, other Service, and allied elements by the U.S. Army combat service support system. Local resources are used for combat service support to the extent practicable. Local procurement should avoid contributing to any severe disruption of the local economy; rather, it should, if possible, contribute to internal development. U.S. Army forces also must be prepared to provide essential items of supply in support of civil authority programs designed for disaster relief or to aid civilian victims of internal attack. Participation by U.S. Army forces in civic action may also increase supply requirements.

b. Maintenance efforts are unusually diverse during internal defense and internal development operations because of the need to furnish maintenance support to other than U.S. Army forces. Host country and allied forces may not be equipped with standard equipment. Experience factors pertaining to maintenance support must be developed based on the operational area. Widespread dispersion of the forces being supported and limited communications network may require performance of direct support and general support maintenance on a decentralized basis.

c. The lack of a well-defined communications network, the need for operations in relatively inaccessible terrain, and insurgent tactics may complicate transportation efforts. Transportation of men, supplies, and equipment over surface lines of communications may be limited by road or rail capacity, by the need for armed or armored escort, by insurgent activity, and by shortages of transport equipment. Because of speed, relative security from ground attack, and relative independence of terrain conditions, aircraft frequently constitute the most effective means of resupply. Caution and judgment should be exercised in the overall use of aircraft for supply and troop movements. The use of aircraft to the exclusion of ground movements can result in virtual abandonment of ground routes to insurgent forces, in effect surrendering territorial control.

d. As the scope and intensity of insurgent effort increase, U.S. Army support to the host country may also increase necessitating development of a more complex support system requiring construction of base support facilities. This construction may include combat bases, communications facilities, a surface transportation system, storage and distribution facilities, airfields, airstrips, helicopter pads, port, and salvage facilities. Area damage control assistance to civil authorities may also require light construction support. Care must be taken not to throw the host country's development economy off balance by indiscreet use of local materiel and personnel.

13-16. Personnel and Administrative Support

a. Ultimate success or failure of U.S. Army internal defense or internal development operations depends on the skill and motivation of individuals. The application of basic military and technical skills to counter an actual or potential insurgency requires a basic appreciation by members of U.S. Army units, military assistance advisory groups, missions, or mobile training teams of the political aspects of insurgency. U.S. Army personnel who have received area orientation and developed language proficiency will be required in many units and at many U.S. command and staff echelons. The availability of loyal, reliable host country nationals to act as interpretors may reduce U.S. unit requirements for language-qualified U.S. personnel. The need for language fluency and detailed knowledge of the customs, traditions, and history of the host country will vary with the assigned duty of the individual and the frequency of contact with host country nationals required in the performance of this duty.

b. Medical support includes support of U.S. forces and host country personnel.

(1) Medical support of U.S. forces may be complicated by the distances between installations that must be supported and by the use of small, mobile units in independent or semi-independent operations in areas from which air or ground evacuation may be difficult. Difficulties may be overcome by—

(*a*) Establishing aid stations with greater treatment and holding capacity at lower echelons than normal.

(*b*) Providing sufficient air and ground transportation for rapid movement of medical elements to meet unanticipated requirements.

(*c*) Assigning to mobile units male nurses or specially trained enlisted medical personnel who are capable of operating medical treatment facilities with a minimum of immediate supervision by physicians.

(*d*) Supervising sanitation measures.

(*e*) Maintaining individual medical equipment.

(*f*) Providing advanced or special first aid training throughout the command.

(*g*) Using host country or allied medical resources and capabilities when available.

(2) Host country medical resources are normally limited, particularly in villages and hamlets remote from cities and population centers. Medical assistance is provided by the medical civic action program. When hospitalization is required, arrangements are made to transfer patients to a provincial hospital. U.S. medical civic action teams are capable of assisting in the training of local military personnel and civilians to qualify them as medical technicians and village health workers. Local national medical personnel should be encouraged to extend public health services to rural areas if feasible. These personnel may wish to work side by side with U.S. medical civic action teams in providing medical support to the rural populace. The presence of host country medical teams in the villages and hamlets may be a psychological stimulus to the rural population in encouraging their loyalty to the national government. Where possible, air transportation will be used to move these teams. Local security forces may be required for their protection.

c. Rear area protection operations during internal defense and internal development operations are critical. In an internal defense situation, the enemy attempts to reduce the effectiveness of operational and logistic bases; therefore, local defensive military measures required to nullify or reduce the consequences of enemy actions against a base must be employed to insure that the maximum capability of facilities are available to friendly forces. The defensive measures employed should provide a security system capable of deterring or defeating attack and reducing infiltration and sabotage threats. The very nature of an insurgency may require use of combat units as well as combat support and combat service support units in a base defense role. Details on rear area protection are included in paragraphs 6–33 through 6–39.

