

# Joint Pub 4-01.1



## Joint Tactics, Techniques and Procedures for Airlift Support to Joint Operations

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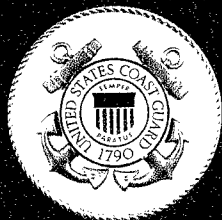


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20 July 1996



## PREFACE

### 1. Scope

This publication specifies joint tactics, techniques, and procedures (JTTP) for the planning and employment of airlift to support joint operations. It covers the authority and responsibilities of combatant commanders, subordinate joint force commanders, component commanders, and all agencies involved in the deployment and sustainment of a joint force across the range of military operations. It provides guidance for the request, apportionment, and use of this support during the deliberate or crisis action planning and implementation processes. This publication focuses primarily on strategic, common-user airlift.

### 2. Purpose

This publication has been prepared under the direction of the Chairman of the Joint Chiefs of Staff. It sets forth doctrine and selected tactics, techniques, and procedures to govern the joint activities and performance of the Armed Forces of the United States in joint operations and provides the doctrinal basis for US military involvement in multinational and interagency operations. It provides military guidance for the exercise of authority by combatant commanders and other joint force commanders and prescribes doctrine and selected tactics, techniques, and procedures for joint operations and training. It provides military guidance for use by the Armed Forces in preparing their appropriate plans. It is not the intent of this publication to restrict the authority of the joint force commander (JFC) from organizing the force and executing the mission in a manner the JFC

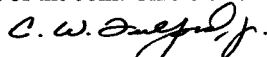
deems most appropriate to ensure unity of effort in the accomplishment of the overall mission.

### 3. Application

a. Doctrine and selected tactics, techniques, and procedures and guidance established in this publication apply to the commanders of combatant commands, subunified commands, joint task forces, and subordinate components of these commands. These principles and guidance also may apply when significant forces of one Service are attached to forces of another Service or when significant forces of one Service support forces of another Service.

b. The guidance in this publication is authoritative; as such, this doctrine (or JTTP) will be followed except when, in the judgment of the commander, exceptional circumstances dictate otherwise. If conflicts arise between the contents of this publication and the contents of Service publications, this publication will take precedence for the activities of joint forces unless the Chairman of the Joint Chiefs of Staff, normally in coordination with the other members of the Joint Chiefs of Staff, has provided more current and specific guidance. Commanders of forces operating as part of a multinational (alliance or coalition) military command should follow multinational doctrine and procedures ratified by the United States. For doctrine and procedures not ratified by the United States, commanders should evaluate and follow the multinational command's doctrine and procedures, where applicable.

For the Chairman of the Joint Chiefs of Staff:



CARLTON W. FULFORD, JR.  
Major General, USMC  
Vice Director, Joint Staff

Preface

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## EXECUTIVE SUMMARY COMMANDER'S OVERVIEW

- **Discusses Airlift Support to Joint Military Operations**
- **Explains Requirements for Common-User Airlift**
- **Outlines the Organization and Command and Control of Strategic Airlift**
- **Describes the Planning Process for Airlift Operations**
- **Discusses Airland and Airdrop Operations**

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### Airlift Support to Joint Military Operations

*Airlift supports US national strategy by rapidly transporting personnel and materiel to and from or within a theater.*

Airlift operates across the range of military operations performing **six broad tasks**: deployment, employment, redeployment, sustainment, aeromedical evacuation (AE), and military operations other than war, such as foreign humanitarian assistance and noncombatant evacuation operations. **Airlift is a cornerstone of global force projection.** It provides the means to rapidly deploy and redeploy forces, on short notice, to any location worldwide. **Airlift's characteristics** — speed, flexibility, range, and responsiveness — complement other US mobility assets. The United States operates **three distinct airlift forces**; intertheater or strategic, theater or intratheater, and organic airlift forces. Airlift delivery is accomplished by **two basic modes**, airland or aerial delivery. **Airland** is the most frequently used delivery method and encompasses all situations where personnel and cargo are unloaded and off-loaded while the aircraft is on the ground. **Aerial** delivery includes all methods of delivering personnel, equipment, and supplies from an airborne aircraft.

### Airlift Tactics and Sources of Airlift Forces

*Mission commanders develop and coordinate mission tactics.*

The **selection of appropriate tactics for an airlift mission** may be influenced by user requirements, destination characteristics, weather, terrain, threats, the availability of air and ground support assets, and a host of other factors. **Airlift support to joint operations may come from several sources**, including active military forces, Reserve component military forces, civil air carriers under contract to the Air Mobility

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Command (AMC), the Civil Reserve Air Fleet (CRAF) when activated, and multinational contributions and foreign civil carriers, either donated or under contract.

### Command and Control of Airlift Forces

*Airlift command and control is based on the principle of centralized control and decentralized execution.*

Through **centralized control**, commanders provide guidance and organization to the airlift effort. **Decentralized execution** provides flexibility for subordinate commanders to use initiative in accomplishing their missions. To be fully effective, this method of control and execution requires flexible, responsive, secure, interoperable, and survivable command and control systems.

The **Service Secretaries** organize, train, equip, and provide organic airlift forces to support their respective Service functions. The **Secretary of the Air Force** organizes, trains, equips, and provides common-user airlift forces to support all the Military Services, other DOD components, and US Government agencies. The **Secretary of Defense** directs the assignment of these common-user airlift forces to the Commander in Chief, US Transportation Command (USCINCTRANS) and other combatant commanders.

### Coordination with Joint Air Operations

*Close liaison and coordination among all airspace users is necessary to promote timely and accurate information flow to airspace managers.*

Coordination and integration of airlift operations within the theater airspace control system are essential to the successful execution of airlift missions. The **airspace control authority** prepares the **airspace control plan (ACP)** to establish procedures for the airspace control system in the joint force commander's area of responsibility or joint operations area. The ACP must be tied to the area air defense plan and must consider procedures and interfaces with the regional and international air traffic systems necessary to support air logistics. Because of the interrelationship of airspace control, air defense, and joint air operations, **airspace management should be planned and executed from the joint air operations center (JAOC) and the combined air operations center (CAOC)**. The JAOC and the CAOC contain Service and functional component liaison elements to coordinate and integrate airlift into joint operations.

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## Service and Non-DOD Requirements for Common-User Airlift

*Rather than each Service and non-DOD agency providing its own airlift, airlift is consolidated and tasked to support all organizations.*

The **Army** has the largest requirement for common-user airlift. In particular, Army light infantry, airborne, and air assault forces rely heavily on airlift for deployment, sustainment, employment, and redeployment. The **Navy** depends on common-user airlift to sustain forward deployed operations with personnel, materiel, and mail from the continental United States (CONUS) to overseas bases and forward logistic sites. **Marine forces** require common-user airlift for deployment into a theater as part of a maritime prepositioning force as an air contingency force or as a Marine expeditionary force afloat and/or ashore. Sustained Marine air-ground task force operations require strategic and intratheater common-user airlift support. Depending on the operation, the **Air Force** tends to be the second largest customer of common-user airlift. For deployment, Air Force unit aircraft self-deploy; however, unit support personnel and equipment require airlift to the destination with, or before, the deploying unit aircraft. **Special operations forces (SOF)** have specially configured aircraft dedicated to special operations. SOF are augmented by common-user airlift support. As a branch of the Armed Forces and a non-DOD agency, the **Coast Guard's** organic airlift is normally sufficient to satisfy its airlift requirements. **Other non-DOD agencies** use DOD airlift for activities such as noncombatant evacuation operations, counterdrug operations, foreign humanitarian assistance, and domestic support operations. Non-DOD agencies may use common-user airlift providing the DOD mission is not impaired.

## Organization and Command and Control of Strategic Airlift

*Strategic airlift is the key means to project combat forces long distances rapidly during the initial stages of a conflict.*

Strategic airlift forces are organized, trained, and equipped to deploy forces from CONUS to a theater or between theaters, sustain deployed forces, redeploy forces, conduct aeromedical evacuation operations, augment theater and/or special operations airlift capability, and conduct noncombatant evacuation. **United States Transportation Command (USTRANSCOM)** and its Air Force component, **AMC**, provide common-user strategic airlift for the Department Of Defense. USTRANSCOM is organized into three Transportation Component Commands—the Military Sealift Command, Military Traffic Management Command, and AMC.

**USCINCTRANS** exercises combatant command (command authority) of assigned common-user, CONUS-based airlift and aeromedical airlift forces. USCINCTRANS delegates operational control of these forces to the **Commander, AMC**,



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and the **Commander, Air Combat Command**, for their assigned forces.

### Strategic Airlift Considerations

*The successful movement of units by airlift demands extensive planning and coordination.*

**All commanders must plan the orderly movement to and from unit areas** and the efficient onload and off-load of aircraft. Strategic airlift planners use the Joint Operation Planning and Execution System (JOPES), an integrated command and control system, for deliberate and crisis action planning and execution. The combatant commander requests strategic airlift for the **deployment and redeployment** phases of an operation through the JOPES process. USTRANSCOM supports **sustainment operations** through channel service, military air express service, and special assignment airlift missions. When strategic airlift requirements strain or exceed capability, the Joint Transportation Board could be convened.

*Force tracking allows the geographic combatant commander to be flexible in response to changing situations.*

USTRANSCOM is responsible for tracking forces embarked on strategic lift. The **Global Transportation Network** integrates the automated movement systems used by the Services, Defense agencies, and USTRANSCOM to allow USTRANSCOM and its customers the ability to track unit movements and sustainment operations globally. The **CRAF** is designed to augment airlift capability. CRAF augments airlift capability with US civil aircraft, aircrews, and support structure during CRAF activation. The **interface between USTRANSCOM's and AMC's command and control system and the theater airlift command and control system** is important as it must not only provide information for transloading passengers and cargo, but it also must deconflict strategic airlift movements with other theater air movements. **AE** encompasses movement from the point of distress to the initial medical treatment facility and all ensuing levels of medical care. USCINCTRANS is the DOD manager for strategic AE and global medical regulating.

### Planning Airlift Operations

*Planning airlift operations is a complicated process involving numerous interdependent functions.*

**Airlift planners must be thoroughly familiar with each Service component's unique airlift capabilities as well as those of common-user airlift.** They must comprehend the nature of the threat to airlift and coordinate effective threat countermeasures. The entire airlift operation requires detailed planning, to include coordination of appropriate airspace control measures and communication procedures. **The following are general considerations for airlift planners:** airlift facilities, facility support forces, operation

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of aerial ports, onload and off-load operations, air base defense, joint airspace control, air corridors, intelligence, weather, threat, threat countermeasures, air refueling, and communications for deploying ground forces.

### Airland and Airdrop Operations

*In most situations, airland is the preferred method of airlift delivery.*

Airland delivery requires suitable airfields and relatively low threat levels. When planning airland operations, consideration should be given, but not limited, to the tactical situation; mission requirements; air direct delivery; and command, control, communications, computer, and intelligence interfaces within and among the Service components. Depending on the tactical situation, **planners may consider delivery of personnel and equipment by airdrop**. Aerial delivery planners should include consideration of the factors listed for airland operations, as well as those unique to airdrop operations. **Operations deep into enemy battlespace** require an extensive amount of time to plan and coordinate, as well as a high level of training. Planners should develop contingency plans to counter expected threats.

### CONCLUSION

This publication specifies joint tactics, techniques, and procedures for the planning and employment of airlift to support joint operations. It covers the authority and responsibilities of combatant commanders, subordinate joint force commanders, component commanders, and all agencies involved in the deployment and sustainment of a joint force across the range of military operations. It provides guidance for the request, apportionment, and use of this support during the deliberate or crisis action planning and implementation processes.

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# CHAPTER I

## AIRLIFT OVERVIEW

*“Operation DESERT SHIELD was the fastest build up and movement of combat power across greater distances in less time than at any other time in history. It was an absolutely gigantic accomplishment, and I can’t give credit enough to the logisticians and transporters who were able to pull this off.”*

**General H. Norman Schwarzkopf**

### 1. Purpose

This chapter contains an overview of US airlift support to joint military operations. It describes the importance of airlift to US national strategy, defines the methods for categorizing airlift, describes the airland and aerial delivery methods of employing airlift, lists sources of airlift forces, describes the overall command and control relationships for airlift, and covers user requirements for airlift.

### 2. Importance of Airlift

Airlift supports US national strategy by rapidly transporting personnel and materiel to and from or within a theater. It operates across the range of military operations performing **six broad tasks**; deployment, employment, redeployment, sustainment, aeromedical evacuation (AE), and military operations other than war (MOOTW), such as foreign humanitarian assistance and noncombatant evacuation operations. **Airlift is a cornerstone of global force projection.** It provides the means to rapidly deploy and redeploy forces, on short notice, to any location worldwide. Within a theater, airlift employment missions can be used to transport forces directly into combat. To maintain a force’s level of effectiveness, airlift sustainment missions provide resupply of high-priority equipment, personnel, and supplies. Finally, airlift supports the movement of patients to treatment facilities and noncombatants to safe havens. Airlift’s characteristics — **speed, flexibility, range,**

and **responsiveness** — complement other US mobility assets.