13–17. Treatment of Prisoners

a. Article 3, common to each of the four 1949 Geneva Conventions, specifically deals with conflicts not of an international character. This article requires that prisoners be treated humanely and forbids violence to life and person, such as murder, mutilation, and torture. It likewise forbids the taking of hostages, the commitment of outrages upon personal dignity, and the passing of sentence and carrying out of executions without due process of law. Additional details are contained in FM 27–10 and FM 100–20.

b. In conflicts of an international character, all the laws of land warfare are applicable, including the provisions of the Hague Regulations of 1907 and the 1949 Geneva Convention Relative to the Treatment of Prisoners of War. In this connection, all captured persons who qualify under Article 4 of the Prisoner of War Convention are entitled to treatment as prisoners of war.

Section V. CIVIL AFFAIRS

13–18. General

In internal defense operations, one of the primary tasks is to stabilize the political situation. This involves obtaining civil support for the government and denying this support to the insurgents. Effective military-civil relations are of critical importance. They can materially assist programs designed to separate the insurgent from the people or eliminate the insurgent organization before it attains a

capability for armed attack or area control. CA activities are designed to enhance military-civil relations. CA may be limited to the simplest form of advisory effort to assist host country military forces in gaining the support of the people. At the other extreme, CA may include participation in functions of civil government that, for reasons of security, the host country civil authorities cannot do themselves. U.S. military personnel may provide advice on planning and conducting military civic action programs in support of the host country's internal development plan. U.S. Army forces may participate actively in populace and resources control operations to deny men and materials to the insurgent organization and channel them to active use by the legitimate government. This diversity of possible missions and relationships requires corresponding flexibility in organization, planning, and operational concepts for U.S. Army elements. The CA aspects of any U.S. commander's internal defense mission must be thoroughly analyzed to insure that he is provided the capability for conducting CA activities appropriate to his mission.

13-19. Planning

a. CA plans for internal defense and internal development assistance undertaken by U.S. Army forces in a host country must be based on coordinated U.S. military and civilian objectives and policies established at the highest levels of government.

b. CA planning should commence at the time the decision is made to provide a friendly country with military assistance, and a CA annex should be part of every internal defense plan. In countries where U.S. military assistance advisory groups or military missions are present, a CA officer should be provided as a principal member of the U.S. staff. Experience has proved that realistic CA planning and policy recommendations are essential to any program that will effectively assist a nation beset by internal defense problems. When latent or incipient insurgency is recognized, initial U.S. planning should give priority consideration to development of PSYOP and military civic action programs compatible with the host country's internal development program. These programs should be instituted by the host country's agencies in time to prevent the insurgents from gaining control of segments of the population or enclaves of the country's territory.

c. The possibility of employment of U.S. Army forces in the host country requires that draft CA agreements be prepared in advance so that they can be negotiated without delay as the need for such agreements arises. These agreements must consider political as well as military aspects of the operation. The most propitious time for negotiating these agreements is before the entry of U.S. troops into the area. This will reduce initial problems and difficulties arising from military-civil relationships. The draft CA agreements will provide a basis for detailed CA planning and U.S. military operations in the host country. Additionally, for commanders to formulate operational plans, adequate political, economic, sociological, and military intelligence of the area must be made available. The CA agreements should not preclude the gathering of this information.

13-20. Operations

a. CA operations are characterized by the fundamental concept of control of policy at the highest practical level, coupled with integration of the military and civilian effort at the lowest echelon feasible. In an insurgency situation, there is usually lack of stability and viability at the lower levels of government. In the advanced stages of insurgency, this lack of stability and viability may reach into the middle echelons of government. The host country military forces must provide at least minimal governmental services in the territory that they secure.

b. Commanders will take full advantage of opportunities to further national and host country policies and objectives through proper civil-military relationships between the local indigenous population as well as between the U.S. and host country military personnel. U.S. national and host country objectives can be achieved best by insuring that the demands made on the people are humane and just and by alleviating suffering.

c. When populace and resources controls are established, a vigorous civil information pro-

gram must be used to show that these actions are necessary to the success of the host country's effort to eliminate the insurgency, that control measures are of a temporary nature, that the resulting restrictions are the minimum possible, and that they will be discontinued as soon as conditions permit.

d. The commander must make continuous appraisals of the attitudes of the population toward the individual soldier. Individuals must be cognizant of their responsibilities to demonstrate to the local population that they are well-trained, considerate, and resourceful soldiers, capable of performing assigned duties under any conditions and in any environment.

e. CA staff sections, units, and teams have the capability to advise or assist host country personnel in the entire range of governmental services, to include refugee control and civilian supply. CA personnel can provide the host country authorities with training and operational assistance in civic action and populace and resources control. These personnel can also act as local representatives of other U.S. Government agencies or can provide liaison for the commander with these agencies as well as with those of the host country. Detailed Army doctrine for the provision of governmental services is found in FM 41–10.

Section VI. PSYCHOLOGICAL OPERATIONS

13–21. General

PSYOP involve the planned use of communications through words, symbols, and actions to influence the behavior of selected target audiences in a way that supports the achievement of national objectives. In the context of an internal defense environment, the organizations directly concerned with the planned use of propaganda include the U.S. Information Service (USIS), the U.S. Army, and their host country counterparts. Other measures include political, economic, or social activities that contribute to the attainment of U.S. and host country objectives.

13–22. Planning and Coordination

The overall planning and coordination of the U.S. PSYOP program in an internal defense environment is the responsibility of the USIS. This responsibility includes that of joint U.S. and host country coordination, a requirement for the effective and efficient integration and employment of U.S. and host country PSYOP resources.

13–23. U.S. Army Participation

Within the broad framework of USIS guidance, U.S. Army PSYOP staffs and units have two primary missions—the development of a PSYOP capability within the armed forces of the host country and the direct support of U.S. forces. When within the in-country capabilities of U.S. Army PSYOP elements, requests for assistance and support from the USIS and any other U.S. department or agency also will be honored.

13–24. Conduct of PSYOP

a. PSYOP are a supporting means for internal defense and internal development operations and assistance. Their use must be considered and integrated into overall plans and operations in the same manner as that for other support.

b. A well-designed and well-executed PSYOP campaign can do much to enhance the impact of measures that have a favorable effect and minimize or mitigate those that have an adverse effect. Nevertheless, adverse effects of inconsistency between announced policies and subsequent actions cannot always be overcome. Provision must be made for coordination of the PSYOP effort within the overall internal defense effort down to operating levels of the host country. PSYOP staff representation at each level may be required for such coordination.

c. PSYOP messages and propaganda in support of internal defense are disseminated by the same media and facilities that are customarily employed in other types of warfare. U.S. Army PSYOP resources can provide for radio broadcasts, loudspeaker operations, films, tapes, and various printed material, as well as the operational control of such local facilities as radio stations, motion-picture theaters, and

newspaper plants. Together with the media and facilities that may be provided by the USIS and the host country, to include television, all the material required to conduct an effective PSYOP program should be available in any given host country. Items required and not locally available should be requested through the appropriate supply channels.

13–25. References

For detailed discussions on PSYOP, see FM 30–5, FM 31–23, FM 33–1, FM 41–10, and FM 100–20.

APPENDIX A

REFERENCES

(C) AR 10–122	United States Army Security Agency (U).
★AR 59–106/AFR 76.7	Operation of Air Force Terminals.
(C) AR 105–87	Electronic Warfare (U).
AR 310–25	Dictionary of United States Army Terms.
FM 1–15	Aviation Battalion, Group, and Brigade.
FM 1–40	Attack Helicopter Gunnery.
FM 1–60	Army Aviation Air Traffic Operations.
FM 1–100	Army Aviation Utilization.
★FM 3–1	Chemical, Biological, and Radiological (CBR) Support.
FM 3–10	Employment of Chemical Agents.
(C) FM 3–10B	Employment of Chemical Agents (U).
FM 3–12	Operational Aspects of Radiological Defense.
FM 3–50	Chemical Smoke Generator Units and Smoke Operations.
FM 5–1	Engineer Troop Organizations and Operations.
FM 5–15	Field Fortifications.
FM 5–26	Employment of Atomic Demolition Munitions (ADM).
FM 5–30	Engineer Intelligence.
FM 5–144	Engineer Amphibious Units.
FM 6–20–1	Field Artillery Tactics.
FM 6–20–2	Field Artillery Techniques.
FM 8–10	★Medical Support, Theater of Operations.
FM 8–15	Medical Support in Divisions, Separate Brigades, and the Armored Cavalry Regiment.
FM 11–20	Signal Operations, Theater of Operations.
FM 11–40	Signal Corps Pictorial Operations.
FM 17–1	Armor Operations.
FM 17–95	The Armored Cavalry Regiment.
FM 19–1	Military Police Support, Army Divisions and Separate Brigades.
FM 19–4	Military Police Support, Theater of Operations.
FM 19–50	Military Police in Stability Operations.
FM 20–32	Landmine Warfare.
FM 20–33	Combat Flame Operations.
FM 20–60	Battlefield Illumination.
FM 21–40	★Chemical, Biological, Radiological, and Nuclear Defense.
FM 21–50	Ranger Training and Ranger Operations.
(S) FM 21–77A	Joint Worldwide Evasion and Escape Manual (U).
FM 23–3	Techniques of Antitank Warfare.
FM 24–1	Tactical Communications Doctrine.
FM 27–10	The Law of Land Warfare.
FM 30–5	Combat Intelligence.