### 3. Categories of Airlift

Airlift moves forces and establishes air lines of communications between bases, as required, to sustain joint operations. The ability to plan and conduct such operations successfully begins with a clear understanding of the **continuities and differences between the various airlift forces** that comprise the military airlift fleet of the United States.

a. **The United States operates three distinct airlift forces**, shown in Figure I-1 and described below.

- **Intertheater or strategic** airlift forces, under the combatant command (command authority) of Commander in Chief, US Transportation Command (USCINCTRANS), primarily provide common-user airlift into, within, and out of theater bases from outside the theater. As a common-user force, strategic airlift is available to all authorized users including the Military Services, the combatant commands, other DOD components, other US Government agencies, and, if requested by a US agency, foreign governments.
- **Theater or intratheater** airlift forces, under the combatant command (command authority) of designated geographic combatant commanders,

## THREE DISTINCT AIRLIFT FORCES

- Intertheater, or strategic, airlift forces under the combatant command (command authority) of the Commander in Chief, US Transportation Command
- Theater, or intratheater, airlift forces under the combatant command (command authority) of the geographic combatant commanders
- Organic airlift forces primarily providing specialized lift to specific users

Figure I-1. Three Distinct Airlift Forces

primarily provide common-user lift within theaters to the same array of users served by strategic airlift.

Commanders of forces containing organic airlift elements prioritize their requirements and capabilities to subordinate units.

- **Organic** airlift forces primarily provide specialized lift to specific users. Normally, these forces exist as elements of Service or component aviation arms and are assigned directly to their primary user organizations. These forces, if assigned to a combatant command, operate under the combatant command (command authority) of that combatant commander.

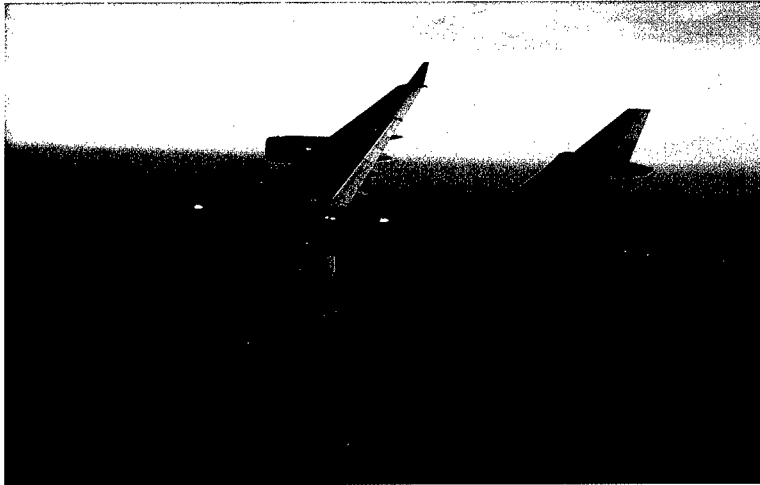
b. **These airlift forces are distinguished most clearly by the systems within which they operate.** Strategic lift is provided in response to requests from the Services and combatant commands and in accordance with guidelines set by the National Command Authorities (NCA). Geographic combatant commanders and other subordinate joint force commanders (JFCs) apportion and prioritize the capabilities of theater airlift forces under their command or control, primarily in response to their operational requirements.

#### 4. Methods of Employment

**Airlift delivery is accomplished by two basic modes, airland or aerial delivery.** The delivery method is based on (1) user requirements; (2) availability, adequacy and security of airfields, assault zones, and drop zones near the objective area; and (3) aircraft capability.

a. **Airland is the most frequently used delivery method.** It permits delivery of larger loads with less risk of cargo loss or damage than the airdrop method. **Airland operations encompass all situations where personnel and cargo are unloaded and off-loaded while the aircraft is on the ground.** Although crews normally accomplish off-loading from a stationary aircraft, procedures exist to combat off-load from moving aircraft when necessary to reduce ground time or when sufficient materials handling equipment (MHE) is not available.

## Airlift Overview



*As a common-user force, a wide variety of aircraft capability will be available to all authorized users.*

b. **Aerial delivery includes all methods of delivering personnel, equipment, and supplies from an airborne aircraft.** This enables commanders to **project combat power into areas lacking suitable or secure airfields.** Aerial delivery gives commanders the ability to capitalize on the element of surprise because of the speed of delivery and the vast number of potential objective areas where forces can be employed. However, the additional weight and space required for parachute rigging and cushioning material reduces the amount each aircraft can deliver.

The most common means of rigging equipment and supplies for airdrop are the **heavy equipment method, Container Delivery System, and door bundles.** For further information, see Joint Pub 3-17, "Joint Tactics, Techniques, and Procedures for Theater Airlift Operations."

### 5. Airlift Tactics

**The selection of appropriate tactics for an airlift mission** may be influenced by user requirements, destination characteristics,



*Airlift is the most frequently used delivery method, permitting delivery of larger loads with less risk of cargo loss or damage.*

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weather, terrain, threats, the availability of air and ground support assets, and a host of other factors. To the extent and in the detail necessary, **higher echelons should provide tactical guidance** to the airlift mission commander as early as possible during planning. Within those guidelines, **mission commanders develop mission tactics and coordinate them**, as appropriate, up the chain of command and with other involved agencies or units.

### 6. Sources of Airlift Forces

**Airlift support to joint operations may come from several sources.**

- a. **Active Military Forces.**
- b. **Reserve Component Military Forces** (Air Force Reserve, Air National Guard, and Navy Reserve).
- c. **Civil air carriers** under contract to the Air Mobility Command.
- d. **The Civil Reserve Air Fleet (CRAF)** when activated.
- e. **Multinational contributions and foreign civil carriers**, either donated or under contract.

### 7. Command and Control of Airlift Forces

a. **Organization of Airlift Forces.** (See Figure I-2.) The **Service Secretaries** organize, train, equip, and provide organic airlift forces to support their respective Service functions. The **Secretary of the Air Force (SAF)** organizes, trains, equips, and provides common-user airlift forces to support all the Military Services, other DOD components, and US Government agencies. The **Secretary of Defense** directs the assignment of these common-user airlift forces to USCINCTRANS and other combatant commanders.

- **USCINCTRANS** exercises combatant command (command authority) (COCOM) over all continental United States (CONUS)-based, common-user C-5, C-17, KC-10, and C-141 aircraft; most KC-135 aircraft; some C-130 aircraft; and C-9 aeromedical evacuation airlift forces for rapid response to NCA requirements.
- **Geographic combatant commanders** (including the Commander in Chief, US Atlantic Command) exercise COCOM over assigned airlift forces, both common-user and Service organic. They normally exercise COCOM of theater-assigned common-user airlift and aeromedical evacuation through the Air Force component commander (AFCC); however, they may exercise COCOM through other subordinate commanders as specified in Joint Pub 0-2, "Unified Action Armed Forces (UNAAF)," Chapter IV.
- **Peacetime common-user airlift force assignment** is reflected in the Secretary of Defense's "Forces For Unified Commands" memorandum.

b. **Command and Control (C2).** Airlift C2 is based on the principle of centralized control and decentralized execution. Through **centralized control**, commanders provide guidance and organization to the airlift effort. **Decentralized execution** provides flexibility for subordinate commanders to use initiative in accomplishing their missions. To be fully effective, this method of control and execution requires flexible, responsive, secure, interoperable, and survivable command and control systems. **Command and control of airlift forces incorporates numerous basic functions**, including combat operations, logistics, combat plans, transportation, weather, aerial port operations, and intelligence. **Procedures for airlift command and control must be consistent**

## COMMON-USER AIRLIFT COMMAND RELATIONSHIPS

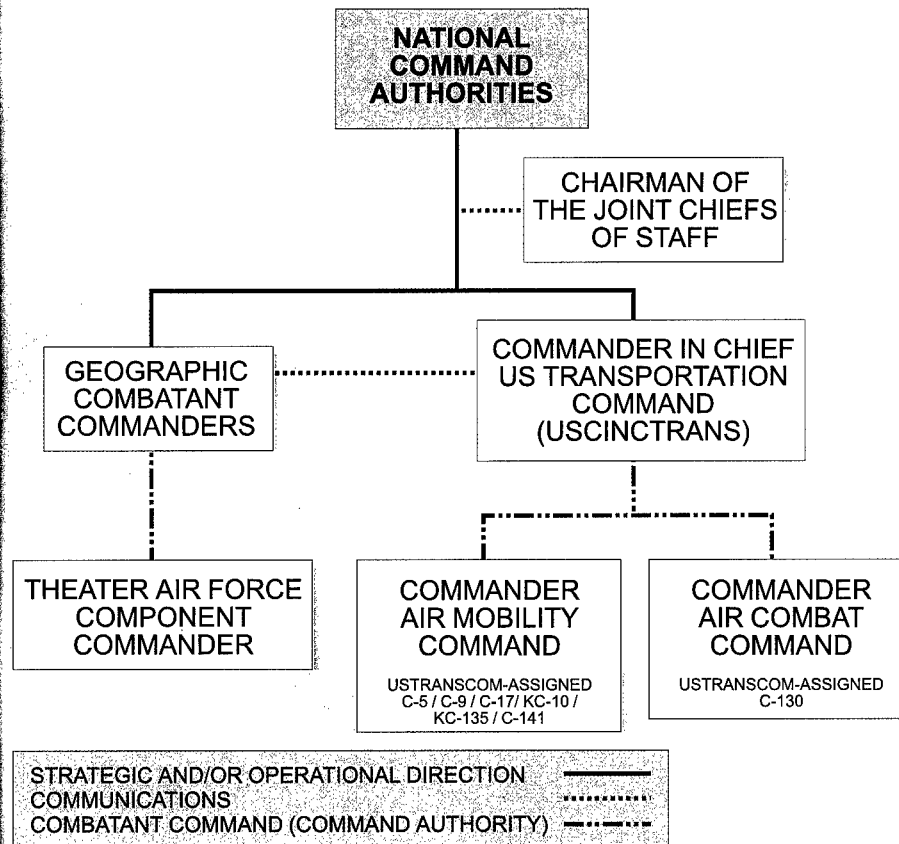


Figure I-2. Common-User Airlift Command Relationships

between theaters and across the range of military operations for both the strategic and intratheater airlift missions.

- Airlift command and control systems must be capable of operating under the most demanding conditions. This requirement dictates a **mix of fixed and mobile facilities**. Mobile command, control, and support elements must be available and properly equipped in peacetime to extend airlift systems to forward locations or increase the capacity of fixed facilities in times of crisis. These

systems must assure responsiveness to NCA tasking and effective use of airlift forces. They must also allow coordination between the supported and supporting commands, subordinate joint forces, and other Service and functional components for airlift operations in accordance with the Chairman of the Joint Chiefs of Staff (CJCS) planning guidance and various theater operation plans.

- USCINCTrans and the geographic combatant commanders are responsible for the organization and operation of their



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respective airlift command and control systems.

### 8. Coordination with Joint Air Operations

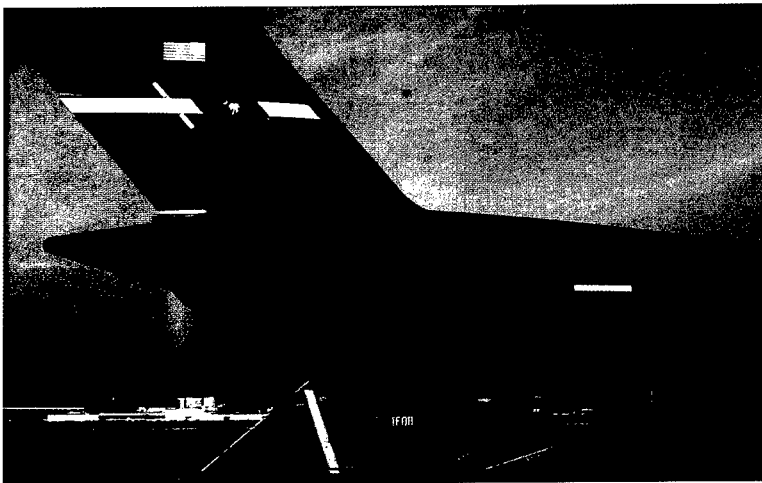
Coordination and integration of airlift operations within the theater airspace control system are essential to the successful execution of airlift missions. Close liaison and coordination among all airspace users are necessary in order to promote timely and accurate information flow to airspace managers. **The airspace control authority (ACA) prepares the airspace control plan (ACP) to establish procedures for the airspace control system in the JFC's area of responsibility (AOR) or joint operations area (JOA). The ACP must be tied to the area air defense plan and must consider procedures and interfaces with the regional and international air traffic systems necessary to support air logistics. Because of the interrelationship of airspace control, air defense, and joint air operations, airspace management should be planned and executed from the joint air operations center (JAOC) and the combined air operations center (CAOC). The JAOC and the CAOC contain Service and functional**

component liaison elements to coordinate and integrate airlift into joint operations. For additional information see Joint Pub 3-52, "Doctrine for Joint Airspace Control in the Combat Zone," and Joint Pub 3-56.1, "Command and Control for Joint Air Operations."