FM 30-9	Military Intelligence Battalion, Field Army.
FM 30-10	Terrain Intelligence.
FM 30-16	Technical Intelligence.
(S) FM 30-18	Intelligence Collection Operations, Intelligence Corps, U.S. Army (U).
FM 30-31	Stability Operations—Intelligence.
★FM 31-8	Medical Service in Joint Operations.
FM 31-10	Denial Operations and Barriers.
FM 31-11	Doctrine for Amphibious Operations.
FM 31-12	Army Forces in Amphibious Operations (The Army Landing Force).
FM 31-13	Battalion Landing Team (Amphibious).
FM 31-16	Counterguerrilla Operations.
FM 31-18	Long-Range Reconnaissance Ranger Company.
FM 31-20	Special Forces Operational Techniques.
FM 31-21	Special Forces Operations.
(S) FM 31-21A	Special Forces Operations—U.S. Army Doctrine. (U).
FM 31-22	U.S. Army Counterinsurgency Forces.
(S) FM 31-22A	U.S. Army Counterinsurgency Forces (U).
FM 31-23	Stability Operations—US Army Doctrine.
FM 31-25	Desert Operations.
★FM 31-35	Jungle Operations.
(C) FM 31-40	Tactical Cover and Deception (U).
FM 31-50	Combat in Fortified and Built-Up Areas.
FM 31-60	River-Crossing Operations.
FM 31-71	Northern Operations.
FM 31-72	Mountain Operations.
FM 31-75	Riverine Operations.
★FM 31-85	Rear Area Protection (RAP) Operations.
(S) FM 32-10	USASA Support of Army Tactical Operations (U).
(C) FM 32-20	Electronic Warfare (U).
FM 33-1	Psychological Operations—U.S. Army Doctrine.
FM 33-5	Psychological Operations—Techniques and Procedures.
FM 41-5	Joint Manual for Civil Affairs.
FM 41-10	Civil Affairs Operations.
FM 44-1	U.S. Army Air Defense Artillery Employment.
FM 44-1-1	U.S. Army Air Defense Artillery Operations.
FM 54-2	The Division Support Command and Separate Brigade Support Battalion.
FM 54-3	The Field Army Support Command.
FM 54-7	The Theater Army Support Command.
★FM 55-40	Army Combat Service Support Air Transport Operations.
FM 57-1	U.S. Army/U.S. Air Force Doctrine for Airborne Operations.
FM 57-35	Airmobile Operations.
FM 61-100	The Division.
FM 100-10	Combat Service Support.
FM 100-15	Larger Units: Theater Army—Corps.
(C) FM 100-20	Field Service Regulations—Internal Defense and Development (IDAD) (U).
★FM 100-27	U.S. Army/U.S. Air Force Doctrine for Tactical Airlift Operations.
FM 101-5	Staff Officers' Field Manual—Staff Organization and Procedure.
FM 101-10-1	Staff Officers' Field Manual—Organizational, Technical, and Logistica Data (Unclassified Data).

FM 101–10–2	Staff Officers' Field Manual—Organizational, Technical, and Logistical Data (Extracts of Tables of Organization and Equipment).
(S) FM 101–10–3	Staff Officers' Field Manual—Organizational, Technical, and Logistical Data (Classified Data) (U).

★INDEX

	Paragraph	Page
Airborne division (*See also division.*)	4–20*d*	4–6
Airborne operations:		
Assault	7–34	7–9
Characteristics	7–2	7–1
Classification	7–3	7–1
Command, control, and communications	7–22	7–6
Concepts of employment	7–4, 7–6, 7–15	7–1, 7–2, 7–5
Dispositions in objective area	7–36	7–9
Influence of enemy armor	7–18	7–6
Influence of friendly forces	7–19	7–6
Nuclear weapon effects	7–17	7–6
Operational considerations	7–9—7–21	7–3
Organization of forces	7–23	7–7
Planning and conduct	7–27—7–33	7–8
Support requirements	7–20	7–6
Types	7–2	7–1
Weather	7–26	7–8
Air defense:		
Allocation of means	10–21	10–5
Air superiority	10–4—10–6	10–1
Amphibious operations	9–5*b*	9–2
Army participation in air superiority	10–7—10–11	10–3
Artillery, air defense	4–29	4–9
Coordination	10–17	10–5
Determination of priorities	10–21	10–5
Means	10–13	10–3
Mission	10–12*a*	10–3
Organizational requirements	10–14	10–4
Planning	10–19, 10–20	10–5
Standing operating procedures	10–22	10–5
Air force support	4–11*d*	4–3
Airlift forces	7–7—7–10	7–2
Amphibious operations:		
Application of the principles of war	8–5—8–14	8–2
Combat service support	8–4*e*	8–2
Concepts of employment	8–3, 8–4	8–1
Intelligence	8–4*a*	8–1
Air movement plan	7–31	7–9
Air movement support	7–11—7–13	7–4
Air reconnaissance	4–34*l*	4–12
Air traffic regulation	10–23, 10–24	10–6
Amphibious operations:		
Airborne ship-to-shore movement	9–18*d*	9–7
Combat service support	9–21—9–25	9–7
Command	9–6	9–2
Concept of operations	9–4	9–1
Definition	9–2*a*	9–1
Fire support coordination	9–10	9–3
Force requirements	9–3	9–1
Intelligence	9–12, 9–13	9–4
Landing force	9–8	9–3

	Paragraph	Page
Amphibious operations—Continued		
Phases	9–5	9–2
Plans and operations	9–14—9–20	9–4
Purpose	9–2*b*	9–1
Subordinate forces, formation of	9–9	9–3
Termination	9–11	9–4
Training	9–15	9–6
Area damage control	6–35	6–22
Area defense	6–21*b*	6–14
Area theater of operations	2–4	2–2
Armor:		
Defense against	6–25	6–17
Desert operations	6–45	6–26
Function	4–26	4–7
Show of force	12–14*b*	12–4
Armored division	4–20*c*	4–5
Army field forces:		
Army group, field army and corps	4–17—4–19	4–4
Combat elements	4–23—4–26	4–7
Combat service support	4–36—4–41	4–13
Combat service support commands	4–22	4–6
Combat support elements	4–27—4–35	4–8
Division	4–20	4–5
Employment	4–4	4–1
Missile command	4–21	4–6
Multicapability	4–15	4–4
Mutual support	4–11	4–3
Organization	4–13—4–22	4–4
Roles	1–17	1–6
Theater organization	4–5—4–12	4–1
Artillery:		
Air defense	4–29	4–9
Field	4–28	4–9
Attack (*See also* offensive operations.):		
Considerations	6–8	6–6
Encirclement	6–9*c*(3)	6–7
Envelopment	6–9*c*	6–7
Execution	6–13	6–9
Exploitation	6–17	6–12
Frontal attack	6–9*b*	6–6
Infiltration	6–10	6–7
Meeting engagement	6–14	6–10
Movement to contract	6–15	6–11
Night combat	6–11	6–7
Penetration	6–9*a*	6–6
Planning	6–12	6–8
Pursuit	6–18	6–13
Reconnaissance in force	6–16	6–11
Spoiling	6–26*d*	6–17
Turning movement	6–9*c*(2)	6–7
Aviation:		
Air reconnaissance	4–34*k*	4–12
Air traffic regulation	4–24, 10–23	4–1 ,10–6
Army	4–32	4–10
Axis of advance	5–18*c*(6)	5–6
Barriers:		
Denial operations and barriers	5–24	5–9
Toxic biological, chemical munitions	6–6*b*(2), (8), 6–24*f*	6–4, 6–5, 6–17
Barrier plans in defense	6–24*g*	6–17
Battlefield illumination	5–27, 6–11*b*	5–11, 6–8

	Paragraph	Page
Battle, purpose	6-2	6-1
Biological and chemical munitions	5-13c(4), 6-6, 6-24f	5-3, 6-4, 6-17
Boundaries	5-18c(5)	5-6
Built-up areas	6-42	6-24
Cavalry	4-26c	4-8
Chain of command	3-8—3-11	3-4
Characteristics of military forces	1-13	1-3
Checkpoints	5-18c(4)	5-6
Chemical combat support	4-33	4-10
Civil affairs:		
Capabilities and limitations	5-21b	5-7
Civilian population	11-10	11-2
Mutual support	4-11b	4-3
Operations	5-21	5-7
Stability operations	13-18—13-20	13-7
Support of the field army	5-21c	5-7
Support of UW operations	5-21d	5-7
Civil Reserve Air Fleet	7-8—7-10	7-3
Civilian resources	4-12c	4-4
Climate	5-17	5-5
Cold war:		
Basic considerations	12-6—12-9	12-2
Characteristics	12-2	12-1
Definition	1-9	1-2
Employment of military forces	1-15b, 12-13—12-18	1-4, 12-4
Forces capabilities and requirements	12-4	12-1
Intelligence and security	12-10—12-12	12-3
Joint and combined operations	12-7	12-2
Missions	12-5	12-1
Role of US land forces	1-17a	1-6
US forces participation	12-3	12-1
Combat elements functions:		
Armor	4-26	4-7
Cavalry	4-26c	4-8
Infantry	4-25	4-7
Combat intelligence (*See also* intelligence.)	4-34a	4-11
Combat power:		
Related factors	5-14—5-19	5-4
Subsidiary and supporting operations	5-20—5-27	5-7
Combat service support:		
Airborne operations	7-39—7-49	7-10
Amphibious operations	9-21—9-25	9-7
Commands	4-22	4-6
Description	4-36b	4-14
Elements	4-36—4-39	4-13
Environmental considerations	4-40	4-15
Joint and combined operations	3-29	3-5
Unconventional warfare	11-22	11-5
Combat support elements:		
Air defense artillery	4-29	4-9
Army aviation	4-32	4-10
Chemical	4-33	4-10
Engineer	4-31	4-10
Field artillery	4-28	4-9
Long-range patrols	4-34p	4-13
Intelligence	4-34	4-11
Signal	4-30	4-10
Special forces	4-35	4-13