### 9. Service and Non-DOD Requirements for Common-User Airlift

Common-user airlift achieves an economy of force. Rather than each Service and non-DOD agency providing its own airlift, **airlift is consolidated and tasked to support all organizations.** The following highlights some of the airlift requirements of the various organizations that use common-user airlift.

a. **The Army.** Even though the Army has significant organic airlift assets, it still has the **largest requirement for common-user airlift.** In particular, Army light infantry, airborne, and air assault forces rely heavily on airlift for deployment, sustainment, employment, and redeployment. Once in the theater, light infantry and airborne forces continue to rely heavily on airlift. Air assault forces, on the other hand, due to their organic



*The Army, with an abundance of outsize and oversize cargo, has the largest requirement for common-user aircraft.*

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## Airlift Overview

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airlift capability, only require common-user airlift when engaged in heavy combat or employed outside their normal area of operation. Requirements for Army airdrops of forces range in size from a small team to a brigade.

b. **The Navy.** Sustainment and combat readiness of deployed naval forces depends on flexible and highly responsive strategic airlift support. Afloat naval forces normally serve as a force enabler and consequently **require the least amount of common-user airlift support.** However, the Navy depends on common-user airlift to sustain forward deployed operations with personnel, materiel, and mail from CONUS to overseas bases and forward logistic sites. Naval organic airlift then transports passengers, mail, and critical materiel from forward sites to underway forces. Although naval organic airlift satisfies some intratheater requirements, the Navy requires common-user airlift to augment this capability.

c. **The Marine Corps.** Marine forces require common-user airlift for deployment into a theater as part of a **maritime prepositioning force (MPF)** as an **air contingency force (ACF)** or as a **Marine expeditionary force afloat and/or ashore.** During MPF operations, Marine forces are airlifted to joint maritime prepositioned equipment at the off-load site. Additional fly-in echelons of personnel, equipment, and supplies are airlifted into theater to complete and sustain the force. The ACF requires strategic airlift of both personnel and equipment. Sustained **Marine air-ground task force** operations require strategic and intratheater common-user airlift support.

d. **The Air Force.** Depending on the operation, the Air Force tends to be the **second largest customer of common-user airlift.** For deployments, Air Force unit aircraft self-deploy; however, unit support personnel and equipment require airlift to the destination

with, or before, the deploying unit aircraft. The dedication of significant airlift assets to Air Force units may be required early in deployment operations. Air Force units normally deploy by unit type code and begin air operations shortly after arrival.

- Strategic airlift must be able to **rapidly deploy full squadron support packages** to include combat support elements, their equipment, and both initial and sustainment supplies.

- Airlift support forces normally **deploy early in an operation** to establish en route and destination support. This may consume a large portion of the first airlift missions.

e. **Special Operations Forces (SOF)**

- **SOF have specially configured aircraft dedicated to special operations.** These aircraft are not part of the common-user system and have limited capability to perform deployment, sustainment, and redeployment operations. **SOF are augmented by common-user airlift support.** Additionally, selected conventional airlift forces with specially trained aircrews and modified aircraft may augment SOF airlift capability.

- The Commander in Chief, United States Special Operations Command, obtains airlift by following the procedures in this publication and in Joint Pub 3-05, "Doctrine for Joint Special Operations."

f. **The Coast Guard.** As a branch of the Armed Forces and a non-DOD agency, **the Coast Guard operates a mixed fleet of fixed- and rotary-wing aircraft for organic airlift.** It is able to provide flexible and responsive strategic airlift but is limited by statutory priorities and a lack of strategic support facilities. **Its organic airlift is normally sufficient to satisfy Coast Guard**

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**airlift requirements.** Coast Guard strategic airlift is available to naval forces for wartime tasking. Non-wartime airlift may be requested from either the Commander, Atlantic Area or the Commander, Pacific Area, under title 31, United States Code (USC), sections 1535 and 1536.

**g. Other Non-DOD Agencies.** US Government agencies, such as the Department of State and the Drug Enforcement Administration, use DOD airlift for activities such as noncombatant evacuation operations, counterdrug operations, foreign

humanitarian assistance, and domestic support operations. **Non-DOD agencies may use common-user airlift, providing the DOD mission is not impaired.** The movement must be of an emergency, lifesaving nature, specifically authorized by statute, in direct support of the DOD mission, or requested by the Head of an Agency of the Government under title 31 USC 1535 and 1536. To obtain common-user airlift, non-DOD agencies submit requests in accordance with DOD Directive 4500.9, "Transportation and Traffic Management."

### VIETNAM: AIRLIFT'S COMING OF AGE

**Moving entire units across global distances, thereby impacting strategic force projection capability, is a fundamental concept of strategic airlift. It was during the Vietnam conflict that such concepts were proven feasible and operational. Following are three examples of major airlift operations during 1965-1968 that were key events in the history of the nation's airlift forces.**

#### BLUE LIGHT

**Operation BLUE LIGHT carried 2,952 troops and 4,749 tons of equipment of the 3rd Infantry Brigade, 25th Infantry Division, from Hickam AFB, Hawaii, direct to Pleiku, Vietnam, between 23 December 1965 and 23 January 1966. A mix of 88 C-141s, 126 C-133s, and 11 C-124s flew 231 missions and finished the deployment eight days early. It was the most massive airlift of US troops and equipment to date into a combat zone.**

**"This movement by air," said Secretary of Defense Robert S. McNamara, "was a striking demonstration of the Air Force's increased airlift capability as well as the professional skills of the Military Airlift Command." General Westmoreland, Commander of the US Forces in Vietnam, said in appraising Operation BLUE LIGHT, "This was the most professional airlift I've seen in all my airborne experience."**

**Several factors contributed to the success, but the most important was the joint training the 25th ID had been conducting with the 1502nd Air Transport Wing (renamed the 61st Military Airlift Wing—MAW) since 1962. Each organization was then familiar with the needs and procedures of the other. The earlier training used C-124s and some C-130s, so load plans and selection procedures had to be adjusted for the C-141s and C-133s and airlift expertise called in from 22nd Air Force and the 60th MAW. C-141s were new to the fleet and procedures were still being developed. Nonetheless, the on-scene workers persevered and succeeded.**

**This was the first operational test for the C-141, as well as the first deployment of combat-ready troops from home station to an offshore combat location.**

## Airlift Overview

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The decision to use a mix of C-141s for everything they could haul, plus the C-133s for outsized cargo, was a good one (the C-124s were used as replacements for prime aircraft only). The operation got airlift planners thinking about force mix and gave them a leg up for when the C-5A would come into the inventory. This decision was complicated by the question of safe operation into Pleiku AB. The 6,000-foot strip barely met C-141 operational standards, and its load-bearing capability for a sustained period was questionable. The decision to use the air base proved right—there were 240 landings without incident.

### EAGLE THRUST

By November of 1967 the strategic airlift system had matured sufficiently for a movement twice the size of BLUE LIGHT to succeed. In EAGLE THRUST, airlifters moved 10,024 troops and 5,357 tons of equipment of the 101st Airborne Division direct from Fort Campbell, Kentucky, to Bien Hoa AB, Vietnam. The 391 airlift missions, moving in eight noncontinuous increments from 17 November until 18 December 1967, completed the move 53 hours ahead of schedule.

The deployment aircraft flew over and through the existing airlift structure, with departures from Kentucky keyed to time slots in the route structure. This took into account stage crew posture and en route station capabilities, routine missions already in the system, and retrograde needs. Twenty-two C-133 missions flew the outsized equipment over one route, and the 369 C-141 missions flew two other routes to Southeast Asia (SEA). Using engine-running off-load procedures developed in BLUE LIGHT, the C-141 average off-load time at Bien Hoa was 7.4 minutes, reducing ramp saturation potential and exposure to ground fire. The C-133s were on the ground an average of about two hours. The recovery base concept was used to great effect.

### COMBAT FOX

Although in the midst of great expansion in support of US operations in SEA in general, and the Tet offensive in particular, airlifters engaged in yet another "largest single strategic airlift in history" in 1968. Following the seizure of the USS Pueblo by the North Koreans, C-124s, C-130s, C-133s, and C-141s flew more than 800 missions to Korea from the United States, SEA, and Japan in support of tactical air forces. Five Air Force Reserve airlift units were called to active duty primarily to backfill regular channel airlift requirements. Between 29 January and 17 February 1,036 aircraft missions moved 13,683 tons of cargo and 7,996 troops in support of this operation. The COMBAT FOX airlift more than doubled EAGLE THRUST, while maintaining the logistics airlift into SEA.

The COMBAT FOX deployments and redeployments required 37.7 million ton-miles of capability. Twenty of these came from normal channel airlift assets. After being alerted on 25 January 1968, deployment operations commenced on the 28th from seven on-load stations in the United States to three stations in Korea and one in Vietnam. Immediately following the completion of the COMBAT FOX operation on 12 February, the Joint Chiefs of Staff tasked airlifters to begin deployment of forces to Vietnam within 48 hours to help counter the Tet offensive. The requirement was to airlift an Army brigade from Fort Bragg

## Chapter I

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to Chu Lai and a reinforced Marine regiment from El Toro to Da Nang. Activating CRAF Stage I was considered, but after a special appeal for maximum augmentation, voluntary commercial response was sufficient to keep port levels within acceptable management levels. These two operations combined to increase forecast MAC cargo requirements by 48 percent and passenger forecasts by 13 percent. The airlift response was outstanding.

**SOURCE:** Charles E. Miller, Airlift Doctrine, Air University Press, 1988

## CHAPTER II STRATEGIC AIRLIFT

*“Air mobility assets provide the National Command Authorities an array of options to achieve national security objectives. Air mobility’s unique characteristics of range, flexibility, and speed enable the US to posture forces decisively to stem aggression, demonstrate resolve, or send a strong message to deter potential opponents.”*

**General Rutherford, USAF  
Commander in Chief, US Transportation Command**

### 1. Purpose

This chapter describes the strategic airlift system. It focuses on the strategic airlift mission, organization, command and control, movement planning procedures, request procedures, force tracking responsibilities, CRAF, and interface of strategic airlift with theater air operations.

### 2. Roles

Strategic airlift is the key means to project combat forces long distances rapidly during the initial stages of a conflict. It can also be especially effective in humanitarian efforts

and other MOOTW. Strategic airlift forces are organized, trained, and equipped to perform the roles listed in Figure II-1.

### 3. Strategic Airlift Organization

United States Transportation Command (USTRANSCOM) and its Air Force component, Air Mobility Command (AMC), provide common-user strategic airlift for DOD. (Note: Air Combat Command is also an Air Force component to USTRANSCOM for those active and air reserve component C-130 assets assigned to USTRANSCOM in the “Forces for Unified Commands” document.)