	Paragraph	Page
Combat surveillance	4-34*n*	4-13
Command:		
Authority	3-2	3-1
Continuity of	3-11	3-2
Definition	3-1	3-1
Joint and combined operation	3-25—3-29	3-5
Commander	3-1—3-7	3-1
Command and staff:		
Staff functions	3-13	3-2
Staff relationships	3-12—3-15	3-2
Communications and electronics security	4-34*g*	4-12
COMMZ, organization of	4-10	4-3
Coordination and control	5-18	5-5
Corps:		
Airborne	7-23	7-7
Organization	4-19	4-5
Counterattack	6-22, 6-24*e*, 6-26*f*	6-15, 6-16, 6-18
Counterguerrilla operations	5-15*e*	5-4
Counterintelligence (*See also* intelligence.)	4-34*g*	4-12
Counterreconnaissance	4-34*m*	4-12
Cover and deception	5-25	5-10
Deception	5-25, 6-53*k*	5-10, 6-30
Decisionmaking	3-16—3-20	3-3
Defense against airborne and airmobile attack	6-37	6-22
Defense against guerrillas	6-39	6-23
Defense against infiltration	6-38	6-23
Defense operations:		
Against armor	6-25	6-17
Areas	6-23	6-15
Considerations	6-20	6-13
Execution	6-26	6-17
Forms	6-21	6-14
Maneuvers	6-22	6-15
Planning	6-24	6-16
Purpose	6-19	6-13
Reserve	6-23*d*	6-15
Delaying action	6-28*b*, 6-31	6-19, 6-20
Denial operations	5-24*b*	5-9
Desert	6-45	6-26
Deterrence	1-14*a*(1), 1-17*a*(2)	1-4, 1-6
Direction of attack	5-18*c*(7)	5-6
Divisions:		
Airborne	4-20*d*, 7-20	4-6, 7-6
Airmobile	4-20*e*	4-6
Armored	4-20*c*	4-5
Infantry	4-20*a*	4-5
Mechanized infantry	4-20*b*	4-5
Electronic warfare	4-34.1, 5-23, 6-53*l*	4-13, 5-9, 6-31
Employment of military forces	1-15	1-4
Engineer:		
Capabilities in cold war situations	12-14*d*	12-4
Combat support	4-31	4-10
Encirclement	6-9*c*(3)	6-7
Envelopment	6-9*c*	6-6

	Paragraph	Page
Evacuation	7-43	7-11
Evasion and escape	11-24	11-6
Exploitation (*See also* offensive operations.)	6-17, 6-55	6-12, 6-31
Field artillery	4-28	4-9
Field forces:		
Definition	4-1	4-1
Employment	4-4	4-1
Territorial organization	4-8	4-1
Field army:		
Organization	4-18	4-5
Fires:		
Fire and maneuver	6-3*d*	6-2
Nuclear fires at night	6-11*c*	6-8
Planning	6-12*f*	6-9
Types	5-13*c*	5-3
Fire coordination line	5-18*c*(9)	5-6
Fire support coordination line	5-18*c*(8)	5-6
Fire support	5-13	5-2
Fortified areas	6-41	6-24
Forward defense area	6-23*a*, *c*	6-15
Frontal attack	6-9*b*	6-6
General war (*See also land forces.*)	1-11, 1-17*c*	1-3, 1-7
Ground tactical plan	7-29	7-8
Group, army	4-17	4-4
Guerrilla warfare:		
Combat service support	11-22	11-5
Communications	11-21	11-5
Coordination with conventional forces	11-17	11-4
Defense against guerrillas	6-39	6-23
Definition	11-13*a*	11-3
Demobilization	11-23	11-5
Fire coordination	11-19	11-4
Influence on airborne operations	7-19, 7-36*c*	7-6, 7-10
Missions	11-18	11-4
Popular opinion	11-14	11-3
Reinforcement	11-20	11-5
Special forces	11-16	11-4
Spontaneous resistance	11-15	11-3
Incapacitating agents	6-6*b*(2)	6-4
Infiltration (*See also* offensive actions.)	6-10, 6-38	6-7, 6-23
Infantry division (*See also* divisions.)	4-20*a*	4-5
Initiative	3-10	3-2
Intelligence:		
Air intelligence	4-34*i*	4-12
Air reconnaissance	4-34*l*	4-12
Amphibious operations	9-12, 9-13	9-4
Combat intelligence	4-34*a*	4-11
Combat surveillance	4-34*n*	4-13
Counterintelligence and communication and electronic security	4-34*g*	4-12
Counterreconnaissance	4-34*m*	4-12
Police intelligence	4-34*f*	4-11
Political and economic intelligence	4-34*c*	4-11
Reconnaissance	4-34*j*	4-12
Reconnaissance by fire or in force	4-34*k*	4-12
Signal intelligence	4-34.2	4-13
Strategic intelligence	4-34*b*	4-11
Target acquisition	4-34*h*	4-12

	Paragraph	Page
Intelligence—Continued		
Technical intelligence	4-34*d*	4-11
Terrain intelligence	4-34*e*	4-11
Interdiction	5-26	5-11
Joint operations:		
Airborne operations	7-4, 7-6, 7-25, 7-28—7-33	7-1, 7-2, 7-7, 7-8
Airspace coordination	10-3	10-1
Amphibious task force	9-7	9-3
Cold war situations	12-7	12-2
Command	3-25—3-29	3-5
Policy for combat service support	3-29	3-5
Staff	3-28	3-5
Theater (area) of operations	4-8	4-2
Unconventional warfare, coordination of	11-5	11-1
Jungle operations	6-44	6-25
Liaison	3-15	3-3
Land forces:		
Cold war	1-17*a*	1-6
General war	1-17*c*	1-7
Limited war	1-17*b*	1-6
Role (*See also* role of land forces.)	1-17	1-6
Landing force	9-8	9-3
Landing plan	7-30	7-9
Land power	1-16*b*	1-6
Leadership	3-3	3-1
Limited war (*See also* land forces.)	1-10, 1-17*b*	1-3, 1-6
Linkup	7-33, 7-38	7-9, 7-10
Local populations	2-5, 5-16	2-3, 5-5
Long-range patrols	4-34*p*	4-13
Maintenance	7-41	7-10
Maneuver:		
Defensive	6-22	6-14
Fire and maneuver	6-3*d*	6-2
Night	6-11	6-7
Offensive (*See also* attack.)	6-9	6-6
Marshaling plan	7-32	7-9
Mechanized infantry division (*See also* divisions.)	4-20*b*	4-5
Military police:		
Capabilities in cold war situations	12-14*h*	12-4
Military strategy	1-6	1-2
Missile command	4-22	4-6
Mission	3-18	3-4
Mobile defense	6-21*a*	6-14
Mobility	6-3*c*, 6-8*c*	6-2
Mountain operations	6-46	6-26
Movement to contact (*See also* offensive operations.)	6-15	6-11
Multicapability	1-15*b*(2), 4-15	1-4, 4-4
Mutual support	4-11	4-3
National objectives	1-3, 1-5	1-1, 1-2
National policy	2-3	2-1
National strategy	1-4, 1-5	1-2
Nature of conflict	1-7—1-11	1-2
Naval support	4-11*c*	4-3
Night maneuver	6-11	6-7
No-fire line	5-18*c*(10)	5-6
Nuclear-nonnuclear operations	6-3, 6-53—6-56	6-1, 6-30

	Paragraph	Page
Nuclear weapons:		
Denial of	6-3*k*	6-3
Scales of use	6-4	6-4
Objectives	5-18*c*(1), 6-13*c*, 7-35	5-5, 6-10, 7-9
Offensive operations:		
Considerations	6-8	6-6
Execution	6-18	6-9
Exploitation	6-17	6-12
Infiltration	6-10	6-7
Maneuver	6-9	6-6
Meeting engagement	6-14	6-10
Movement to contact	6-15	6-11
Night combat	6-11	6-7
Planning	6-12	6-8
Pursuit	6-18	6-13
Reconnaissance in force	6-16	6-11
Operational environment:		
(Area) of operations (theater)	2-4	2-2
Basic considerations	2-2	2-1
Combat service support	4-40, 4-41	4-15
Local governments and populations	2-5	2-2
National policy	2-3	2-1
Nuclear and nonnuclear operations	6-3—6-6	6-1
Opposing forces	2-6	2-2
Stability operations	13-5	13-2
Weapons systems, influence of	2-7	2-3
Organization:		
Air defense	10-14	10-4
Airlift forces	7-7, 7-8	7-2, 7-3
Airborne division	4-20*d*	4-6
Airmobile division	4-20*e*, 7-24*a*	4-6, 7-7
Air-portable	7-24	7-7
Armored division	4-20*c*	4-5
Army group	4-17	4-4
Combat service support commands	4-22	4-6
Combat service support elements	4-36—4-41	4-13
Combat zone	4-9	4-3
COMMZ	4-10	4-3
Corps	4-19	4-5
Division	4-20	4-5
Field army	4-18	4-5
Infantry division	4-20*a*, 7-24*b*	4-5, 7-7
Mechanized infantry division	4-20*b*	4-5
Missile command	4-21	4-6
Territorial	4-3	4-1
Theater (area) of operations	4-5—4-12	4-1
Organization for combat	6-3*g*	6-2
Passage of lines	6-52	6-29
Penetration	6-9*a*	6-6
Phasing	5-18*c*(2)	5-5
Planning:		
Airborne, operations	7-27—7-33	7-8
Air defense	10-19	10-5
Amphibious operations	9-14	9-4
Civil affairs	13-19	13-8
Command	3-24	3-5
Defensive operations	6-24	6-16
Offensive operations	6-12	6-8
Principles of war	5-1—5-11	5-1
Airmobile application	8-5—8-14	8-2