### ROLES OF STRATEGIC AIRLIFT FORCES

- ✓ Deploy forces from the continental US to a theater or between theaters (including strategic airdrop)
- ✓ Sustain deployed forces
- ✓ Redeploy forces
- ✓ Conduct aeromedical evacuation operations
- ✓ Augment theater or special operations airlift capability
- ✓ Conduct noncombatant evacuation

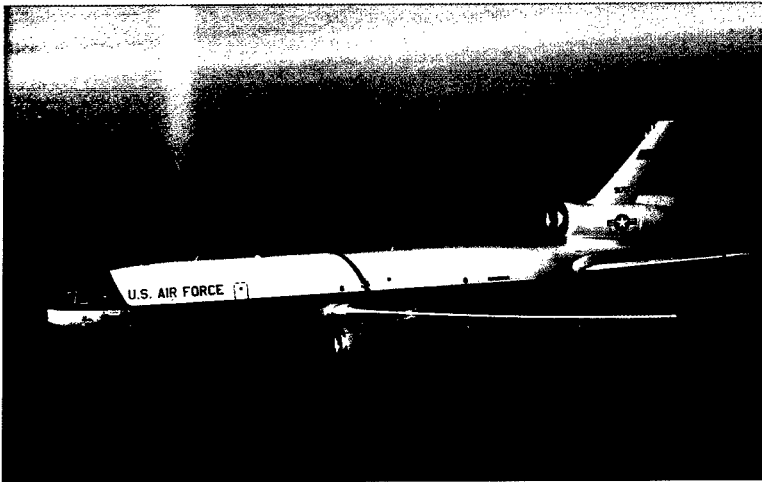
Figure II-1. Roles of Strategic Airlift Forces

## Chapter II

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a. **United States Transportation Command.** The mission of USTRANSCOM is to provide air, land, and sea transportation for DOD, both in time of peace and time of

- As an Air Force major command under the direction of the SAF, **AMC organizes, trains, equips, and provides operationally ready common-user**



*The Transportation Component Command, Air Mobility Command provides not only airlift but also aerial refueling forces for worldwide support of US and allied armed forces.*

war. USTRANSCOM is organized into three Transportation Component Commands (TCC) — the Military Sealift Command (MSC), Military Traffic Management Command (MTMC), and AMC. MSC is the operating agency for ocean and maritime services. MTMC is the operating agency for common-user land transportation, water terminal operations, and CONUS traffic management. AMC is the operating agency for air mobility (airlift and aerial refueling).

b. **Air Mobility Command.** AMC has the following responsibilities.

- As a TCC of USTRANSCOM, AMC is under the COCOM of USCINCTRANS and **executes airlift and aerial refueling missions** employing air forces assigned to USTRANSCOM. AMC provides strategic airlift, aeromedical airlift, and aerial refueling support to meet customer requirements.

**airlift forces** for combatant commands worldwide.

- **AMC schedules and provides aerial refueling forces** for worldwide support of US and allied armed forces.
- **AMC plans, coordinates, and manages the CRAF program and airlift resources.** Under CRAF activation, these resources can augment both strategic and theater airlift. DOD activates the CRAF in three stages. When the CRAF is activated, AMC assumes mission control of CRAF assets except those committed to Alaskan missions. The Air Mobility Command Center at Elmendorf AFB, Alaska, retains mission control of Alaskan CRAF assets. See paragraph 8 of this chapter for information concerning the CRAF.

#### 4. Command and Control of Strategic Airlift

USCINTRANS exercises COCOM of the common-user, CONUS-based airlift and aeromedical airlift forces assigned to USTRANSCOM in the Secretary of Defense "Forces for Unified Commands" memorandum. USCINTRANS delegates operational control (OPCON) of these forces to the **Commander, AMC**, and the **Commander, Air Combat Command (ACC)**, for their assigned forces. **AMC's Tanker/Airlift Control Center (TACC)** schedules, manages, coordinates, controls, and executes airlift missions with these forces through a global command and control system, which includes fixed en route locations and deployable mission support forces (MSF). The TACC is the tasking and execution agency for all activities involving AMC-assigned forces and the planning and execution agency for ACC-assigned airlift forces until they are assigned or attached to a geographic combatant commander. It is a critical link between the common-user strategic airlift customer and the operational unit providing that service. From a central point, the TACC controls all strategic airlift forces worldwide through decentralized elements of AMC. The TACC receives operational and mission requirements for strategic airlift support, then tasks assigned AMC subordinate units or coordinates for ACC unit support. The TACC publishes airlift schedules that vary according to mission type. Completed schedules are transferred to the **Global Decision Support System (GDSS)** and the **Global Transportation Network (GTN)**. GDSS records and displays airlift schedules, aircraft arrivals and departures, and limited aircraft status. During operation order and campaign plan execution and CJCS exercises, airlift schedules are transferred to the automatic data processing equipment supporting the Joint Operation Planning and Execution System (JOPES).

a. **Command and Control Infrastructure.** AMC provides total support to its forces operating worldwide through fixed and deployed C2 facilities at AMC bases, air mobility support squadrons, en route support facilities, and MSF deployed to forward operating locations. **The TACC provides command and control throughout mission duration** to assure accomplishment of the assigned mission and to provide in-transit visibility for the customer. To accomplish this task, the TACC is linked to operating wings and the global en route and/or deployed structure by secure and nonsecure voice and data systems.

b. **Deployed Infrastructure.** Support for AMC intertheater assets operating in forward locations is provided by deployable MSF, including **tanker airlift control elements (TALCE), mission support teams (MST), and combat control teams (CCT)**. These forces may provide command and control, aerial port, weather, communications, maintenance, security, transportation, intelligence, and airspace management. Whenever there is a need to provide en route support to airlift forces and in-place facilities are not available or sufficient, a TALCE or MST (which, in simple terms, is a scaled-down TALCE) is deployed. **MSFs are deployed in various operating and communications configurations** depending on the nature of the operation, host facility availability, and the operating environment. Buildup of these forces is based on the nature of the exercise and/or contingency, the operation order being executed, the associated time-phased force and deployment data (TPFDD), and the supported commanders' and component commanders' requirements. Typically, **numerous such units are deployed and operating worldwide on a daily basis in peacetime as well as during contingencies**. These units operate through the AMC TACC as forward agents for



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USTRANSCOM or through the theater's air operations center (AOC) on behalf of the AFCC (or joint force air component commander [JFACC]) to provide an interface with the customer at deployed locations. **The TALCE and MST are the primary entry points for information required by USTRANSCOM** to track the location and status of in-transit forces and cargo. As such, they must deploy with the equipment necessary to ensure connectivity to in-transit visibility and total asset visibility systems.

### 5. Planning Movements by Strategic Airlift

**The movement of units by airlift demands extensive planning.** All commanders must plan the orderly movement to and from unit areas and the efficient onload and off-load of aircraft. For **tactical moves**, they must develop load plans that maintain unit integrity and facilitate forces entering combat soon after exiting the aircraft. For **nontactical moves**, they must develop load plans around the most efficient use of strategic lift capacity. Strategic airlift planners use JOPES for deliberate and crisis action planning and execution.

a. **JOPES.** JOPES is an **integrated command and control system** providing information to senior decision makers and their staffs on joint plans and operations. Decision makers use JOPES to plan, coordinate, execute, and monitor mobilization, deployment, employment, sustainment, and redeployment activities. **Both supported and supporting organizations use the system.** JOPES provides users an ordered and comprehensive set of procedures for solving complex intertheater force deployment and sustainment problems. **The Global Command and Control System distributes JOPES information.** In order to be useful, JOPES data must be entered accurately and in a timely manner.

b. **Deliberate Planning.** The deliberate planning process **begins with the assignment of a planning task to a supported combatant commander.** The Chairman of the Joint Chiefs of Staff through the **Joint Strategic Capabilities Plan (JSCP)**, provides planning guidance, assumptions, and operations forces for the development of required plans.

- **Combatant commanders develop a concept of operations** for each JSCP-assigned mission. After the CJCS reviews and approves a concept, the **combatant commander develops an OPLAN.** The supported commander staffs and the component commanders develop the TPFDD, the JOPES data base portion of an OPLAN, which describes deployment routing and priorities of the forces and sustainment required to support the OPLAN. The selection of aircraft and the designation of aerial ports of embarkation and aerial ports of debarkation (APODs) are critical to the airlift movement process.
- **USTRANSCOM uses the TPFDD to analyze the flow of forces and sustainment packages** from their point of origin to arrival in theater. USTRANSCOM uses simulations to analyze and assess the feasibility of the planned deployment. Based on the feasibility assessment, USTRANSCOM distributes the apportioned strategic airlift resources and develops movement schedules. During this process, USCINCTRANS follows CJCS guidance and coordinates all major decisions with the supported combatant commander. **At the end of this phase, a completed plan is forwarded to the CJCS for review and approval.**
- Once the CJCS approves the supported commander's plan, component

commanders, subordinate joint force commanders, supporting commanders, and other agencies develop **supporting plans**. Many of these commanders, in turn, task their subordinates with preparing **additional supporting plans**. The supported commander reviews the OPLAN and all supporting plans to ensure that the plans are executable and meet the requirements of the concept.

c. **Crisis Action Planning.** Crisis action planning involves the **time-sensitive development of joint operation orders and campaign plans in response to imminent crisis**. Crisis action planning for strategic airlift is similar to the deliberate planning process; however, **the amount of time available to reach decisions is considerably reduced**. If the crisis action planning process is, as frequently happens, so compressed by time that airlift is not apportioned prior to the issuance of an execute order, **airlift must be assigned incrementally as the operation order executes**. Using JOPES, airlift planners will normally schedule against the first 6 days of movement requirements unless abbreviated procedures are designated by the supported combatant commander. Abbreviated procedures are described in the CJCS Manual 3122.02, "Manual for Time-Phased Force and Deployment Data (TPFDD) Development and Deployment Execution."

## 6. Strategic Airlift Request Process

Combatant commanders use one of **two different methods to request strategic airlift support**, depending on whether the movement is for deployment or sustainment.

a. **Deployment and Redeployment.** The combatant commander requests strategic airlift for the **deployment and redeployment phases of an operation** through the JOPES process. The supported commander, in coordination with supporting commanders

and Services, establishes movement requirements. **This is accomplished by developing a TPFDD in JOPES.** The TPFDD can be developed from an existing or modified OPLAN TPFDD, or a totally new TPFDD can be built in a no-plan situation. The supporting commanders and Service materiel and personnel managers review this data base, source the various requirements, and then revise or establish detailed transportation requirements. When completed, **USTRANSCOM extracts and identifies airlift requirements from JOPES** and relays those requirements to the AMC TACC who plans the required airlift. Then USTRANSCOM or AMC enter the schedules in JOPES. Normally, some sustainment is a part of the TPFDD.

b. **Sustainment.** **Strategic airlift sustainment involves the movement of replacement supplies, equipment, personnel, and units.** USTRANSCOM supports sustainment operations through the types of missions listed in Figure II-2.

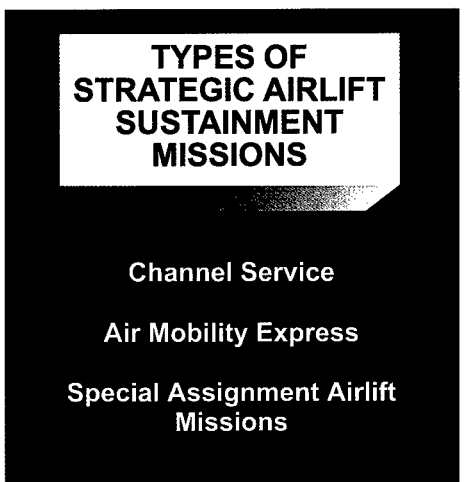


Figure II-2. Types of Strategic Airlift Sustainment Missions

- **Channel Service.** For most intertheater sustainment missions, USTRANSCOM establishes a requirements-based channel when the amount of passengers or cargo arriving at the port dictates a responsive

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scheduling of lift. When a location, such as a remote site, requires receiving service at a predetermined time, i.e., because of perishable goods or material, USTRANSCOM establishes a frequency-based channel.

- **Air Mobility Express (AMX).** The vast majority of airlift sustainment will move on channel missions. However, **USTRANSCOM is prepared to establish**, at the request of the supported combatant commander during a contingency, **an express service to move “war stopper” items rapidly to the AOR.** The supported combatant commander will direct what portion of CJCS-allocated strategic lift will be used for AMX and will allocate space on express aircraft by pallet positions to each component. For AMX to be effective, the supported combatant commander

must establish a theater distribution system to deliver express cargo from APOD to final destination.

- **Special Assignment Airlift Missions (SAAMs).** SAAMs provide airlift to satisfy **unique customer requirements and are funded directly by the requesting organization.** These requirements may be due to constraints of time, geographic location, and/or type of cargo that preclude the use of surface transport, established airlift channel service, or other transportation means. Priority determination procedures for movement on channel missions or SAAMs are contained in Joint Pub 4-01, “Joint Doctrine for the Defense Transportation System.”
- c. **Joint Transportation Board.** When strategic airlift requirements strain or exceed

### DESERT EXPRESS

**On August 7, 1990, US forces were directed to deploy to southwest Asia (SWA) in response to a request for assistance from the government of Saudi Arabia. Operation DESERT SHIELD had begun. This deployment of hundreds of aircraft, tanks, and other equipment into the joint force commander’s area of responsibility (AOR) created the need for extraordinary logistics pipeline support. In late October, with 200,000 American forces in theater, TRANSCOM responded to this need by directing a special airlift called Desert Express.**

**This operation, flown daily from CONUS to the theater, provided overnight delivery of spare parts considered absolutely essential to accomplish the mission. While the idea of airlifting crucial items of resupply was traditional, the concept of a regularly scheduled, dedicated mission for common use was innovative in this situation. The Desert Express system included a dedicated C-141 aircraft flying each day from CONUS to deliver high priority logistics items to the AOR. Charleston AFB, SC was designated as the collection point for logistics parts which the Services considered mission-critical. Operating in much the same manner as commercial overnight express delivery systems, cargo destined for SWA had to arrive at Charleston by 1030 to be on that day’s Desert Express mission, which departed at 1230. The 1030 cutoff time dovetailed with CONUS overnight mail and air express parcel delivery schedules and the flight schedules of LOGAIR (a private cargo airline under contract to the Air Force Logistics Command [AFLC] and AMC) and QUICKTRANS (under contract to the Navy). Deployment of additional forces to the Arabian peninsula in November increased the requirement for overnight delivery of high-priority spare parts.**

To provide a link with the logistics and maintenance support facilities in Europe, a similar dedicated, special airlift operation was launched from Europe and dubbed European Desert Express. The mission aircraft departed Ramstein and picked up cargo at Rhein Main Air Base, Germany, once daily, seven days a week. The C-141 left Ramstein at midnight and arrived at Rhein Main 45 minutes later. After loading cargo and fueling, the aircraft departed for Saudi Arabia with a scheduled arrival time at Dhahran of 0530.