	Paragraph	Page
Psychological operations:		
Stability operations	13–21—13–25	13–9
Support of CA operations	5–22*f*	5–8
Support of the field army	5–22*d*	5–8
Support of UW operations	11–6*a*	11–1
Pursuit (*See also* offensive operations.)	6–18	6–13
Ranger operations	6–49	6–29
Rear area protection	6–33—6–39	6–21
Reconnaissance	4–34*j*	4–12
Reconnaissance in force (*See also* offensive operations.)	4–34*k*, 6–16	4–12, 6–11
Relief in place	6–51	6–29
Reserve:		
Area defense	6–21*b*(1)	6–14
Attack	6–13*b*, *e*, *f*	6–9
Defensive areas	6–23*d*	6–15
Exploitation	6–17*e*	6–12
Mobile defense	6–21*a*(2)	6–14
Withdrawal	6–30*e*	6–20
Retirement	6–28*c*, 6–32	6–19, 6–20
Retrograde movements	6–27—6–32	6–18
Risk	5–19	5–7
Riverine operations	6–48	6–27
River lines	6–43	6–24
Role of land forces:		
Cold war	1–17*a*	1–6
General war	1–17*c*	1–7
Limited war	1–17*b*	1–6
Security area	6–23*a*, *b*	6–15
Ship-to-shore movement	9–17	9–6
Shore party	9–25	9–8
Signal combat support	4–30	4–10
Snow and extreme cold operations	6–47	6–27
Special forces	4–35, 7–21, 11–16	4–13, 7–6, 11–4
Spectrum of war	1–8	1–2
Spoiling attack	6–22*b*	6–15
Stability operations:		
Civil affairs	13–18—13–20	13–7
Combat service support	13–14—13–17	13–5
Concept of operations	13–4	13–2
Command and staff relationships	13–9	13–4
Definition	13–2	13–1
Employment of forces	13–6—13–9	13–3
Intelligence	13–10—13–13	13–5
Operational environment	13–5	13–2
Principles	13–3	13–1
Psychological operations	13–21—13–25	13–9
Treatment of prisoners	13–17	13–7
Staff for joint and combined operations	3–28	3–5
Staff functions	3–14	3–3
Staff relationships	3–14	3–3
State department	4–12*a*	4–3
Strategic air movement	7–11—7–13	7–4
Strategic intelligence	4–34*b*	4–11
Subversion	11–25, 11–26	11–6
Supply	7–40	7–10
Tactical cover and deception	5–25	5–10
Target acquisition	4–34*h*	4–12

	Paragraph	Page
Technical intelligence	4–34*d*	4–11
Terrain	5–15	5–4
Theater (area) of operations organization:		
Air defense	10–14	10–4
Combat zone	4–9	4–3
COMMZ	4–10	4–3
Considerations	4–6	4–2
Principles	4–7	4–2
Subordinate commands	4–8	4–2
Toxic biological and chemical operations	6–5	6–4
Transportation	7–42	7–11
Turning movement	6–9*c*(2)	6–7
Unconventional warfare:		
Basic considerations	11–7—11–10	11–1
Conduct of operations	11–3—11–6	11–1
Coordination	11–17	11–4
Evasion and escape	11–24	11–6
Guerrilla warfare	11–13—11–23	11–3
Special forces	11–16	11–4
Subversion	11–25, 11–26	11–6
US information agency	4–12*b*	4–4
Vulnerability	5–19	5–7
Warning, nuclear strike	6–31	6–20
Weapon systems	2–7	2–3
Weather	5–17, 7–6, 9–12	5–5, 7–2, 9–4
Withdrawal	6–28*a*, 6–30, 7–37	6–19, 7–10

★ U.S. GOVERNMENT PRINTING OFFICE : 1971 460-804/3180