The Desert and European Desert Express system proved very successful. Operating during DESERT SHIELD and DESERT STORM, the cumulative airlift moved nearly 2,500 tons of mission critical cargo to the AOR in support of combat forces and, more importantly, reduced the response time for these high priority shipments from a minimum of 72 hours to as long as two weeks.

**SOURCE: DOD Report to Congress,  
Conduct of the Persian Gulf War, April 1992**

capability, the Joint Transportation Board (JTB) could be convened. Responsible to the CJCS, the JTB consists of flag officers from the Joint Staff (J-4 [Chairman], J-3, J-5, and J-7) as well as senior transportation directors from each of the Services. Functions of the JTB include monitoring lift requirements and capabilities, adjudicating competing lift requirements of supported commanders, and recommending to the CJCS courses of action to resolve transportation movement problems. See Joint Pub 4-01, "Joint Doctrine for the Defense Transportation System," Appendix C.

## 7. Force Tracking

Inherent to intertheater movement is the requirement to track in-transit units. This in-transit visibility allows the geographic combatant commander to be flexible in response to changing situations. In-transit visibility should, however, be viewed as a shared responsibility. Accurate, disciplined adherence to force validation and manifesting is essential for unit tracking. USTRANSCOM is responsible for tracking forces embarked on strategic lift. USTRANSCOM tracks forces using unit line numbers and transportation control numbers, not unit identification codes in GTN (an automated system for managing passengers, patients, and

cargo in the Defense Transportation System). GTN integrates the automated movement systems used by the Services, Defense agencies, and USTRANSCOM to allow USTRANSCOM and its customers the ability to track unit movements and sustainment operations globally. In addition, GTN compiles movement data from various systems and provides them to USTRANSCOM and the supported commander. Airlift customers should ensure that force movements are properly loaded into the GTN feeder system. Equally important, USTRANSCOM components that deploy forces must deploy those forces with sufficient resources to ensure connectivity to computerized force tracking systems.

## 8. The Civil Reserve Air Fleet

CRAF is designed to augment airlift capability with US civil aircraft, aircrews, and support structure during CRAF activation. Although AMC assumes mission control of CRAF airlift assets during an activation, individual CRAF carriers retain operational control of their own assets. In this way, the military gains the use of civil aircraft and aircrews and access to the civil en route support structure. The CRAF is comprised of three segments shown in Figure II-3.



Figure II-3. Segments of the Civil Reserve Air Fleet

a. **International Segment.** This segment consists of long-range and short-range sections. The **long-range section** provides the largest capability with passenger and cargo aircraft. Aircraft must be extended-range capable (over water). The **short-range section** supports near offshore operations with both passenger and cargo aircraft.

b. **National Segment.** This segment consists of the Domestic Services and Alaska sections. The **Domestic Services section** provides passenger and cargo aircraft for domestic-only service using regional US air

carriers with at least 75 seats (30,000 lbs allowable cabin load) and a cargo capability of at least 32,000 lbs. The Domestic Services section is used in CRAF Stage III (see below) only. The **Alaska section** provides cargo aircraft support to Alaska in CRAF Stage II and Stage III.

c. **Aeromedical Segment.** The Aeromedical segment consists of reconfigured Boeing 767 aircraft, which will be used to **evacuate critical casualties** from the AOR/JOA. In addition, these aircraft will be used to **move medical supplies and crews to the theater**, thus permitting other aircraft to maximize the cargo flow. The Aeromedical segment is used in both CRAF Stage II and CRAF Stage III.

## 9. Activation of Civil Reserve Air Fleet

**There are three stages of CRAF activation** designed to meet varying levels of defense airlift needs. USCINTRANS may activate Stages I and II with the approval of the Secretary of Defense. The Secretary of Defense will issue the order to activate Stage III. The CRAF is activated in order to use commercial airlift assets to augment DOD's military airlift capability.



The Civil Reserve Air Fleet augments airlift capabilities with US civil aircraft, aircrews, and support structure.

a. **Stage I - Committed Airlift Expansion.** This stage is activated to support substantially expanded peacetime military airlift requirements when AMC's military airlift capability cannot meet both the deployment and other airlift requirements simultaneously. It is comprised of long-range assets only.

b. **Stage II - Defense Airlift Emergency.** This stage is activated to support a defense airlift emergency. It responds to requirements greater than Stage I but is less than full national mobilization. It is comprised of all three segments.

c. **Stage III - National Emergency.** This stage is activated to support a declared national defense-oriented emergency or war, or when otherwise necessary for the national defense.

## 10. Interface with Theater Airlift Operations

While most cargo and passengers arriving at an APOD on strategic airlift will be transported to their final destination by a mode other than air, **interface between USTRANSCOM's and AMC's command and control system and the theater airlift command and control system is vital.** This interface is important as it must not only provide information for the air direct delivery or for transloading passengers and cargo, but it also must deconflict strategic airlift movements with other theater air movements as well as provide airspace clearance where necessary. **This interface normally occurs at the theater AFCC level** through the Theater Air Control System (TACS) in conjunction with AMC's TACC and other theater-based airlift support elements.

a. **The Air Force Component Commander.** The JFC normally delegates operational control of all theater Air Force common-user airlift to the AFCC. To manage this airlift,

the AFCC uses units inherent to the **Air Force TACS.** The TACS has many mobile, flexible, operationally tailored elements.

- **Air Operations Center.** An AOC is the organization through which an AFCC controls Air Force air operations, including theater airlift. It is the senior control element of the TACS, and includes personnel and equipment of all the necessary disciplines to ensure the effective conduct of air operations. Within the AOC, (or the JAOC and CAOC if a JFACC is established) the airlift coordination cell (ALCC) plans, coordinates, manages, and executes theater airlift operations.

- **The Airlift Coordination Cell.** The ALCC is the organization which functions within the AOC to plan, coordinate, manage, and execute theater airlift operations in the AOR. The exact organization of the ALCC will be dependent upon the requirements of the theater and the AFCC's (or JFACC's) concept of organizing and operating the AOC. Normally, the ALCC will consist of an **airlift plans branch**, an **airlift operations branch**, and an **airlift support branch.** These airlift elements, though consolidated in the ALCC, will coordinate with various AOC planning and operational elements. **The AFCC normally exercises OPCON of the ALCC through the AOC director.** As part of the AOC director's staff, the Chief, ALCC, executes theater airlift operations with assigned forces. The ALCC will coordinate with the air mobility element (AME, or TACC if no AME is established in theater), the joint movement center (JMC), and the Director of Mobility Forces (DIRMOBFOR), if designated. In cases where the designated JFACC is other than Air Force, the JFC should task the AFCC to supply the Chief, ALCC, and staff

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personnel with the necessary theater airlift expertise to function in the JAOC and CAOC.

- **Aeromedical Evacuation Coordination Center (AECC).** The AFCC establishes this C2 element to **coordinate aeromedical evacuation of casualties within the theater.** The AECC aligns in the AOC under the ALCC. It coordinates medical requirements with airlift capability, assigns medical missions to appropriate AE units in the theater, and monitors patient movements. The AECC coordinates strategic AE support directly with the TACC or AME, as appropriate.
- **Director of Mobility Forces (DIRMOBFOR).** A DIRMOBFOR may be established to **assist in the coordination of airlift issues in the theater.** The DIRMOBFOR will normally be a senior officer who is familiar with the AOR/JOA and possesses an extensive background in airlift operations. The DIRMOBFOR may be sourced from the theater's organizations or be nominated from USTRANSCOM or US Atlantic Command. When established, **the DIRMOBFOR serves as the designated agent for all airlift issues.** The DIRMOBFOR exercises coordinating authority between the ALCC, AME, (or TACC, if no AME is deployed), JMC, and the AOC in order to expedite the resolution of airlift problems. A DIRMOBFOR should be selected for all CJCS and Blue Flag exercises as well as anticipated contingencies, and should be designated in OPLANs that will employ theater air mobility forces. The DIRMOBFOR's duties and authority will be as directed by the AFCC or JFACC to satisfy the objectives of the JFC.

**b. Theater Airlift Support Organizations.** Theater airlift support requirements include the aerial port coordination, theater airlift liaison officers (TALO), CCTs, and TALCEs.

- **Aerial Port Control Center (APCC).** Within the AME, the APCC **coordinates and directs aerial port operations.** Coordination and direction of theater aerial port operations is the shared responsibility of theater and strategic airlift C2 systems. The APCC coordinates with the ALCC on such activities as processing, rigging, packing, unloading, securing, and off-loading. The APCC should normally be collocated with the AME to maximize its effectiveness.
- **TALO.** A TALO **normally locates with each Army division and separate brigades.** The TALO is the link between the AOC, the AME, and the Army user. The TALO helps users develop, coordinate, and submit airlift requests.
- **CCT.** CCTs are **small, task-organized teams of parachutist- and combat diver-qualified Air Force personnel** trained and equipped to control drop and landing zone air traffic in austere and/or hostile operations. They conduct reconnaissance, surveillance, and survey assessments of potential airfields or assault zones in addition to performing limited weather observations. They remove obstacles or unexploded ordnance with demolitions and place appropriate markings and navigational aids. The team is responsible for air traffic control and drop zone (DZ) or landing zone (LZ) command, control, and communications. **The CCT normally operates under theater control through the AOC,** but it may function as a part of a TALCE. In limited operations, the Army and Marine Corps

## Strategic Airlift

may perform the CCT functions for their respective DZs and/or LZs.

- **Tanker Airlift Control Element.** TALCEs are **mobile command and control units deployed to support strategic and theater air mobility operations.** When deployed specifically to support theater air mobility operations, TALCEs may be attached to the command of a geographic combatant commander as an element of the TACS. TACC decisions to position TALCE assets will be based upon strategic and theater mobility support requirements. It is the geographic combatant commander's responsibility to identify the requirement for such support.

c. **Air Mobility Element.** The AME **deploys to the theater as an extension of the AMC TACC,** when requested. It coordinates with the theater airlift management system and collocates with the AOC (or JAOC and CAOC) whenever possible. It provides coordination and interface of the strategic air mobility system (airlift and air refueling) with the theater air logistic system. The AME assists and advises

the DIRMBOFOR, when established, on matters concerning strategic air mobility assets. **AMC retains OPCON of the AME** and will organize and manage the AME to support the geographic combatant commander's airlift requirements in consonance with USTRANSCOM's global requirements. The corporate efforts of the AME, ALCC, and the Tanker Cell ensure the seamless execution of air mobility operations in support of the theater.

### 11. Aeromedical Evacuation

**AE is the air movement of patients under medical supervision.**

a. **Mission of AE.** AE encompasses **movement from the point of distress to the initial medical treatment facility and all ensuing levels of medical care.** USCINCTRANS is the DOD manager for intertheater AE and global medical regulating. Information on the AE mission, Service component, and common-user systems, organizations, and command and control procedures is contained in Joint Pub 4-02, "Doctrine for Health Service Support in Joint Operations" and Joint Pub



*Aeromedical evacuation forces provide patient movement not only between international locations and CONUS, but also to and from locations within CONUS.*



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4-02.2, “Joint Tactics, Techniques, and Procedures for Patient Movement in Joint Operations.”

b. **Common-User System.** USTRANSCOM and the geographic combatant commanders perform common-user AE with available airlift assets. Normally, **patients are**

**evacuated from echelon III to echelon IV and from echelon IV back to CONUS and other echelon V medical treatment facilities.** However, in selected circumstances, common-user airlift can be apportioned to evacuate patients from as far forward in a theater of operations as the aircraft can operate.

## CHAPTER III AIRLIFT PLANNING CONSIDERATIONS

*"Nine times out of ten an army has been destroyed because its supply lines have been severed."*

**Douglas MacArthur**  
Remarks to the Joint Chiefs of Staff, 1950

### 1. Purpose

This chapter covers airlift planning. It provides general airlift planning considerations, planning considerations for airland and aerial delivery operations deep into enemy battlespace, and considerations surrounding airlift response times.

### 2. Planning Airlift Operations

Planning airlift operations is a complicated process involving numerous interdependent functions. These range from such things as ensuring that airlift facilities are capable of supporting an operation to selecting the most appropriate airlift for that operation. **Airlift planners must be thoroughly familiar with each Service component's unique airlift capabilities as well as those of common-user airlift.** They

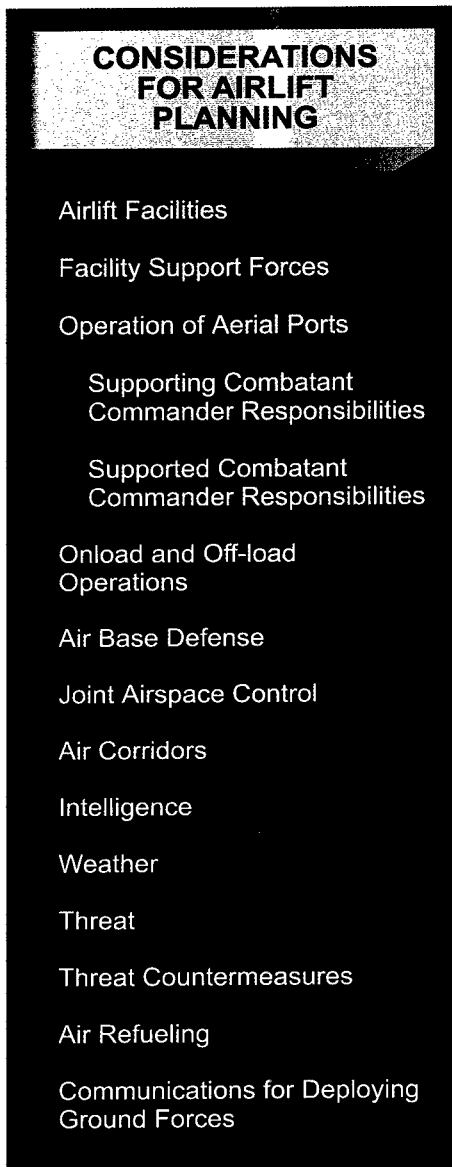
must comprehend the nature of the threat to airlift and coordinate effective threat countermeasures. Finally, the entire airlift operation requires detailed planning, to include coordination of appropriate airspace control measures and communication procedures. The **general considerations for airlift planners** are listed in Figure III-1 and described below.

a. **Airlift Facilities.** Successful airlift operations are often dependent on a network of facilities, such as air terminals, small austere airfields (SAAFs), LZs, and DZs.

- **Air Terminals.** Air terminals provide all of an airlift force's needs. However, their greatest disadvantage is that air terminals are often in limited supply, particularly in lesser-developed regions of the world.



*Successful airlift operations depend on numerous interdependent functions, not the least of which is the air terminal.*



**Figure III-1. Considerations for Airlift Planning**

- **Small Austere Airfields.** In lesser developed regions of the world, the C-17 and C-130 aircraft will use SAAFs. SAAFs are unsophisticated airfields, usually with a short runway, and are limited in one or a combination of the following; taxiway systems, ramp space, security, MHE, aircraft servicing,

maintenance, navigation aids, weather observing sensors, and communications.

- **LZs and DZs.** When there is no suitable airfield available for an operation, an LZ can be constructed for airland operations, or a DZ can be selected for aerial delivery operations.
- Planners must know the capabilities of each airlift facility in the theater. They must identify the need to develop, rehabilitate, and maintain facilities to maximize airlift support to joint operations. This includes construction of base support systems that can improve both airlift mission capabilities and the ability of airlift aircraft to survive. The type and sophistication of a facility depends on its location, climate, and engineer support. The supported Service component is responsible for maintaining forward airlift facilities.

**b. Facility Support Forces. Successful airlift operations depend on various support forces.** The supported Service component is responsible for the movement of personnel and cargo to the onload site and forward after off-loading. When Service component support is unavailable or inadequate for common-user airlift operations, **commanders may request augmentation by Air Force mission support forces.** When an operation involves multiple components, the geographic combatant commander should appoint a single component to coordinate with the host facility, decide resource allocation, and prioritize onload and off-load operations.

**c. Operation of Aerial Ports.** The effectiveness of airlift is dependent on the **number and type of aerial ports available** within the theater. USTRANSCOM designates peacetime aerial ports. The geographic combatant commander designates wartime

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## Airlift Planning Considerations

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and contingency aerial ports in coordination with USCINCTRANS and appropriate host nation (HN) authorities. **Aerial port operations assure the timely and effective movement of personnel and materiel into and across the theater.** A lack of aerial ports and ground support personnel can seriously constrain cargo throughput operations.

- **Supporting Combatant Commander Responsibilities.** Certain situations may require that a geographic combatant commander support another combatant commander. This support may range from the deployment of forces and en route basing activities to the provision

should establish APOD activities, which could include an Arrival and/or Departure Airfield Control Group (A/DACG) and other movement control organizations. When two or more Services deploy simultaneously, the supporting commander designates which Service component will operate the supporting A/DACG. The CJCS, in coordination with the Chiefs of the Services, will designate A/DACG operators when no combatant commander is present in CONUS.

- **Supported Combatant Commander Responsibilities.** The supported



*Efficient airlift operations are highly dependent on ground handling equipment and personnel.*

of sustainment. Regardless of the mission, **the supporting combatant commander should establish a movement control system** capable of interfacing with USTRANSCOM's and the supported combatant commander's movement control systems. A JMC, with supporting component movement cells, can be used to manage all moves and assures compliance with the supported combatant commander's priorities. For deployments to another theater, the supporting combatant commander

**commander assures that USCINCTRANS clearly understands the theater's strategic airlift requirements.** To facilitate this process, the theater JMC must have a communication link with the strategic movement system. JOPES can provide that connectivity. The supported commander **establishes APOD support activities**, which will include A/DACG and may include Air Terminal Movement Control Teams (ATMCT). The supported commander is **responsible for cargo preparation, documentation,**

## Chapter III

**uploading or off-loading for onward or retrograde movement** (when aerial port functions are unavailable), and clearing cargo and personnel from the APOD. During MOOTW, the supported commander will designate which Service component will assume these responsibilities. When two or more Services deploy simultaneously, the supported commander designates which Service component will operate each A/DACG.

- **The Services will determine the need for a Personnel Assistance Point** at the APOD during crisis or contingency redeployments. These elements should be staffed with personnel trained to resolve personnel and administrative problems and transportation and logistic support not provided or available from other elements at the aerial ports. This element is responsible for processing and

onward movement of personnel arriving at the aerial port.

**d. Onload and Off-load Operations.** Effective cargo marshalling area clearance at airlift facilities can minimize airfield, DZ or LZ congestion. Early in the planning process **the supported unit's movement control organization must coordinate the distribution of cargo with airfield operators.** The geographic combatant commander may require the dominant supported component to establish an A/DACG. In cases involving an Army dominant force, the geographic combatant commander may place an ATMCT at the airfield in addition to the A/DACG. The A/DACG must coordinate its activities with the AME or TACC, ALCC and local MSTs. This interface speeds the movement of cargo through the airport, LZ or DZ. Effective aerial port operations normally require the items listed in Figure III-2.

### REQUIREMENTS FOR EFFECTIVE AERIAL PORT OPERATIONS

- ✦ **Materials handling equipment compatible with the aircraft and with surface transport vehicles**
- ✦ **Surface and/or air transport for forward movement of cargo and passengers**
- ✦ **Airfield ramp space to process transiting aircraft**
- ✦ **Warehouse and repacking facilities to handle arriving and departing cargo**
- ✦ **A receiving yard to store cargo temporarily**
- ✦ **Remote hazardous and/or explosive cargo handling, storage, and aircraft parking areas**

Figure III-2. Requirements for Effective Aerial Port Operations

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## Airlift Planning Considerations

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e. **Air Base Defense.** All echelons must plan for air base defense to **protect airlift aircraft, aircrews, support personnel, and base facilities.** This may include protection against conventional air-to-surface munitions, nuclear, chemical, and biological weapons, and unconventional warfare forces. Air base defense is a rear area command responsibility addressed in Joint Pub 3-10.1, "Joint Tactics, Techniques, and Procedures for Base Defense."

f. **Joint Airspace Control.** Airlift plans must **integrate international, HN, and military airspace control procedures and regulations.** Joint Pub 3-52, "Doctrine for Joint Airspace Control in the Combat Zone," addresses airspace control at the operational level of war. It lists organizational structures and responsibilities within a theater.

g. **Air Corridors.** At times, airlift operations require secure air corridors. These may be shared with other air missions. Regardless, **the use of a corridor requires close coordination** between the joint force ACA, area air defense commander, AOC, battlefield coordination element, TACC, AME, and all other involved joint force component ground and aviation elements. Frequent changing of corridors may be necessary, depending on the threat.

h. **Intelligence.** **Timely intelligence is essential to airlift mission planning.** Airlift operations require considerable intelligence support to reduce their vulnerability. **Critical information includes the following.**

- Latest order of battle data, as well as disposition of a potential enemy Integrated Air Defense System, to include early warning and ground controlled intercept sites, passive detection systems, surface-to-air missiles, anti-aircraft artillery, and interceptor aircraft as well as locations of large naval

surface action groups and major ground forces.

- Enemy air defense detection capabilities, reaction times, and engagement rules.
- Enemy electronic jamming capabilities.
- Airfield, DZ or LZ information for the area of operations.
- Vulnerability of potential DZ or LZ to enemy surface-to-surface weapons.
- Maps, charts, and imagery to support airlift mission planning and execution.
- Possible location of friendly air corridors.
- Directed energy weapons and nuclear, biological, and chemical threats.
- Vulnerabilities to information and information systems that support planning of airlift operations.

i. **Weather.** **Weather planning for an airlift operation should include forecasts from departure through recovery,** with special attention given to departure, route, and objective area cloud bases, percent of moon illumination, visibilities, precipitation, and winds.

j. **Threat.** **Airlift aircraft are very vulnerable to hostile actions.** Large fixed-wing airlift aircraft have significant radar signatures and lack maneuverability, and many have no onboard defensive systems. Additionally, they fly at relatively slow airspeeds, prolonging their exposure to attack. Their size prevents sheltering and makes effective ground concealment and deception difficult. Small fixed-wing airlift aircraft and helicopters have smaller radar signatures and are easier to conceal on the ground, but are still very vulnerable to enemy action.

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k. **Threat Countermeasures.** Active and passive countermeasures to threats against airlift may be required.

- **Active protective measures** range from force protection packages to aircraft self-defense systems. Force protection packages include such things as fighter escort, stand-off jamming, ground support to clear a corridor of threats, and suppression of enemy air defenses (SEAD). Self-defense systems include the use of devices such as onboard warning receivers, flare dispensers, and chaff dispensers.

- **Passive measures** include such things as multisource tactical systems, air base defense, route and altitude selection, reduced ground times, dispersed aircraft basing, counterintelligence force

projection operations, and operating at night or in adverse weather.

l. **Air Refueling.** The amount of cargo and distances involved in strategic airlift operations make air refueling **an attractive option in most situations, and an essential option in others.** Air refueling reduces the aircraft's initial fuel requirement, allows for heavier loads, increases aircraft range, and reduces the requirement for refueling and extended ground time at a forward operations base (FOB). Air refueling is also useful when FOBs have no (or limited) ground refueling capability and post-offload recovery bases in the region have limited refueling capability. Air refueling will allow aircraft to overfly the limited capability bases and recover at more suitable airfields that possess sufficient refueling capability.

### AIR REFUELING - THE FORCE MULTIPLIER

The tremendous productivity of the airlifters during Operations DESERT SHIELD and DESERT STORM would have been less impressive were it not for the synergistic interaction of tankers and transports. Modification in the 1970s added air refueling capability to transport aircraft. This had substantial effect on readiness, rapid deployment, and the sustainment of forces to the theater. In the first few weeks of the deployment, as many as 16 percent of the airlift missions were aerial refueled for non-stop flights. Sometimes the C-5s and C-141s were aerial refueled by tankers just before landing or shortly after taking off to help reduce refueling congestion at the APOD in the theater. This action also helped ease the shortage of refueling points and parking space at the airfields.

KC-10 and KC-135 tanker aircraft also played a vital role in cargo and passenger movement. These aircraft moved more than 4,800 tons of cargo and more than 14,200 passengers to support strategic bomber and tanker operations alone. Part of this effort was conducted by shuttles established on a scheduled basis to improve resupply efforts to the Pacific, European, and SWA theaters. Additionally, KC-10s transported more than 1,600 tons of cargo and more than 2,500 passengers in a dual-role capacity for USAF and USMC fighter unit moves, providing refueling support and airlift for the units on the same sorties. Finally, up to 20 KC-10s also were assigned for pure airlift sorties, moving more than 3,800 tons of cargo and more than 4,900 passengers in this capacity.

The importance of air refueling to Operations DESERT SHIELD and DESERT STORM went far beyond airlift support. Over 300 KC-135s and KC-10s were

## Airlift Planning Considerations

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used during Operation DESERT SHIELD; they flew more than 17,000 sorties, to include more than 11,500 air refueling sorties and nearly 75,000 hours; refueled more than 33,000 receivers, including 5,500 Navy and USMC aircraft with nearly 70 million gallons of fuel in six months. Tankers surpassed this effort during the six weeks of Operation DESERT STORM when they flew almost 17,000 sorties (more than 15,000 of these air refueling sorties) logged more than 66,000 hours, and refueled almost 52,000 aircraft with more than 125 million gallons of fuel. Approximately 12 percent of the fuel and 17 percent of the sorties supported the Navy and USMC. It is interesting to note that nearly every air-refueling capable aircraft used USAF tankers at some point during the war.

**SOURCE: DOD Report to Congress,  
Conduct of the Persian Gulf War, April 1992**

m. **Communications for Deploying Ground Forces.** Secure en route communication packages (SECOMP) provide ground commanders, embarked on airlift aircraft, secure communications while en route to an objective area. These can be installed in aircraft in addition to existing onboard aircraft radios. SECOMP provides the embarked ground force commander with the ability to talk with ground force subordinate commanders flying in different aircraft, the objective area, the departure airfield, intermediate staging bases (ISB), airborne command posts, and higher headquarters. The **Joint Communications Support Element (JCSE)** provides this capability via CJCS Memorandum of Policy No. 3, "CJCS Controlled Tactical Communications Assets." **The use of SECOMP must be coordinated with the command providing airlift.** In the event that JCSE equipment is not available, the deploying commander may use SECOMP and hatch-mount antennas from his own resources.

### 3. Airland Operations

In most situations, airland is the preferred method of airlift delivery. However, it requires suitable airfields and relatively low-threat levels. **When planning airland operations, consideration should be given, but not limited, to the following.**

#### a. The Tactical Situation

- The duration and location of the operation.
- The location of suitable airfields, supply bases, and FOBs.
- The type and amount of cargo or personnel for delivery.
- Desired phasing of forces into the operation.
- Expected conventional and nonconventional threat throughout the mission.
- Weather conditions.

#### b. Mission Requirements

- Airlift assets available, including the number and type of aircraft and crews.
- The protection of aircraft.
- Aircrew survival measures, including escape and evasion points, routes, corridors, and safe haven locations.
- Aircraft servicing, maintenance, and damage repair capabilities.



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- Airfield onload and off-load capabilities.
- Transportation capabilities to distribute the cargo or personnel to their final destination.
- MHE support.

c. **Air Direct Delivery.** Air direct delivery is a strategic airlift mission, which avoids a theater airlift transshipment in conjunction with the strategic airlift, by delivering to a forward airfield which is close to the payload's final destination. Air direct delivery shortens in-transit time, reduces congestion at main operating bases, and enhances sustainment of forward forces. Congested airspace, exposure to enemy threats, and potential fratricide are major concerns in air direct delivery. Increased air direct delivery capabilities and requirements require that all Services reevaluate their ability to accept deliveries in forward areas. APODs may split into several smaller forward operating bases. Supported commanders may be required to do some of the terminal airhead operations normally performed by Air Force personnel. Considerations in selecting air direct delivery include the following.

- Ground Plan.
- Suppression of enemy air defenses.
- Proximity and capability of airfields at destination.
- Off-load capability at destination airfield to include the need for additional MHE and logistic personnel.
- The ground force package may be designed for delivery from CONUS to forward areas. Light forces have limited organic transportation capability.

d. **Command, Control, Communications, Computer, and Intelligence Interfaces Within and Among the Service Components.**

Timely exchange of information among the Service components is critical to airlift operations. **This includes the following.**

- Map, chart, and imagery requirements.
- Airspace coordination and management requirements.
- TALCE, CCT, TALO, and ground force assault team requirements.
- Unique requirements such as security and command, control, and communications for nuclear weapons. The Joint Pub 6 series of manuals specify these requirements.

### 4. Aerial Delivery Operations

Depending on the tactical situation, planners may consider delivery of personnel and equipment by aerial delivery. **Aerial delivery planners should include, but not limit, consideration of the factors listed for airland operations as well those listed in Figure III-3.** For more information on aerial delivery operations, see Joint Pub 3-17, "JTTP for Theater Airlift Operations," Chapter 6.

### 5. Operations Deep Into Enemy Battlespace

**These operations require a high level of training as well as an extensive amount of time to plan and coordinate.** When time permits, forces should plan and practice every detail of the operation. They should develop contingency plans to counter expected threats. Mission planners should review organic equipment capabilities, support requirements, expected attrition, and uncertainties of

## PLANNING CONSIDERATIONS FOR AERIAL DELIVERY OPERATIONS

- \* Aircraft availability and capability
- \* Aircrew requirements
- \* Rigging requirements
- \* Rigging facility requirements
- \* Rigging facility proximity to the airfield
- \* Overhead crane and materials handling equipment requirements
- \* The recovery of rigging materiel
- \* Drop zone and surrounding area imagery requirements
- \* Cross - loading requirements
- \* Drop zone access
- \* Height of terrain and obstacles in the vicinity of the drop zone
- \* Staging base(s) to hold loaded aircraft
- \* Degradation of airland capability before and after the drop

Figure III-3. Planning Considerations for Aerial Delivery Operations

operating conditions. **Airlift missions in support of these operations include the following challenges.**

a. Airlift may provide the only support for force insertion, sustainment, and extraction.

b. Deep operations may involve large numbers of aircraft, airspace congestion,

significant potential for exposure to enemy threats, and potential for friendly fire.

c. Operations and communications security are critical to the success of airlift operations. The use of secure communications and offline encryption of voice transmissions is essential.

## Chapter III

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d. Planners must identify weaknesses in the enemy's air defense and implement threat avoidance measures where practical.

e. The supported force selects and prepares ISB, DZ or LZ.

f. The logistic support of a deep operation may have special packaging and delivery requirements.

### 6. Airlift Response Times

a. **Response Factors.** Airlift response time is the total time required to fulfill a tasked transportation requirement. **Airlift response time is dependent on numerous interrelated factors.**

- Mission priority.
- Availability of cargo for loading.
- Availability and suitability of airfields, LZ or DZ.
- Availability and suitability of personnel to operate the airfields, LZ or DZ.
- The nature of the expected threat throughout the mission.
- Airspace limitations.
- Mission planning and force packaging (such as SEAD, fighter escort) requirements based on the threat.
- Availability of aircraft, aircrews, loading crews, and MHE.
- Weather conditions.
- Availability of mission support teams.

- Time to coordinate diplomatic clearances and radio frequency authorizations.

- Access to timely, accurate, and relevant information to coordinate airlift operations.

b. **Actions that Decrease Response Time.** **Actions that may decrease response time include the following.**

- Conducting advanced mission planning.
  - Reserving airspace.
  - Preparing and coordinating force packages.
  - Surveying airfields, LZ or DZ for possible use.
  - Briefing aircrews on mission details and pertinent intelligence information.
  - Coordinating and receiving space-based information.
  - Augmenting the supported commander's battle staff with USTRANSCOM liaisons to expedite planning and coordination.
- Coordinating the mission with the appropriate ground support elements.
- Placing crews, aircraft, and other elements on alert status.
- Rigging loads and positioning them at an onload site.
- Dedicating airlift resources to support a specific operation.
- Air Refueling.

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## APPENDIX A

### REFERENCES

The development of Joint Pub 4-01.1 is based upon the following primary references.

1. National Security Decision Directive Number 280, 24 June 1987, "National Airlift Policy."
2. Executive Order 12148, 20 July 1979, "Federal Emergency Management."
3. Secretary of Defense memorandum, 14 February 1992, "Strengthening Department of Defense Transportation Functions."
4. DOD Directive 4500.9, "Transportation and Traffic Management."
5. DOD 4500.32-R, "Military Standard Transportation and Movement Procedures."
6. DOD Directive 4500.43, "Operational Support Airlift."
7. DOD 4515.13-R, "Air Transportation Eligibility."
8. DOD Directive 5100.1, "Functions of the Department of Defense and its Major Components."
9. DOD Directive 5154.6, "Armed Service Medical Regulating."
10. DOD Directive 5158.4, "United States Transportation Command."
11. MCM-144-93, "Implementation of the Unified Command Plan."
12. CM-1502-92, "A Doctrinal Statement of Selected Joint Operational Concepts."
13. Joint Pub 0-2, "Unified Action Armed Forces (UNAAF)."
14. Joint Pub 1-01, "Joint Publication System, Joint Doctrine and Joint Tactics, Techniques, and Procedures Development Program."
15. Joint Pub 1-02, "DOD Dictionary of Military and Associated Terms."
16. Joint Pub 3-0, "Doctrine for Joint Operations."
17. Joint Pub 3-02, "Joint Doctrine for Amphibious Operations."
18. Joint Pub 3-05, "Doctrine for Joint Special Operations."
19. Joint Pub 3-10.1, "Joint Tactics, Techniques, and Procedures for Base Defense."
20. Joint Pub 3-17, "Joint Tactics, Techniques, and Procedures for Theater Airlift Operations."

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21. Joint Pub 3-52, "Doctrine for Joint Airspace Control in the Combat Zone."
22. Joint Pub 3-56.1, "Command and Control for Joint Air Operations."
23. Joint Pub 4-0, "Doctrine for Logistic Support of Joint Operations."
24. Joint Pub 4-01, "Joint Doctrine for the Defense Transportation System."
25. Joint Pub 4-01.3, "Joint Tactics, Techniques, and Procedures for Movement Control."
26. Joint Pub 4-02, "Doctrine for Health Service Support in Joint Operations."
27. Joint Pub 4-02.2, "Joint Tactics, Techniques, and Procedures for Patient Evacuation in Joint Operations."
28. Joint Pub 5-03.1, "Joint Operation Planning and Execution System, Vol I, (Planning Policies and Procedures)."
29. Joint Pub 5-03.2, "Joint Operation Planning and Execution System, Vol II, (Planning and Execution Formats and Guidance)."
30. Joint Pub 5-03.21, "Joint Operation Planning and Execution System, Vol II, (Planning and Execution Formats and Guidance)." (Secret Supplement)
31. Joint Pub 5-03.3, "Joint Operation Planning and Execution System, Vol III, (ADP Support)."
32. CJCS MOP #3, "CJCS Controlled Tactical Communications Assets."
33. CJCSM 3122.02, "Manual for Time-Phased Force and Deployment Data (TPFDD) Development and Deployment Execution."
34. FM 100-5, "Operations."
35. NWP 1, "Strategic Concepts of the Navy"
36. NWP 8, "Command and Control."
37. AFM 1-1, "Basic Aerospace Doctrine."
38. AFDD 30, "Airlift Operations."
39. AFR 76-6/FM 55-12/FMFM 4-6/OPNAV Inst. 4630.27A "Movement of Units in Air Force Aircraft."
40. FM 90-25/FMFRP 5-33/MACP 55-35, "Airlift for Combat Operations."
41. FM 100-27/FMFM 4-61/AFM 2-50, "Doctrine for Multi-Service Air Movement."

**APPENDIX B  
ADMINISTRATIVE INSTRUCTIONS**

**1. User Comments**

Users in the field are highly encouraged to submit comments on this publication to the Joint Warfighting Center, Attn: Doctrine Division, Fenwick Road, Bldg 96, Fort Monroe, VA 23651-5000. These comments should address content (accuracy, usefulness, consistency, and organization), writing, and appearance.

**2. Authorship**

The lead agent for this publication is the United States Transportation Command. The Joint Staff doctrine sponsor for this publication is the Director for Logistics (J-4).

**3. Change Recommendations**

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c. Record of Changes:

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## Appendix B

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## GLOSSARY

### PART I—ABBREVIATIONS AND ACRONYMS

ACA	airspace control authority
ACC	Air Combat Command
ACF	air contingency force
ACP	airspace control plan
A/DACG	arrival/departure airfield control group
AE	aeromedical evacuation
AECC	Aeromedical Evacuation Coordination Center
AES	aeromedical evacuation system
AFCC	Air Force component commander
ALCC	airlift coordination cell
AMC	Air Mobility Command
AME	air mobility element
AMX	air mobility express
AOC	air operations center
AOR	area of responsibility
APCC	aerial port control center
APOD	aerial port of debarkation
ATMCT	air terminal movement control team
C2	command and control
CAOC	combat air operations center
CCT	combat control team
CJCS	Chairman of the Joint Chiefs of Staff
COCOM	combatant command (command authority)
CONUS	continental United States
CRAF	Civil Reserve Air Fleet
DIRMOBFOR	Director of Mobility Forces
DOD	Department of Defense
DZ	drop zone
FOB	forward operations base
GDSS	Global Decision Support System
GTN	Global Transportation Network
HN	host nation
ISB	intermediate staging base
JAOC	joint air operations center
JCSE	Joint Communications Support Element
JFACC	joint force air component commander
JFC	joint force commander



## Glossary

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JMC	joint movement center
JOA	joint operations area
JOPES	Joint Operation Planning and Execution System
JSCP	Joint Strategic Capabilities Plan
JTB	Joint Transportation Board
JTTP	joint tactics, techniques, and procedures
LZ	landing zone
MHE	materials handling equipment
MOOTW	military operations other than war
MPF	maritime prepositioning force
MSC	Military Sealift Command
MSF	mission support force
MST	mission support team
MTMC	Military Traffic Management Command
NCA	National Command Authorities
OPCON	operational control
OPLAN	operation plan
SAAF	small austere airfield
SAAM	special assignment airlift mission
SAF	Secretary of the Air Force
SEAD	suppression of enemy air defenses
SECOMP	secure en route communications package
SOF	special operations forces
TACC	Tanker/Airlift Control Center (USAF)
TACS	Theater Air Control System
TALCE	tanker airlift control element
TALO	theater airlift liaison officer
TCC	Transportation Component Command
TPFDD	time-phased force and deployment data
USC	United State Code
USCINCTRANS	Commander in Chief, United States Transportation Command
USTRANSCOM	US Transportation Command

## PART II—TERMS AND DEFINITIONS

**aerial port.** An airfield that has been designated for the sustained air movement of personnel and materiel, and to serve as an authorized port for entrance into or departure from the country in which located. (Joint Pub 1-02)

**aeromedical evacuation.** The movement of patients under medical supervision to and between medical treatment facilities by air transportation. (Joint Pub 1-02)

**aeromedical evacuation coordination center.** A coordination center, within the joint air operations center's airlift coordination cell, which monitors all activities related to aeromedical evacuation (AE) operations execution. It manages the medical aspects of the AE mission and serves as the net control station for AE communications. It coordinates medical requirements with airlift capability, assigns medical missions to the appropriate AE elements, and monitors patient movement activities. Also called AECC. (Upon approval of this publication, this term and its definition will modify the existing term and its definition and will be included in Joint Pub 1-02).

**aeromedical evacuation system.** A system that provides: a) control of patient movement by air transport; b) specialized medical attendants and equipment for inflight medical care; c) facilities on or in the vicinity of air strips and air bases, for the limited medical care of in-transit patients entering, en route via, or leaving the system; and d) communications with originating, destination, and en route medical facilities concerning patient transportation. (Joint Pub 1-02)

**airborne operation.** An operation involving the air movement into an objective area of combat forces and their logistic support for execution of a tactical or a strategic mission. The means employed may be any combination of airborne units, air transportable units, and types of transport aircraft, depending on the mission and the overall situation. (Joint Pub 1-02)

**air direct delivery.** The strategic air movement of cargo or personnel from an airlift point of embarkation to a point as close as practicable to the user's specified final destination, thereby minimizing transshipment requirements. Air direct delivery eliminates the traditional Air Force two step strategic and theater airlift transshipment mission mix. (Joint Pub 1-02)

**airdrop.** The unloading of personnel or materiel from aircraft in flight. (Joint Pub 1-02)

**air landed.** Moved by air and disembarked, or unloaded, after the aircraft has landed or while a helicopter is hovering. (Joint Pub 1-02)

**airlift capability.** The total capacity expressed in terms of number of passengers and/or weight/cubic displacement of cargo that can be carried at any one time to a given destination by available airlift. (Joint Pub 1-02)

**airlift coordination cell.** A cell within the air operations center which plans, coordinates, manages, and executes theater airlift operations in the area of responsibility or joint operations area. Normally consists of

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an airlift plans branch, an airlift operations branch, and an airlift support branch. Also called ALCC. (Upon approval of this publication, this term and its definition will modify the existing term and its definition and will be included in Joint Pub 1-02).

**airlift requirement.** The total number of passengers and/or weight/cubic displacement of cargo required to be carried by air for a specific task. (Joint Pub 1-02)

**air mobility element.** The air mobility element is an extension of the Air Mobility Command Tanker Airlift Control Center deployed to a theater when requested by the geographic combatant commander. It coordinates strategic airlift operations with the theater airlift management system and collocates with the air operations center whenever possible. Also called AME. (Joint Pub 1-02)

**allocation (transportation).** Apportionment by designated authority of available transport capability to users. (Joint Pub 1-02)

**apportionment.** In the general sense, distribution for planning of limited resources among competing requirements. Specific apportionments (e.g., air sorties and forces for planning) are described as apportionment of air sorties and forces for planning, etc. (Joint Pub 1-02)

**area of responsibility.** 1) The geographical area associated with a combatant command within which a combatant commander has authority to plan and conduct operations. 2) In naval usage, a predefined area of enemy terrain for which supporting ships are responsible for covering by fire on known targets or targets of opportunity and by observation. Also called AOR. (Joint Pub 1-02)

**channel airlift.** Common-user airlift service provided on a scheduled basis between two points. (Joint Pub 1-02)

**civil reserve air fleet.** A program in which the Department of Defense uses aircraft owned by a US entity or citizen. The aircraft are allocated by the Department of Transportation to augment the military airlift capability of the Department of Defense. These aircraft are allocated, in accordance with DOD requirements, to segments, according to their capabilities, such as Long-Range International (cargo and passenger), Short-Range International, Domestic, Alaskan, Aeromedical, and other segments as may be mutually agreed upon by the Department of Defense and the Department of Transportation. CRAF can be incrementally activated by the Department of Defense in three stages in response to defense-oriented situations, up to and including a declared national emergency or war, to satisfy DOD airlift requirements. When activated, CRAF aircraft are under the mission control of the Department of Defense while remaining a civil resource under the OPCON of the responsible US entity or citizen. a. CRAF Stage I. This stage involves DOD use of civil air resources that air carriers will furnish to the Department of Defense to support substantially expanded peacetime military airlift requirements. The Commander in Chief, US Transportation Command (USCINCTRANS), with the approval of the Secretary of Defense, may activate this stage and assume mission control of those airlift assets committed to CRAF Stage I. b. CRAF Stage II. This stage involves DOD use of civil air resources that the air carriers will furnish to Department of Defense in a time of defense airlift emergency. USCINCTRANS, with the approval of the Secretary of Defense, may activate this stage and assume mission control of those airlift assets committed to CRAF Stage II. c. CRAF

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**Stage III.** This stage involves Department of Defense use of civil air resources owned by a US entity or citizen that the air carriers will furnish to the DOD in a time of declared national defense-oriented emergency or war, or when otherwise necessary for the national defense. The Secretary of Defense directs USCINCTRANS to activate this stage and assume mission control of those airlift assets committed to CRAF Stage III. Also called CRAF. (This term and its definition are provided for information and are approved for inclusion in the next edition of Joint Pub 1-02 by Joint Pub 4-01).

**common user airlift service.** The airlift service provided on a common basis for all DOD agencies and, as authorized, for other agencies of the US Government. (Joint Pub 1-02)

**director of mobility forces.** Normally a senior officer who is familiar with the area of responsibility or joint operations area and possesses an extensive background in airlift operations. When established, the director of mobility forces serves as the designated agent for all airlift issues in the area of responsibility or joint operations area, and for other duties as directed. The director of mobility forces exercises coordinating authority between the airlift coordination cell, the air mobility element, the Tanker Airlift Control Center, the joint movement center, and the air operations center in order to expedite the resolution of airlift problems. The director of mobility forces may be sourced from the theater's organizations, United States Transportation Command, or United States Atlantic Command. Also called DIRMOBFOR. (Approved for inclusion in the next edition of Joint Pub 1-02).

**force tracking.** The identification of units and their specific modes of transport during movement to an objective area. (Joint Pub 1-02)

**global transportation network.** The automated support necessary to enable USTRANSCOM and its components to provide global transportation management. The global transportation network provides the integrated transportation data and systems necessary to accomplish global transportation planning, command and control, and intransit visibility across the range of military operations. Also called GTN. (This term and its definition are provided for information and are approved for inclusion in the next edition of Joint Pub 1-02 by Joint Pub 4-01).

**host nation.** A nation which receives the forces and/or supplies of allied nations and/or NATO organizations to be located on, to operate in, or to transit through its territory. (Joint Pub 1-02)

**host-nation support.** Civil and/or military assistance rendered by a nation to foreign forces within its territory during peacetime, crises or emergencies, or war based on agreements mutually concluded between nations. (Joint Pub 1-02)

**small austere airfield.** Unsophisticated airfield, usually with a short runway, that is limited in one or a combination of the following: taxiway systems, ramp space, security, materials handling equipment, aircraft servicing, maintenance, navigation aids, weather observing sensors, and communications. Also called SAAF. (Approved for inclusion in the next edition of Joint Pub 1-02).

**special operations.** Operations conducted by specially organized, trained, and equipped military and paramilitary forces to achieve military, political, economic, or psychological objectives by unconventional military means in hostile, denied, or politically sensitive areas. These operations are conducted during peacetime competition, conflict, and war,

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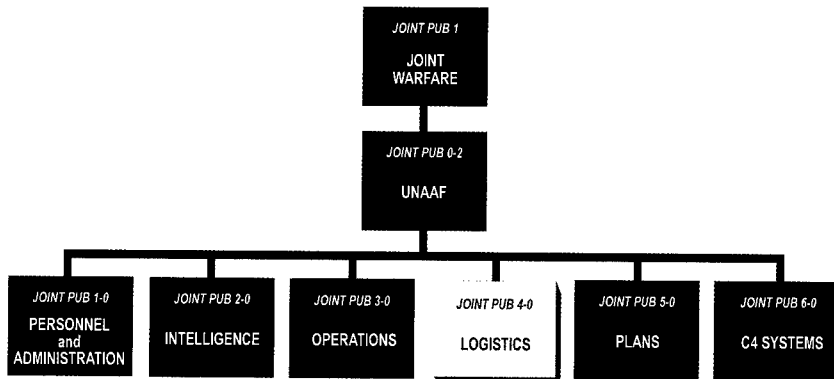
independently or in coordination with operations of conventional, nonspecial operations forces. Political-military considerations frequently shape special operations, requiring clandestine, covert, or low visibility techniques and oversight at the national level. Special operations differ from conventional operations in degree of physical and political risk, operational techniques, mode of employment, independence from friendly support, and dependence on detailed operational intelligence and indigenous assets. Also called SO. (Joint Pub 1-02)

**strategic airlift.** The common-user airlift linking theaters to the continental United States (CONUS) and to other theaters as well as the airlift within CONUS. These airlift assets are assigned to the Commander in Chief, United States Transportation Command. Due to the intertheater ranges usually involved, strategic airlift is normally comprised of the heavy, longer range, intercontinental airlift assets but may be augmented with shorter range aircraft when required. Also called intertheater airlift (Approved for inclusion in the next edition of Joint Pub 1-02).

**theater airlift.** That airlift assigned or attached to a combatant commander other than Commander in Chief, US Transportation Command, which provides air movement and delivery of personnel and equipment directly into objective areas through air landing, airdrop, extraction, or other delivery techniques; and the air logistic support of all theater forces, including those engaged in combat operations, to meet specific theater objectives and requirements. Also called intratheater airlift. (Approved for inclusion in the next edition of Joint Pub 1-02).

**transportation component command.** The three component commands of USTRANSCOM: Air Force Air Mobility Command, Navy Military Sealift Command, and Army Military Traffic Management Command. Each transportation component command remains a major command of its parent Service and continues to organize, train, and equip its forces as specified by law. Each transportation component command also continues to perform Service-unique missions. Also called TCC. (Joint Pub 1-02)

# JOINT DOCTRINE PUBLICATIONS HIERARCHY



All joint doctrine and tactics, techniques, and procedures are organized into a comprehensive hierarchy as shown in the chart above. **Joint Pub 4-01.1** is in the **Logistics** series of joint doctrine publications. The diagram below illustrates an overview of the development process:

