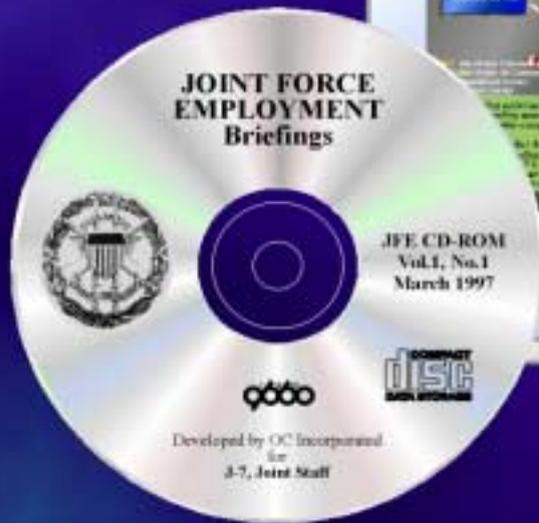


JOINT DOCTRINE

Joint Force Employment



Joint Air Operations

J-7 OPERATIONAL PLANS AND INTEROPERABILITY DIRECTORATE

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PREFACE

This briefing is one of the publications comprising the Joint Doctrine Joint Force Employment Briefing Modules. It has been specifically designed as a definitive briefing guide for joint doctrine presentations and focuses on the key elements of joint air operations. Discussion will include the Joint Force Commander and Joint Force Air Component Commander's (JFACC) role in these operations and the planning processes involved. Counterair operations, suppression of enemy air defenses (SEAD) operations, air interdiction, theater airlift, airspace control, and close air support will also be discussed. All the material found in the joint doctrine Joint Force Employment Briefing Modules is drawn directly from approved joint doctrine, without interpretation, and may be reproduced and distributed to advance a better understanding of joint warfare and the principles of joint doctrine.

The module is organized into two main sections. The first section contains slides and a briefing script. A briefing slide is depicted on the left hand page along with its accompanying script on the facing page. The particular Joint Doctrine Publication from which the material is drawn is identified as (**Source**) on the briefing script. Appendix A contains an outline of the briefing script.

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SECTION II

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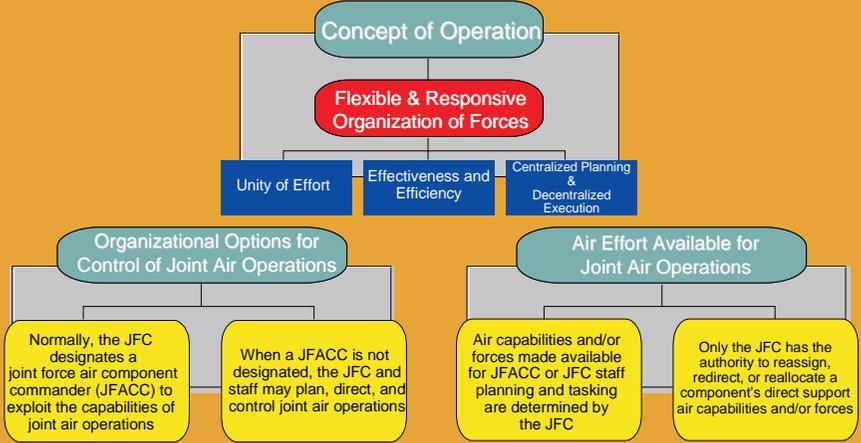
Section I

Joint Air Operations Briefing Slides and Script

Joint Air Operations
Joint Air Operations Fundamentals



Joint air operations are defined as those operations performed with air capabilities made available by components in support of the joint force commander's (JFC's) operation or campaign objectives, or in support of other components of the joint force.



JP 3-56.1, "COMMAND AND CONTROL FOR JOINT AIR OPERATIONS" 1

Slide 1. Joint Air Operations Fundamentals

Joint Air Operations Fundamentals

Today we will be discussing **joint air operations**. We will begin by covering some **fundamentals** of joint air operations, to include the designation of a joint force air component commander (JFACC) and airspace control. We will discuss counterair operations, air interdiction, close air support (CAS), theater airlift, and combat search and rescue operations (CSAR).

Joint air operations are defined as those air operations performed with air capabilities and/or forces made available by components in support of the joint force commander's (JFC's) operation or campaign objectives, or in support of other components of the joint force. Joint air operations do not include those air operations that a component conducts in direct support of itself. **(JP 3-56.1, Chapter I, para 2)**

As with all operations, it is important that the JFC integrates and synchronizes the actions of assigned, attached, and supporting forces in space, time, and purpose. Additionally, to accomplish the assigned mission, the JFC develops a concept of operation and organizes forces based on that concept. The organization should be sufficiently flexible as well as responsive. Sound organization should provide: unity of effort, for effectiveness and efficiency; centralized planning, for controlling and coordinating the efforts of all available forces; and decentralized execution, to cope with the uncertainty, disorder, and fluidity of combat. **(JP 3-56.1, Chapter I, para 3)**

Most often, joint forces are organized with a combination of Service and functional component commands, with their authority and responsibilities defined by the JFC. The JFACC is an example of a functional component commander. The JFC will normally designate a JFACC to exploit the capabilities of joint air operations. The JFACC directs this exploitation through a cohesive joint air operations plan for centralized planning and a responsive and integrated control system for decentralized execution. **(JP 3-56.1, Chapter I, para 3)**

In cases where a JFACC is not designated, the JFC and his staff may plan, direct, and control joint air operations. Typically, this would occur when a conflict or situation is of limited duration, scope, and/or complexity. The JFC may elect to centralize selected functions, such as planning, coordinating, and tasking, within the staff to provide direction, control, and coordination of the capabilities and/or forces assigned to the joint force. **(JP 3-56.1, Chapter I, paras 3 & 10)**

The JFC's decision not to designate a JFACC is influenced by span of control, duration and scope of operations, and the necessary degree of centralized planning and control. If a JFACC is not designated, unity of effort in joint air operations requires the JFC to centrally plan and coordinate joint air operations with other joint force operations. **(JP 3-56.1, Chapter II, para 10)**

The air capabilities and/or forces made available for JFACC or JFC planning and tasking are determined by the JFC in consultation with component commanders, and based on the assigned objectives and the concept of operations. Component commanders make capabilities and/or forces available to the JFC for tasking to support the joint force as a whole based on

assigned component missions and JFC guidance. However, only the JFC has the authority to reassign, redirect, or reallocate a component's direct support air capabilities. When a component does not have the organic air capabilities and/or forces to support their assigned mission, the JFACC or JFC will task available joint air forces (through the joint air tasking order (ATO) based on the JFC's air apportionment decision. **(JP 3-56.1, Chapter II, para 1)**

Though missions vary widely across the range of military operations from war to military operations other than war (MOOTW), the framework and processes for joint air operations are consistent. Unity of effort, centralized planning, and decentralized execution are as important in MOOTW as in war. **(JP 3-56.1, Chapter I, para 4)**

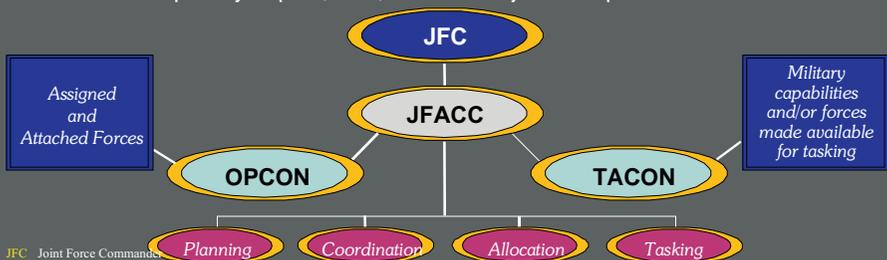
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Joint Air Operations

Joint Force Air Component Commander Responsibilities



The joint force commander will normally assign JFACC responsibilities to the component commander having the preponderance of air assets and the capability to plan, task, and control joint air operations.



JFC Joint Force Commander
 JFACC Joint Force Air Component Commander
 OPCON Operational Control
 TACON Tactical Control

JFACC Responsibilities

Developing a joint air operations plan
 Recommending apportionment of joint air effort to the JFC after consulting with other component commanders
 Providing direction for allocation and tasking
 Controlling execution of joint air operations as specified by the JFC
 Coordinating joint air operations with operations of other component commanders

Evaluating results of joint air operations and forwarding assessments to the JFC
 Performing duties of airspace control authority*
 Performing duties of area air defense commander*
 Functioning as supported commander
 Functioning as supporting commander

*When assigned by the JFC

JP 3-56.1, "COMMAND AND CONTROL FOR JOINT AIR OPERATIONS" 2

Slide 2. Joint Force Air Component Commander Responsibilities

Joint Force Air Component Commander Responsibilities

As we have mentioned previously, the JFC will normally designate a JFACC. The JFC will base the decision to designate a JFACC on several factors such as JFC's overall mission, concept of operations, the missions and tasks assigned to subordinate commanders, forces available, duration and nature of joint air operations desired, and the degree of unity of command and control of joint air operations required. The JFC will normally assign **JFACC responsibilities** to the component commander having the preponderance of air assets and the capability to plan, task, and control joint air operations. (**JP 3-56.1, Chapter II, para 2**)

The authority and command relationships of the JFACC are established by the JFC. These typically include exercising operational control (OPCON) over assigned and attached forces and tactical control (TACON) over other military capabilities and/or forces made available for tasking. The JFC may also establish supporting and supported relationships between components to facilitate operations. The JFC normally assigns missions and issues mission-type orders to all components. With receipt of the mission goes the authority to conduct operations in accordance with the JFC's intent and concept of the operation. (**JP 3-56.1, Chapter II, para 3**)

JFACC Responsibilities. As expected, the responsibilities of the JFACC are assigned by the JFC. These generally include planning, coordination, allocation, and tasking of joint air operations based on the JFC's concept of operations and air apportionment decision. Specific JFACC responsibilities normally include the following:

Developing a joint air operations plan to best support joint force objectives as assigned by the JFC or higher authority.

Recommending to the JFC apportionment of the joint air effort, after consulting with other component commanders.

Providing centralized direction for the allocation and tasking of capabilities and/or forces made available based on the JFC air apportionment decision.

Controlling execution of joint air operations as specified by the JFC, to include making timely adjustments to targeting and tasking of available joint capabilities and/or forces.

Coordinating joint air operations with operations of other component commanders and forces assigned to or supporting the JFC.

Evaluating the results of joint air operations and forwarding combat assessments to the JFC to support the overall combat assessment effort.

Performing the duties of the airspace control authority (ACA) when assigned that responsibility by the JFC.

Performing the duties of the area air defense commander (AADDC) when assigned that responsibility by the JFC.

Functioning as the supported commander for counterair operations, strategic attack operations (when joint air operations constitute the bulk of the capability), theater airborne reconnaissance and surveillance, and the JFCs overall air interdiction effort.

Functioning as a supporting commander, as directed by the JFC, for operations such as CAS, air interdiction within the land and naval component areas of operations, and maritime support. **(JP 3-56.1, Chapter II, para 4)**

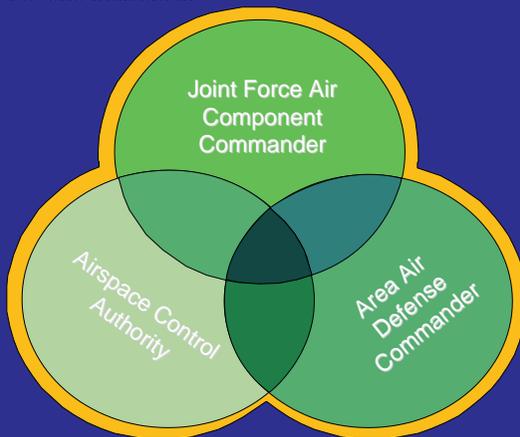
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Joint Air Operations

JFACC / ACA / AADC Interrelationships & Responsibilities



The responsibilities of the JFACC, Airspace Control Authority (ACA) and Area Air Defense Commander (AADC) are interrelated and should normally be assigned to one individual.



JP 3-52, "DOCTRINE FOR JOINT AIRSPACE CONTROL IN THE COMBAT ZONE"
JP 3-56.1, "COMMAND AND CONTROL FOR JOINT AIR OPERATIONS" 3

Slide 3. JFACC/ACA/AADC Interrelationships and Responsibilities

JFACC, ACA, and AADC Interrelationships and Responsibilities

The responsibilities of the JFACC, ACA, and AADC are interrelated and should normally be assigned to one individual. The functions and responsibilities of the JFACC, ACA, and AADC must be integrated in order to unite joint air operations with joint airspace control and joint air defense operations in support of the JFC's campaign. Designating one component commander as JFACC, AADC, and ACA may simplify coordination required to develop and execute fully integrated joint air operations. If conditions do not permit this assignment, then close coordination between all three positions is essential. **(JP 3-56.1, Chapter II, para 5)**

The JFC also designates the position of ACA with responsibilities including coordinating and integrating the use of the airspace control area. Subject to the authority and approval of the JFC, the ACA develops broad policies and procedures for airspace control and for the coordination required among units within the area of responsibility (AOR) and/or joint operations area (JOA). The ACA establishes an airspace control system that is responsive to the needs of the JFC, provides for integration of the airspace control system with that of the host nation, and coordinates and deconflicts user requirements. A key responsibility of the ACA is to provide the flexibility needed within the airspace control system to meet contingency situations that necessitate rapid employment of forces. Finally, centralized direction by the ACA does not imply assumption of OPCON or TACON over any air assets. Matters on which the ACA is unable to obtain agreement will be referred to the JFC for resolution. **(JP 3-56.1, Chapter II, para 2)**

Methods to accomplish this coordination and integration vary throughout the range of military operations from war to MOOTW that include both combat and noncombat activities. The methods range from positive control of all air assets in an airspace control area to procedural control of all such assets, with any effective combination of positive and procedural control between the two extremes. It is up to the JFC, through the airspace control plan (ACP), to decide the appropriate method based on the concept of operations. **(JP 3-56.1, Chapter II, para 5c)**

Depending on the environment, mission, and location throughout the range of military operations, the degree of control may need to be rigorous and the rules of engagement (ROE) may be more restrictive. This is especially true in a MOOTW environment that can transition quickly from combat to noncombat and back again and often has constraints on the forces, weapons, tactics employed, and level of violence. Consequently, as a minimum, in MOOTW environments prone to such fluctuations, all air missions, including both fixed- and rotary-wing of all components, must appear on the appropriate ATO and/or flight plan. **(JP 3-56.1, Chapter II, para 5d)**

The JFC will normally assign overall responsibility for air defense to an AADC. This position is necessary for successful air defense operations. The AADC's responsibilities lie with developing an integrated operation of all available air defense systems. Authority to integrate air defense forces and operations in overseas land areas will be delegated to the AADC. Air defense operations should also be coordinated with other tactical operations, both on and over land and sea. Representation from the other components involved will be

provided, as appropriate, to the AADC's headquarters. (**JP 3-01.5, Chapter II, para 3 and JP 3-56.1, Chapter II, para 2e**)

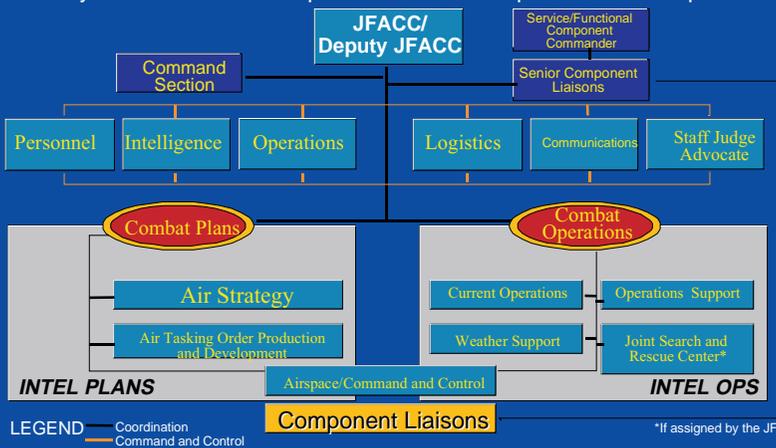
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Joint Air Operations

JFACC Organization & Joint Air Operations Center (JAOC)



The JFACC's operations center will often be designated a joint air operations center (JAOC). The JAOC is structured to operate as a fully integrated facility and staffed to fulfill all of the JFACC's responsibilities. JFACC organizations may differ based on the specific AOR/JOA requirements and operations.



JP 3-56.1, "COMMAND AND CONTROL FOR JOINT AIR OPERATIONS" 4

Slide 4. JFACC Organization and Joint Air Operations Center (JAOC)

JFACC Organization and Joint Air Operations Center

The JFACC's operations center will often be designated a joint air operations center (JAOC). The **JAOC** is structured to operate as a fully integrated facility and staffed to fulfill all of the JFACC's responsibilities. **JFACC organizations** may differ based on the specific AOR and/or JOA requirements and operations. However, the two organizations or functions that should be common to all JAOCs are Combat Plans and Combat Operations. Planning "future joint air operations" is the responsibility of Combat Plans, which includes the responsibility of drafting the joint air operations plan to support the JFC's campaign or objectives and building the daily joint ATO. Execution of the daily joint ATO is carried out by Combat Operations. This organization closely follows the action of current joint air operations, shifting missions from their scheduled times or targets and making other adjustments as the situation requires. **(JP 3-56.1, Chapter II, para 6a)**

Component commanders have ready access to the JFACC and staff through the component liaisons. These liaisons work for their respective component commanders and work with the JFACC and staff. Senior component liaisons serve as conduits for direct coordination between the JFACC and their respective component commanders. They must be equipped and authorized to communicate directly with their respective component commander. **(JP 3-56.1, Chapter II, para 7a)**

Each component normally provides liaison elements that work within the JAOC. These liaison elements consist of experienced warfare specialists who provide component planning and tasking expertise and coordination capabilities. **(JP 3-56.1, Chapter II, para 7b)**

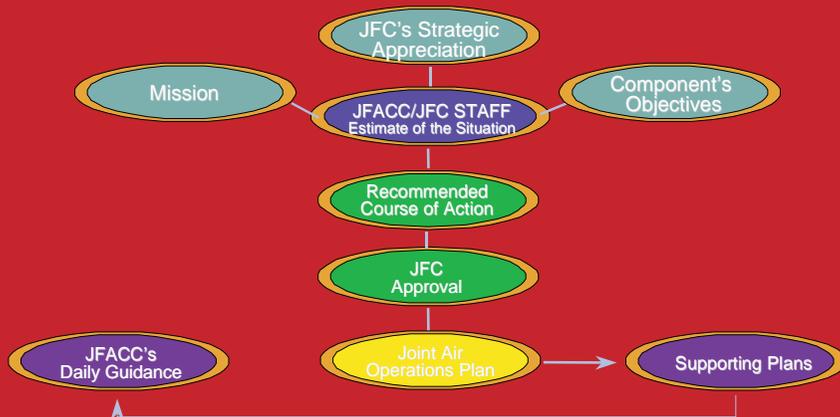
The JFACC's staff should be organized and manned so that component representation reflects the composition of the joint force. This representation will provide the JFACC with the expertise needed to effectively employ the capabilities made available. Functional component staffs require advanced planning for efficient operations. Such individuals should be identified and trained during peacetime and used when JFACC staffs are formed for exercises and actual operations to ensure an effective transition to combat operations. **(JP 3-56.1, Chapter II, para 8)**

Functional area experts, such as intelligence, logistics, airspace, plans, and communications, provide the critical and unique expertise in support, plans, and execution functions, as appropriate for the employment scenario. Mission experts, like air-to-air, air-to-ground, reconnaissance, and air refueling, provide the technical warfighting expertise required to plan and employ capabilities made available by the components. **(JP 3-56.1, Chapter II, para 8a)**

Joint Air Operations Concept of Joint Air Operations Development



Planning for joint air operations begins with understanding the mission. The JFC's strategic appreciation of the various forces affecting the AOR/JOA and articulation of the strategic and operational objectives needed to accomplish the mission form the basis for determining components' objectives.



JP 3-56.1, "COMMAND AND CONTROL FOR JOINT AIR OPERATIONS" 5

Slide 5. Concept of Joint Air Operations Development

Concept of Joint Air Operations Development

Planning for joint air operations begins with understanding the joint force mission.

The JFC's strategic appreciation of the political, economic, military, and social forces affecting the AOR and/or JOA and articulation of the strategic and operational objectives needed to accomplish the mission form the basis for determining components' objectives.

The JFACC staff uses the mission, the JFC's strategic appreciation and objectives, and the components' objectives to devise an air estimate of the situation.

This estimate follows a systematic series of steps to formulate a course of action (COA). When the JFACC's COA is approved by the JFC, it becomes the basic concept of the joint air operations, stating "what" will be done.

The "how" part is stated in the joint air operations plan and supporting plans. The joint air operations plan documents the JFACC's plan for integrating and coordinating joint air operations. It encompasses operations of capabilities from joint force components.

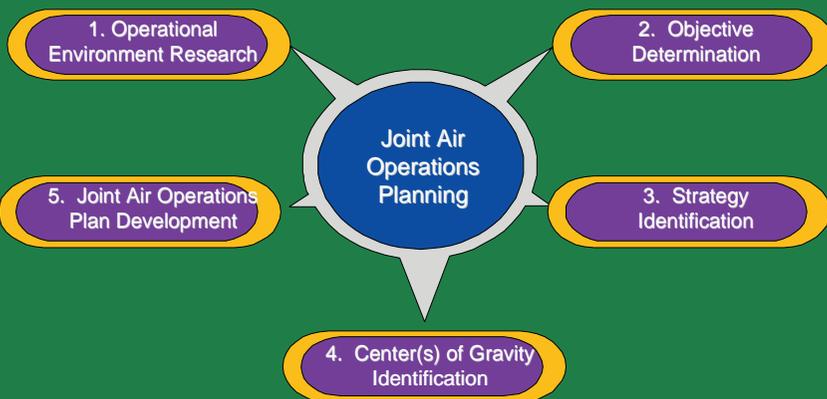
The JFACC's daily guidance ensures that joint air operations effectively support the joint force objectives while retaining enough flexibility to adjust to the dynamics of the range of military operations. **(JP 3-56.1, Chapter III, para 1)**

Joint Air Operations

Joint Air Operations Planning Process: Five Phases



Normally, there are five phases in the joint air operations planning process, and each phase produces a desired product. While presented in sequential order, the phases are not all required to be completed in this order.



JP 3-56.1, "COMMAND AND CONTROL FOR JOINT AIR OPERATIONS" 6

Slide 6. Joint Air Operations Planning Process: Five Phases

Joint Air Operations Planning Process: Five Phases

Normally, there are **five phases in the joint air operations planning process**, and each phase produces a desired product. While presented in a sequential order, the phases are not all required to be completed in order. Work on the various phases may be concurrent or sequential. However, at some point, phases must be integrated and the products of each phase must be checked and verified for coherence.

Phase 1 is called Operational Environment Research. The product of this phase is primarily the intelligence preparation of the battlespace and gathering an in-depth knowledge of the operational environment.

Phase 2 is termed Objective Determination. The products of this phase are clearly defined and quantifiable objectives that will contribute to the accomplishment of the JFC's operation or campaign objectives.

Phase 3 consists of Strategy Identification. The product of this phase is a clearly defined joint air strategy statement. The operation or campaign plan communicates the JFC's strategy. The joint air strategy states how the JFACC plans to exploit joint air capabilities to support the JFC's objectives. The joint air operations plan is how the JFACC communicates, promulgates, and articulates this strategy.

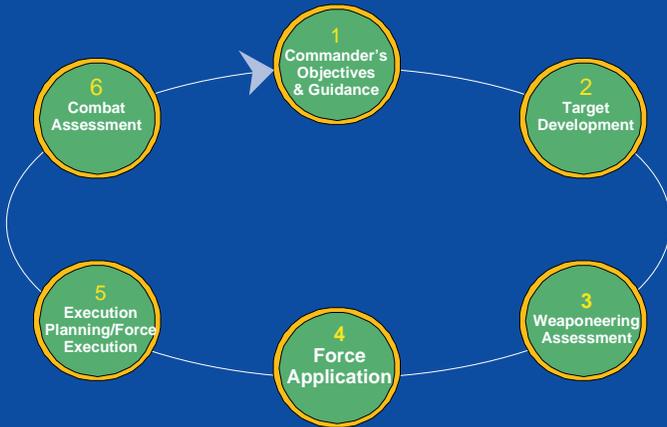
Phase 4 is Center(s) of Gravity (COGs) Identification. The product of this phase is the identification of those COGs that could be defeated to satisfy the JFC's strategic, operational, and tactical objectives and those friendly COGs to defend.

Lastly, **phase 5 is the Joint Air Operations Plan Development.** The product of this phase is the joint air operations plan that details how joint air operations will support the JFC's operation or campaign plan. Based on the JFC's guidance, the JFACC develops the joint air operations plan. **(JP 3-56.1, Chapter III, para 3)**

Targeting Cycle Phases and Responsibilities



Targeting is the process of selecting targets and matching the appropriate response to them, taking into account strategic and operational requirements and capabilities and the threat to friendly forces imposed by the adversary.



JP 3-56.1, "COMMAND AND CONTROL FOR JOINT AIR OPERATIONS" 7

Slide 7. Targeting Cycle Phases and Responsibilities

Targeting Cycle Phases and Responsibilities

Now we will move on to the subject of targeting and tasking for joint air operations.

Targeting is the process of selecting targets and matching the appropriate response to them. It takes into account strategic and operational requirements and capabilities and the threat to friendly forces imposed by the adversary. Targeting occurs at all levels of command within a joint force and is performed at all levels by forces capable of attacking targets with both lethal and nonlethal disruptive and destructive means. Targeting is complicated by the requirement to deconflict duplicative targeting by different forces or different echelons within the same force and to synchronize the attack of those targets with other components of the joint force. An effective and efficient target development process and air tasking cycle are essential for the JFACC and/or JFC staff to plan and execute joint air operations. This joint targeting process should integrate capabilities and efforts of national, unified, joint force, and component commands, all of which possess varying capabilities and different requirements. The process is the same in war and MOOTW. **(JP 3-56.1, Chapter IV, para 1)**

The targeting process is a cyclical one, which begins with guidance and priorities issued by the JFC and continues with identification of requirements by components; the prioritization of these requirements; the acquisition of targets or target sets; the attack of targets by components; component and JFC assessment of the attacks; and continuing guidance from the JFC on future attacks. Some important points about the targeting cycle are as follows.

The cycle begins with objectives and guidance, proceeds through execution, and ends with combat assessment. Targeting mechanisms should exist at multiple levels. The National Command Authorities or headquarters senior to JFCs may provide guidance, priorities, and targeting support to JFCs. After the JFC makes the targeting and air apportionment decisions, components plan and execute assigned missions. The JFC may establish and task an organization within the JFC staff to accomplish these broad targeting oversight functions or may delegate the responsibility to a subordinate commander (e.g., JFACC). Typically, the JFC organizes a joint targeting coordination board. The JFC will normally delegate the authority to conduct execution planning, coordination, and deconfliction associated with joint air targeting to the JFACC and/or JFC staff and will ensure that this process is a joint effort. **(JP 3-56.1, Chapter IV, para 2)**

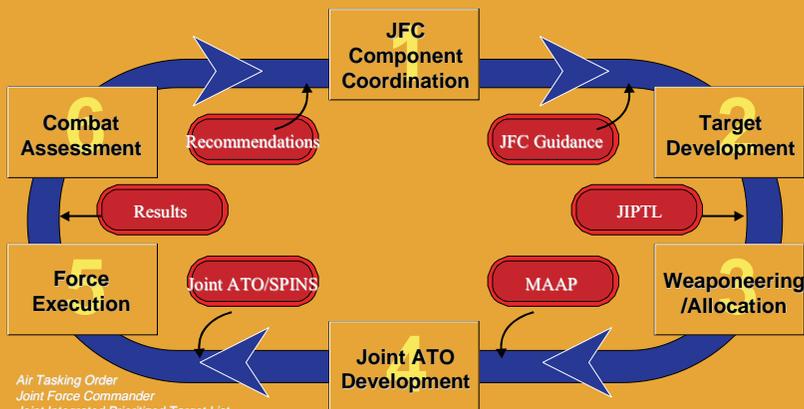
Synchronization, integration, deconfliction, allocation of air capabilities and/or forces, and matching appropriate weapons against target vulnerabilities are essential targeting functions for the JFACC. Other components targeting requirements to support their assigned missions are provided to the JFC and JFACC via the target information report. All component commanders within the joint force should have a basic understanding of each component's mission and general concept of operations and/or scheme of maneuver to support the JFC's campaign. Therefore, components should provide to the JFACC a description of their direct support plan through the liaison elements within the JAOC. This basic understanding will allow for coordination and deconfliction of targeting efforts between each component and within the JFC staff and agencies. **(JP 3-56.1, Chapter IV, para 3)**

Joint Air Operations

Joint Air Tasking Cycle & Joint ATO Phases



A joint air tasking cycle is used to provide for the efficient and effective employment of the joint air capabilities made available. The cycle provides a repetitive process for the planning, coordination, allocation, and tasking of joint air missions within the guidance of the JFC.



ATO Air Tasking Order
 JFC Joint Force Commander
 JIPTL Joint Integrated Prioritized Target List
 MAAP Master Air Attack Plan
 SPINS Special Instructions

JP 3-56.1, "COMMAND AND CONTROL FOR JOINT AIR OPERATIONS" 8

Slide 8. Joint Air Tasking Cycle and Joint ATO Phases

Joint Air Tasking Cycle and Joint ATO Phases

A **joint air tasking cycle** is used to provide for the efficient and effective employment of the joint air capabilities made available. The cycle provides a repetitive process for the planning, coordination, allocation, and tasking of joint air missions, within the guidance of the JFC. It accommodates changing tactical situations or JFC guidance, as well as requests for support from other component commanders. It is important to note that a timely joint ATO is critical, as other joint force components conduct their planning and operations based on a prompt, executable joint ATO, and are dependent on its information.

There are usually three joint ATOs at any given time: the joint ATO in execution, (today's plan), the joint ATO in production, (tomorrow's plan), and the joint ATO in planning, (the following day's plan). The joint air tasking cycle begins with the JFC's air apportionment process and culminates with the combat assessment of previous missions. (**JP 3-56.1, Chapter IV, para 4**)

The **joint ATO phases** are related to the targeting cycle. The approach is the same, a systematic process that matches available capabilities with targets to achieve operational objectives. However, the number of ATO phases may vary based on theater and contingency requirements.

In Phase 1, the **JFC and/or component coordination**, the JFC consults often with his component commanders to assess the results of the warfighting effort and to discuss the strategic direction and future operation plans. The JFC provides broad guidance and objectives and a vision of what constitutes military success. The JFC also defines the intent of the operation or campaign and sets priorities. This guidance will also include the JFC's air apportionment decision.

Phase 2 is **target development**. The specific objectives received during Phase 1 are used to focus target development. Targets are nominated to support the targeting objectives and priorities provided by the JFC. In accordance with the JFC's objectives and component targeting requirements, the JFACC and/or JFC staff will develop the joint air operation plans to employ available capabilities and/or forces. The end product of the target development phase is a prioritized list of targets — the joint integrated prioritized target list (JIPTL) that supports the objectives and conforms to guidance.

During phase 3, the **weaponizing and/or allocation** phase, targeting personnel quantify the expected results of lethal and nonlethal weapons employment against prioritized targets. The JIPTL, the prioritized listing of potential targets, constructed during the previous phase, provides the basis for weaponizing assessment activities. The final prioritized targets are then included into the Master Air Attack Plan (MAAP). The resulting MAAP is the plan of employment that forms the foundation of the joint ATO.

Phase 4 is **joint ATO development**. After the MAAP is approved by the JFACC, detailed preparations continue by Combat Plans section on the joint ATO, special instructions, and

the airspace control order. The ACA and AADC instructions must be provided in sufficient detail to allow components to plan and execute all missions tasked in the joint ATO.

The JAOC reviews each air capable component's allocation decision and/or air allocation request message and may prepare a sortie allotment message back to the components as required, in accordance with established operations plans guidelines.

Phase 5 brings us to **force execution**. The JFACC and/or JFC staff directs the execution and/or deconflicts all capabilities and/or forces made available for a given joint ATO. The JFC may give the JFACC the authority to redirect joint air operations. The affected component commander must approve all requests for redirection of direct support air assets. Affected component commanders will be notified by the JFACC upon redirection of joint sorties previously allocated in the joint ATO for support of component operations. Aircraft or other capabilities and/or forces not apportioned for tasking, but included in the ATO for coordination purposes, will be redirected only with the approval of the respective component commander or designated senior JAOC liaison officer. Components execute the joint ATO as tasked and recommend changes to the JAOC as appropriate, given emerging JFC and component requirements.

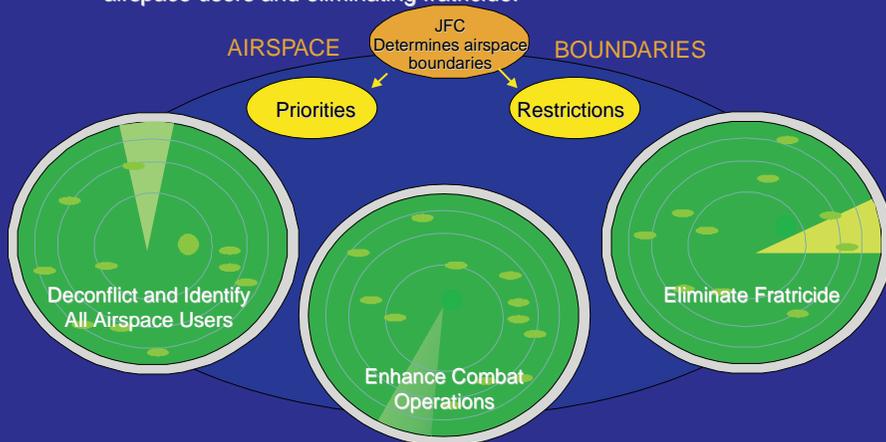
Phase 6 is **combat assessment (CA)**. CA is done at all levels of the joint force. The JFC should establish a dynamic system to support CA for all components. Normally, the joint force operations officer will be responsible for coordinating CA, assisted by the joint force intelligence officer. CA evaluates combat operations effectiveness to achieve command objectives. **(JP 3-56.1, Chapter IV, para 5)**

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Joint Air Operations Airspace Control



The primary goal of airspace control is to enhance the effectiveness of air, land, sea, and special operations forces in accomplishing the JFC's objectives. Other key goals should be deconflicting and identifying all airspace users and eliminating fratricide.



JP 3-01, "JOINT DOCTRINE FOR COUNTERING AIR AND MISSILE THREATS" 9

Slide 9. Airspace Control

Airspace Control

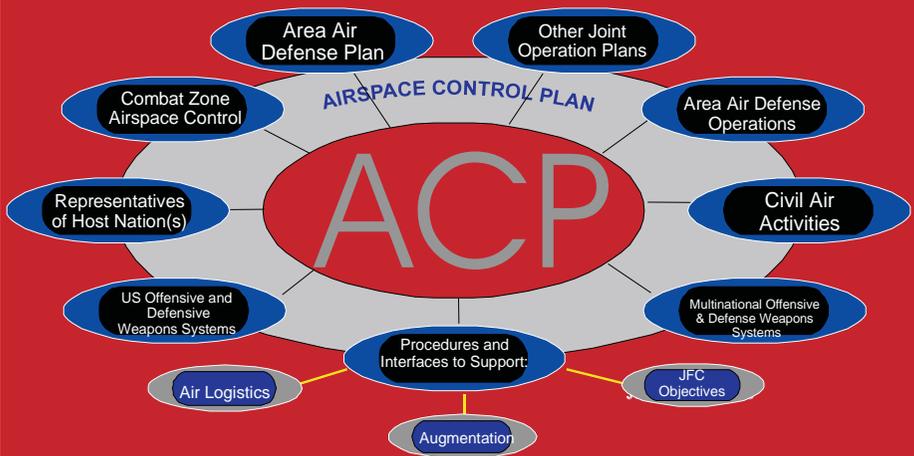
All components of the joint force share the theater and/or JOA airspace for offensive and defensive operations. Because of this, **airspace control** can become very complex. The timely exchange of information over reliable, interoperable means of communication is needed to effectively coordinate, integrate, and deconflict joint counterair operations. Execution of the airspace control plan is accomplished through airspace control orders that provide specific airspace control procedures applicable for defined periods of time. The primary goal of airspace control is to enhance the effectiveness of air, land, sea, and special operations forces (SOF) in accomplishing the JFC's objectives. Other key goals should be deconflicting and identifying all airspace users and eliminating fratricide.

Standardized airspace control procedures and close coordination help facilitate common understanding of airspace use, reduce the possibility of confusion, and contribute to the overall effectiveness of counterair. The JFC establishes the geographic boundaries within which airspace control is to be exercised and provides priorities and restrictions regarding its use. Airspace control is designed to integrate different airspace users and provide them with responsive and timely support. Integration with host-nation airspace and air defense control systems is essential. **(JP 3-01, Chapter III, paras 1-2)**

Airspace Control Plan - Principles and Methods



The airspace control plan (ACP) is approved by the JFC to establish procedures for the airspace control system in the joint force AOR/JOA.



JP 3-52, "DOCTRINE FOR JOINT AIRSPACE CONTROL IN THE COMBAT ZONE" 10

Slide 10. Airspace Control Plan - Principles and Methods

Airspace Control Plan - Principles and Methods

The **airspace control plan** is approved by the JFC to establish procedures for the airspace control system in the joint force AOR and/or JOA. The ACP must be tied to the area air defense plan and coordinated with the other joint operation plans because these documents together allow for the conduct of operations along the range from fully capable and operating command and control systems to greatly degraded command and control systems. The ACP must consider procedures and interfaces with the international or regional air traffic systems necessary to effectively support air logistics, augmenting forces, and JFC objectives. As a consequence, the ACP should be preplanned as much as possible and be put in a simplified, understandable format. Because the airspace control area normally coincides with air defense boundaries, coordination between combat zone airspace control and area air defense operations must be addressed.

The ACP should be coordinated with representatives of the host nation(s) in whose airspace the operations will take place and with civil air activities that may occur in or near the airspace. There also should be close planning and coordination between representatives of both offensive and defensive weapon systems of US and multinational armed services. Broad areas of concern for developing the ACP include familiarity with the basic operation plan, combined with knowledge of host and multinational political constraints, capabilities and procedures of military and civil air traffic control systems, and general locations of friendly and enemy forces.

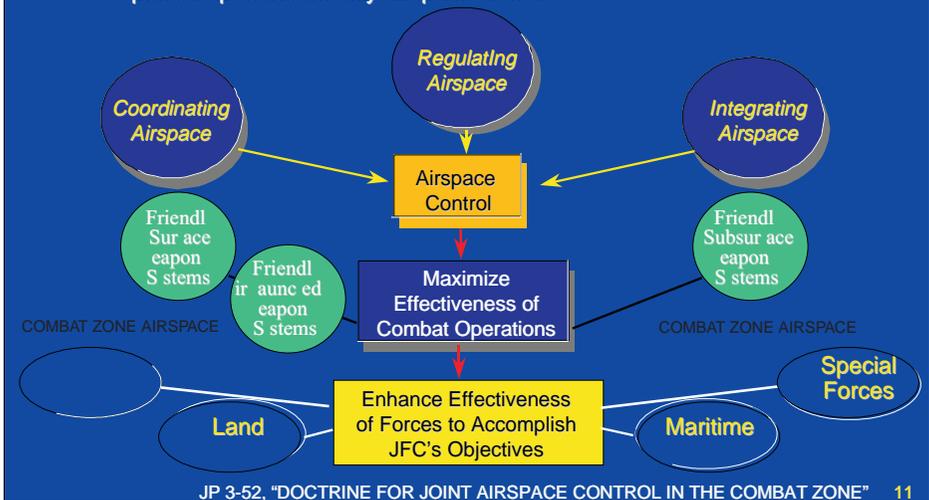
It is imperative that the ACP support an orderly transition from peacetime operations to combat operations. Such a transition could occur during a period of increasing tensions or suddenly without much warning.

The area air defense plan needs to be written with detailed engagement procedures that are integral to the ACP and operations in the combat zone. Combat zone airspace control and area air defense operations need to plan for operations in a degraded command, control, communications, and computers (C4) environment. Detailed engagement procedures and decentralized control procedures that apply to air defense are key to operations in a degraded environment. Air defense interface is critical to effective combat zone airspace control. The geographic arrangement of weapons and the location of specific types of air defense operations, as well as specific procedures for identification of aircraft, are important factors to include in the ACP. **(JP 3-52, Chapter II, para 3)**

Joint Air Operations

Fundamentals of Joint Airspace Control in the Combat Zone

Combat zone airspace control increases combat effectiveness by promoting the safe, efficient, and flexible use of airspace with a minimum of restraint placed upon the friendly airspace users.



JP 3-52, "DOCTRINE FOR JOINT AIRSPACE CONTROL IN THE COMBAT ZONE" 11

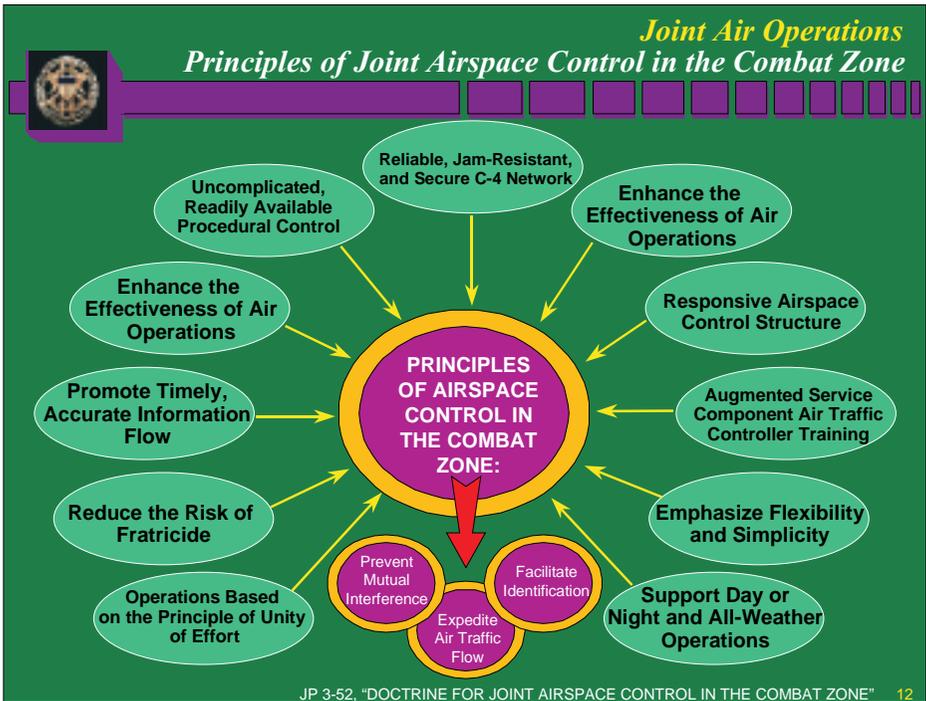
Slide 11. Fundamentals of Joint Airspace Control in the Combat Zone

Fundamentals of Joint Airspace Control in the Combat Zone

There are **fundamental issues** that must be addressed with regard to **joint airspace control in the combat zone**. Combat zone airspace control increases combat effectiveness by promoting the safe, efficient, and flexible use of airspace with a minimum of restraint placed upon the friendly airspace users. Airspace control includes coordinating, integrating, and regulating airspace to increase operational effectiveness; however, the airspace control authority does not have the authority to approve, disapprove, or deny combat operations that is vested only in operational commanders. Combat zone airspace control needs to provide a commander the operational flexibility to employ forces effectively in a joint or multinational campaign or operation.

The primary objective of combat zone airspace control is to maximize the effectiveness of combat operations without adding undue restrictions and with minimal adverse impact on the capabilities of any Service or functional component.

The airspace of the combat zone is a crucial dimension of the battlefield and is used by all components of the joint and multinational forces to conduct assigned missions. A high concentration of friendly surface, subsurface, and air-launched weapon systems must share this airspace without unnecessarily hindering the application of combat power in accordance with the JFC's campaign plan. The primary goal of combat zone airspace control is to enhance air, land, maritime, and special operations force effectiveness in accomplishing the JFC's objectives. (**JP 3-52, Chapter I, paras 2-4**)



Slide 12. Principles of Joint Airspace Control in the Combat Zone

Principles of Joint Airspace Control in the Combat Zone

The **airspace control** system supporting joint force operations must be based on the principle of unity of effort, because a coordinated and integrated combat airspace control system is essential to successful operations.

A major reason for close coordination between airspace control, air traffic control, and area air defense elements is to reduce the risk of fratricide and balance those risks with the requirements for an effective air defense. Identification requirements for airspace control must be compatible, mutually supporting, and interoperable with those for air defense.

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

Common combat zone airspace control procedures within the joint force AOR and/or JOA enhance the effectiveness of air operations. These procedures need to allow maximum flexibility, close coordination between land, maritime, SOF, and air operations, and rapid concentration of combat power in a specific portion of airspace in minimum time.

Procedural control needs to be uncomplicated and readily accessible to all aircrews, air traffic controllers, air defense weapons controllers, and airspace controllers.

The airspace control system in the combat zone must have a reliable, jam-resistant, and secure C4 network. However, care must be exercised to avoid control procedures that rely heavily on voice communications. Emphasis should be placed on simple, flexible air traffic control schemes, and “in the blind” procedures.

Airspace control systems in the combat zone need to be durable and redundant because they are likely to be prime targets for an attacker.

The airspace control structure in the combat zone needs to be responsive to evolving enemy threat conditions and to the evolving operation and need to promote the rapid massing of combat power.

Service component air traffic controller training, which emphasizes military terminal air traffic control in peacetime conditions, needs to be augmented by combat-specific air traffic control training. Combat zone airspace control procedures and personnel must be exercised in peacetime to be effective in combat.

Flexibility and simplicity must be emphasized throughout to maximize the effectiveness of forces operating within the system.

Combat zone airspace control needs to be capable of supporting day or night and all-weather operations.

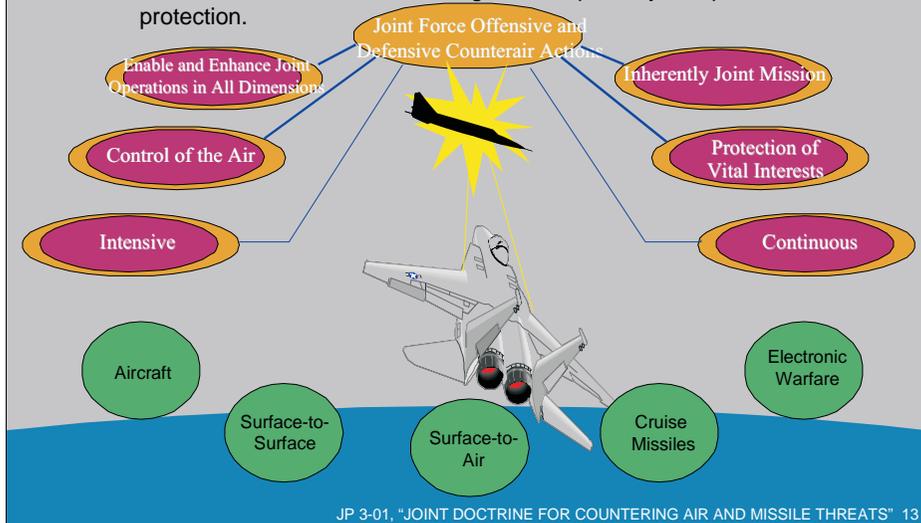
In summary, the combat zone airspace control procedures must prevent mutual interference from all users of the airspace, facilitate air defense identification, and safely accommodate

and expedite the flow of all air traffic in the theater of operations. In accomplishing these broad tasks, the basic principles of war and the JFC's concept of operations remain the cornerstones of operations. **(JP 3-52, Chapter I, para 4)**

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Joint Air Operations Joint Counterair Operations

Joint counterair encompasses those mutually supportive operations used by the JFC in a concerted effort to gain air superiority and provide force protection.



Slide 13. Joint Counterair Operations

Joint Counterair Operations

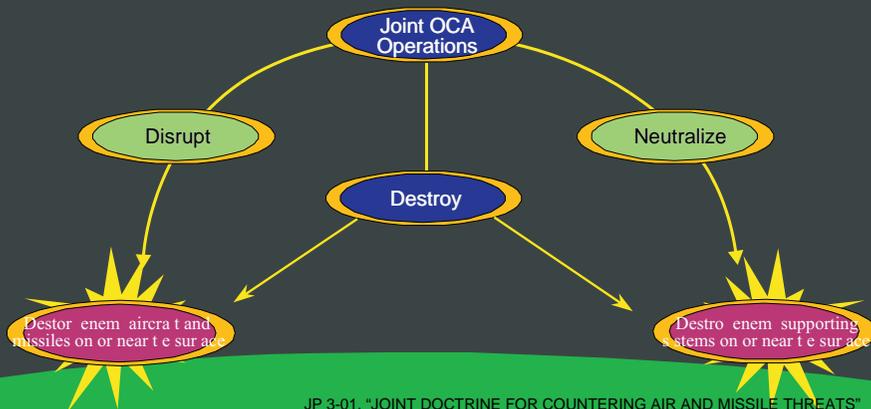
Joint counterair encompasses those mutually supportive **operations** used by the JFC in a concerted effort to gain air superiority and provide force protection. Joint forces will normally conduct intensive and continuous counterair operations when gaining air superiority. These operations include such measures as the use of aircraft, surface-to-surface and surface-to-air missiles (SAMs), cruise missiles, and electronic warfare (EW) to counter the air and missile threat. Both offensive and defensive operations are involved. JFCs integrate and exploit the mutually beneficial effects of offensive and defensive counterair actions to destroy, neutralize, or minimize the effectiveness of air and missile threats (both before and after launch).

The JFC will normally seek to gain and maintain air superiority early in the conduct of joint operations. Air superiority protects the joint force and vital assets. It enables and enhances joint operations in all dimensions. Inherently, all components contribute to the air superiority effort. The JFC combines air, land, sea, space, and special operations forces (SOF) into an effective joint team and integrates a variety of weapon systems to counter enemy air and missile threats. **(JP 3-01, Chapter I, paras 1-2)**



Joint Air Operations Joint Offensive Counterair

Joint offensive counterair (OCA) including theater missile (TM) attack operations, consists of those offensive operations aimed at destroying, disrupting, or limiting enemy air and missile power.



JP 3-01, "JOINT DOCTRINE FOR COUNTERING AIR AND MISSILE THREATS" 14

Slide 14. Joint Offensive Counterair

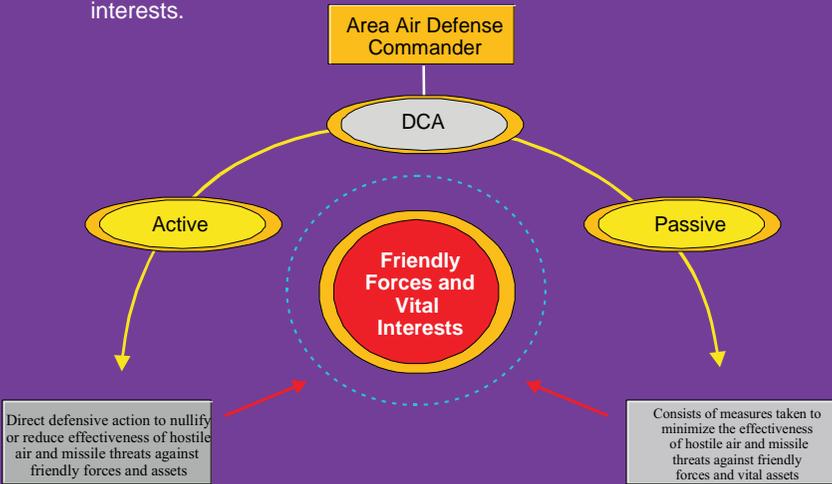
Joint Offensive Counterair

Joint offensive counterair (OCA) consists of those offensive operations aimed at destroying, disrupting, or limiting enemy air and missile power. This enables friendly use of otherwise contested airspace and reduces the enemy's air and missile threat posed against friendly forces. Ideally, most joint OCA operations will prevent the launch of aircraft and missiles by destroying them and their overall supporting systems on the surface. Otherwise, joint OCA operations will seek out and destroy or neutralize these threats as close to their source as possible. These operations are generally conducted at the initiative of joint forces. (**JP 3-01, Chapter I, para 2a**)

Joint Air Operations
Joint Defensive Counterair



Defensive counterair (DCA) is synonymous with air defense and consists of active and passive operations conducted to protect friendly forces and vital interests.



JP 3-01, "JOINT DOCTRINE FOR COUNTERING AIR AND MISSILE THREATS" 15

Slide 15. Joint Defensive Counterair

Joint Defensive Counterair

Joint defensive counterair is synonymous with air defense and consists of active and passive operations conducted to protect friendly forces and vital interests. The term air defense represents all defensive measures designed to destroy attacking enemy aircraft and missiles, or to nullify or reduce the effectiveness of such attacks should they escape destruction on the ground. Consequently, the active and passive defense elements of theater missile defense (TMD) are integral parts of air defense. Since the enemy may integrate aircraft and missile attacks, the basic defense criteria to detect, identify, intercept, and destroy remains the same for all air defense operations. All air defense operations rely on the same resources, are often conducted simultaneously in the same airspace, and are all subject to the weapons control procedures and measures of the AADC.

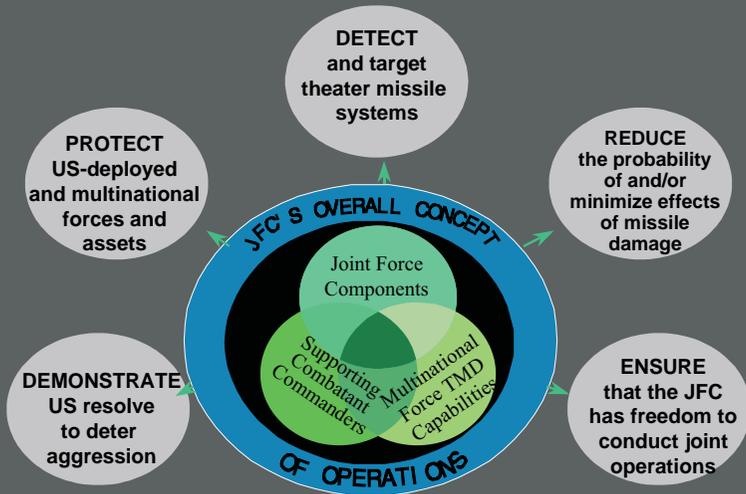
Active Air Defense. Active air defense is direct defensive action taken to destroy attacking air and missile threats or reduce their effectiveness against friendly forces and assets. Active air defense defeats air and missile threats by using weapons systems such as aircraft, land- and sea-based SAMs, and EW. Integration of these weapon systems will allow for a defense in depth, using multiple engagements.

Passive Air Defense. Passive air defense consists of measures taken to posture the force to reduce vulnerability and minimize the effectiveness of hostile air and missile attacks. These measures (camouflage, concealment, deception, hardening) improve survivability by reducing the likelihood of detection and targeting and also minimize the potential effects of surveillance and attack. Unlike many other air defense operations, passive air defense does not involve the employment of lethal weapons. (**JP 3-01, Chapter I, para 3**)

Joint Air Operations JTMD Definition and Objectives



The main objectives of joint theater missile defense (JTMD) are as follows:



JP 3-01.5, "DOCTRINE FOR JOINT THEATER MISSILE DEFENSE" 16

Slide 16. JTMD Definition and Objectives

Joint Theater Missile Defense Definition and Objectives

The main objectives of joint theater missile defense (JTMD) are as follows:

To demonstrate US resolve to deter aggression through the establishment of a TMD capability.

To protect US-deployed and multinational forces as well as critical assets and areas of vital interest or political importance from attack by theater missiles (TMs).

To detect and target theater missile systems; to detect, warn, and report a theater missile launch; and to coordinate a multifaceted response with other combat operations.

To reduce the probability of and/or minimize the effects of damage caused by a theater missile attack.

To ensure that the JFC has the freedom to conduct joint operations without undue interference from theater missile operations conducted by the enemy. **(JP 3-01.5, Chapter I, para 2)**

It is important to emphasize that TMD is inherently a joint mission. Therefore, joint force components, supporting combatant commanders, and multinational force TMD capabilities must be integrated toward the common objective of neutralizing or destroying the enemy's TM capability. This must be integrated into and in support of the JFC's overall concept of operations and campaign objectives.

During the planning stage, TMD forces, requirements, and capabilities must be integrated into all phases of the operation and mission areas early on. Assessment of a given threat and risk analysis will provide the basis for integration of the appropriate JTMD capability into the force package to ensure synchronization and efficient use of the limited number of dual-purpose systems.

JTMD should be capable of countering threats from TMs and their associated command, control, communications, computers, and intelligence (C4I), targeting, and logistic support systems. In addition, JTMD systems should possess the capability for rapid global deployability and intratheater mobility.

The TM threat may appear across the range of military operations. JTMD systems and procedures must be adaptable for joint or multinational operations in any contingency. For example, in addition to warfighting situations, humanitarian assistance or noncombatant evacuation operations may be threatened by hostile forces that have a TM capability. **(JP 3-01.5, Chapter I, para 3)**



Joint Air Operations The Four Operational Elements OF TMD

There are four operational elements that make up theater missile defense (TMD):

Measures to reduce vulnerability & minimize damage

- Deception
- Nuclear, Biological, and Chemical Protection
- Electronic Warfare

Protect by destroying in-flight defenses and airborne launch platforms

- Multitiered Defense
- In-depth and Active Electronic Warfare

Passive Defense

Active Defense

Attack Operations

TMD C4I

- Destruction, disruption, or neutralization of theater missile launch platforms and supporting C4

- Plan, monitor, direct, control, and report integrated systems of doctrine, organizational structures, and supporting intelligence

Offensive action by land, sea, air, space, and SOF

Timely and accurate data and systems to control operations

JP 3-01.5, "DOCTRINE FOR JOINT THEATER MISSILE DEFENSE" 17

Slide 17. The Four Operational Elements of TMD

The Four Operational Elements of Theater Missile Defense

There are **four operational elements that make up TMD**: passive defense, active defense, attack operations, and TMD C4I.

Passive defense applies to measures to reduce vulnerability and minimize damage and includes deception, nuclear, biological, and chemical protection as well as EW.

Active defense applies to protection by in-flight destruction and destruction of airborne launch platforms, and includes multitiered defense in-depth and active EW.

Attack Operations applies to offensive action by land, sea, air, space, and special operations forces, and includes destruction, disruption, or neutralization of theater missile launch platforms and supporting command, control, and communications.

TMD C4I consists of timely and accurate data and systems to plan, monitor, direct, control, and report TMD operations as well as integrated systems of doctrine, organizational structures, and supporting intelligence.

It is crucial to coordinate and integrate all four of these elements into cohesive and coherent combat operations in order to counter theater missiles. **(JP 3-01.5, Chapter I, para 5)**

Types of Suppression of Enemy Air Defenses Operations



There are three categories of Joint Suppression of Enemy Air Defenses (J-SEAD);

AOR/JOA Air Defense System Suppression

...is conducted in support of joint operation or campaign objectives; it consists of AOR/JOA-wide operations conducted against specific enemy air defense systems.

Opportune Suppression

...is usually unplanned and includes aircrew self-defense and attack against targets of opportunity. The JFC or higher authority will establish the rules of engagement for opportune suppression.

Localized Suppression

...operations are normally confined to geographical areas associated with specific ground targets or friendly transit routes. This concept occurs throughout the AOR/JOA for all components.

JP 3-01.4, "JTTP FOR JOINT SUPPRESSION OF ENEMY AIR DEFENSES (J-SEAD)"18

Slide 18. Types of Suppression of Enemy Air Defenses Operations

Types of Suppression of Enemy Air Defenses Operations

The three categories of **joint suppression of enemy air defenses (J-SEAD)** are: AOR and/or JOA air defense system suppression, localized suppression, and opportune suppression.

AOR and/or JOA air defense system suppression is conducted in support of joint operation or campaign objectives; it consists of AOR and/or JOA-wide operations conducted against specific enemy air defense systems to degrade or destroy their effectiveness. Detailed planning and coordination of AOR and/or JOA air defense system suppression operations occur before hostilities if possible. Refinement and modification of AOR and/or JOA air defense system suppression plans should be coordinated in a manner consistent with the procedures to develop the original joint air operations plan.

The concept of AOR and/or JOA air defense system suppression efforts is to target high payoff air defense assets that will result in the greatest degradation of the enemy's total system. These targets include enemy airborne warning and control systems, radars and associated C4 for early warning, ground controlled interception, and long range SAM systems. The objectives of AOR and/or JOA air defense system suppression will depend upon the type of air operations, like interdiction, counterair, maritime, and others, planned to support the JFC operation or campaign plan. **(JP 3-01.4, Chapter III, para 2)**

Localized suppression operations are normally confined to geographical areas associated with specified ground targets or friendly transit routes. These operations contribute to local air superiority, facilitating joint operations in the area.

The concept of localized suppression operations occur throughout the AOR and/or JOA for all components. Localized suppression operations have time and space limitations because they protect specific operations or missions; however, the effects of those missions may extend beyond the objective time period. **(JP 3-01.4, Chapter III, para 3)**

Many air defense threats are not identified in enough time for planned suppression. **Opportune suppression** is usually unplanned and includes aircrew self-defense and attack against targets of opportunity. The JFC or higher authority will establish the ROE for opportune suppression. Some of these rules include the following.

Aircrew self-defense, stating that unless otherwise dictated by the laws of war, restrictions ordinarily should be imposed only for the safety of friendly forces.

Suppression of enemy air defenses (SEAD) targets of opportunity are those enemy air defense systems detected by surface or airborne sensors or observers within range of available weapons and not yet targeted.

Targets Acquired by Observers or Controllers. Many combat elements may often be in good position to acquire SEAD targets of opportunity. Observers, spotters, controllers, and liaison officers from the components have the authority to request suppression for SEAD targets of opportunity. Some examples are Air Force air liaison officers, airborne forward

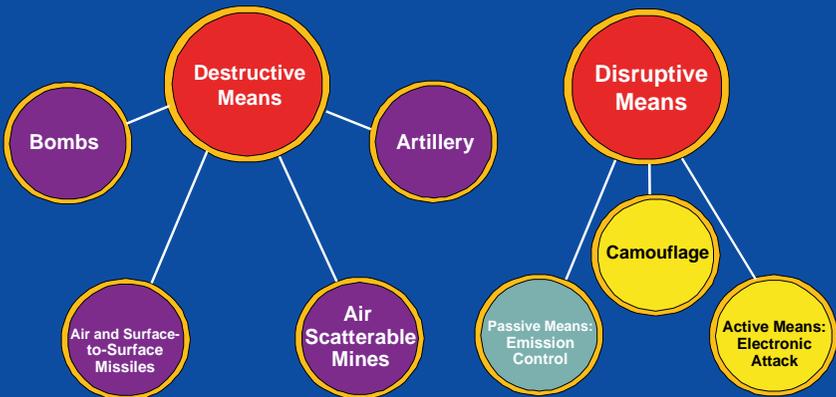
air controllers, and tactical air control parties. The observers or controllers will forward these requests through their respective fire support channels.

SEAD **targets acquired by aircrews** may pass the information to the agency controlling their mission if they have not engaged them because of mission priorities, system capabilities, or SEAD ROE. This agency immediately passes the targeting data through the appropriate system or systems to coordinate with the force best suited for targeting. (**JP 3-01.4, Chapter III, para 4**)

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Joint Air Operations Joint Suppression Measures

During J-SEAD operations, suppression requirements vary according to mission objectives, system capabilities, and threat complexity



JP 3-01.4, "JTTP FOR JOINT SUPPRESSION OF ENEMY AIR DEFENSES (J-SEAD)" 19

Slide 19. Joint Suppression Measures

Joint Suppression Measures

During J-SEAD operations, suppression requirements vary according to mission objectives, system capabilities, and threat complexity. Major employment considerations include overall air defense system architecture, capabilities of system components, geography and terrain, disposition and density of defenses, weather, resupply and repair capabilities, and friendly force organization, training, and equipment. J-SEAD operations can be accomplished through destructive and disruptive means and using sound combinations of the two can maximize their effectiveness.

Destructive means seek the destruction of the target system or operating personnel. The effects are cumulative and increase aircraft survivability, but destructive means may place large demands on the available combat capabilities and/or forces. Examples of destructive SEAD capabilities are bombs, air and surface-to-surface missiles, air scatterable mines, and artillery.

Disruptive means temporarily deny, degrade, deceive, delay, or neutralize enemy air defense systems to increase aircraft survivability. Disruptive means may be either active, such as electronic attacks or passive, such as emissions control and camouflage.

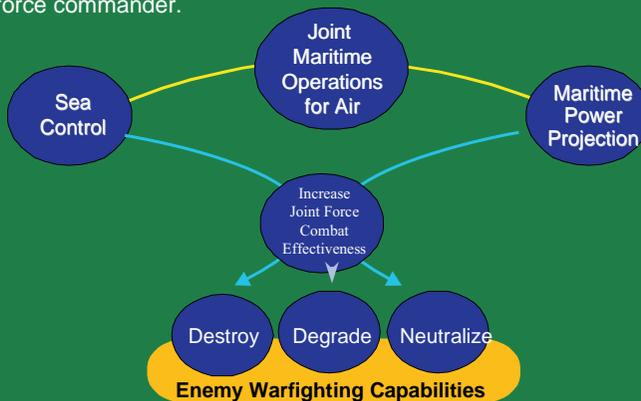
Joint air operations may require **support** for suppression of enemy air defenses from resources other than aircraft. The JFC may direct components to support joint air operations with assets, capabilities, or forces, in addition to the air capabilities and/or forces provided. Some measures a commander may request include reconnaissance and target-acquisition support and EW.

Deception can support SEAD activities by causing confusion for the enemy as to the location and/or timing of friendly air operations. Electronic deception can be especially effective when the enemy is attempting to conduct air operations in the vicinity of their own air defenses. In this situation, electronic degradation of enemy identification friend or foe can create a dilemma for the enemy by forcing them to choose between increased risk of fratricide and imposing restrictions on their own air operations. In either case, enemy operations are degraded. As an economy of force action, drones, decoys, and unmanned aerial vehicles, as well as manipulative, simulative, and imitative communications or actions, should be used wherever suitable. **(JP 3-01.4, Chapter I, para 4)**

Joint Air Operations Joint Maritime Operations (AIR) Definition



Joint maritime operations (JMO) - (AIR) - are employed to destroy or reduce to an acceptable level the enemy air, surface, and subsurface threat to friendly forces and to suppress enemy commerce, to gain and maintain local air superiority, and to support land-based operations as directed by the joint force commander.



JP 3-04, "DOCTRINE FOR JOINT MARITIME OPERATIONS (AIR)" 20

Slide 20. Joint Maritime Operations (AIR) Definition

Joint Maritime Operations (AIR) Definition

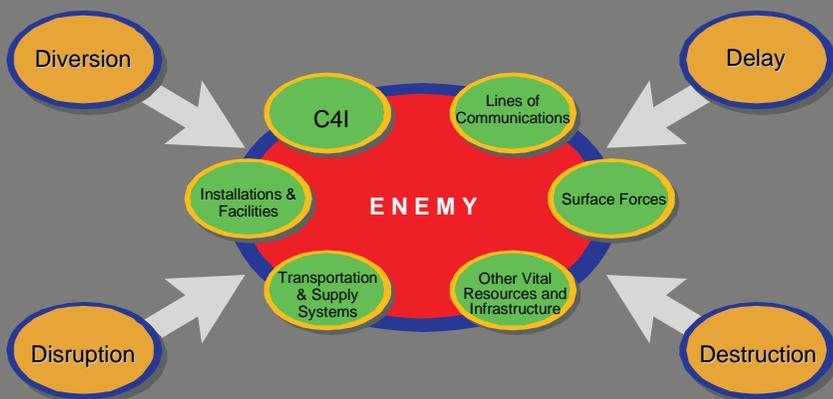
The objective of joint maritime operations (air) (JMO[AIR]) is to destroy, degrade, or neutralize enemy warfighting capabilities in the maritime environment and to increase the combat effectiveness of the joint force through optimum use of all available JMO (AIR) forces. JMO (AIR) are employed to destroy or reduce to an acceptable level the enemy air, surface, and subsurface threat to friendly forces and to suppress enemy commerce; to gain and maintain local air superiority in the maritime environment in order to protect vital sea areas and sea lines of communications; and to support land-based operations as directed and guided by the JFC. To enhance the combat effectiveness of the joint force, JMO (AIR) forces may have to integrate their operations with the uniquely interdependent air, surface, and subsurface operations of naval task forces. Essentially, JMO (AIR) will be employed to support two interrelated operations: sea control and maritime power projection. **(JP 3-04, Chapter I, para 3-4)**

Joint Air Operations

Interdiction Definition and Objectives



Interdiction is an action to divert, disrupt, delay, or destroy the enemy's surface military potential before it can be used effectively against friendly forces.



C4I = Command, Control, Communications, Computers, and Intelligence

JP 3-03, "DOCTRINE FOR JOINT INTERDICTION OPERATIONS" 21

Slide 21. Interdiction Definition and Objectives

Interdiction Definition and Objectives

Interdiction is an action to divert, disrupt, delay, or destroy the enemy's surface military potential before it can be used effectively against friendly forces. (JP 3-03, Chapter I, para 1) This can be accomplished in the following ways:

Diversion. Interdiction can divert enemy forces intended for battle areas where they are immediately or critically required. It may divert enemy ground forces to a location more favorable to the JFC and can divert enemy naval, engineering, and personnel resources to the tasks of repairing and recovering damaged equipment and facilities, while keeping lines of communications open.

Disruption. Interdiction can disrupt the enemy's C4I systems, intelligence collection capability, transportation systems, supply lines, and industrial base. Interdiction thus disrupts the movement and routing of the enemy's information, materiel, forces, and supplies.

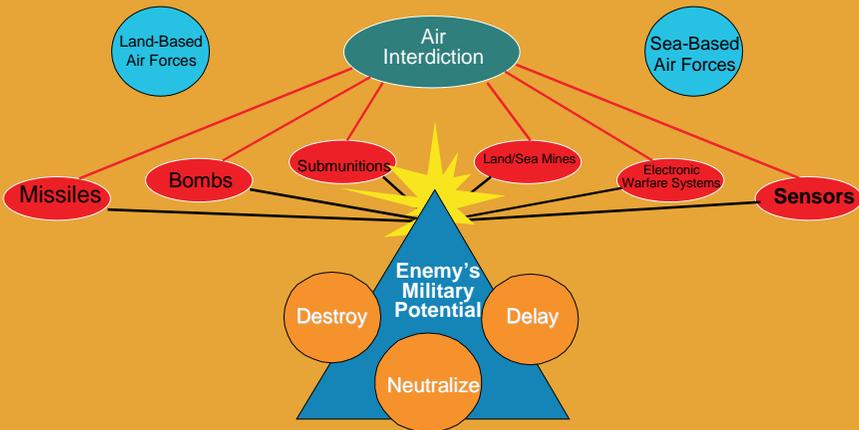
Delay. Interdiction can delay enemy forces and supplies. When this happens, friendly forces gain time. What JFCs do to improve their situation in the time gained is critical to any assessment of interdiction's contribution, but it does not guarantee a major impact on combat operations. Delay is also critical in achieving additional interdiction payoffs. For example, it can lengthen the time during which enemy land or naval forces are at risk of attack.

Destruction. The destruction of enemy forces, support elements, and supplies is the most direct of the four interdiction actions in achieving the goals of the operation. Destroying transportation systems is usually not an end in itself but contributes to the delay, diversion, and disruption of enemy forces and materiel. The demonstrated or perceived ability to destroy may cause the enemy to move only at night, or to mass air defense assets around critical transportation nodes. (JP 3-03, Chapter I, para 3)

Joint Air Operations Air Interdiction



Air interdiction is interdiction conducted by means of air operations with the intent of destroying, neutralizing, or delaying the enemy's military potential before it can be brought to bear effectively against friendly forces.



JP 3-03, "DOCTRINE FOR JOINT INTERDICTION OPERATIONS" 22

Slide 22. Air Interdiction

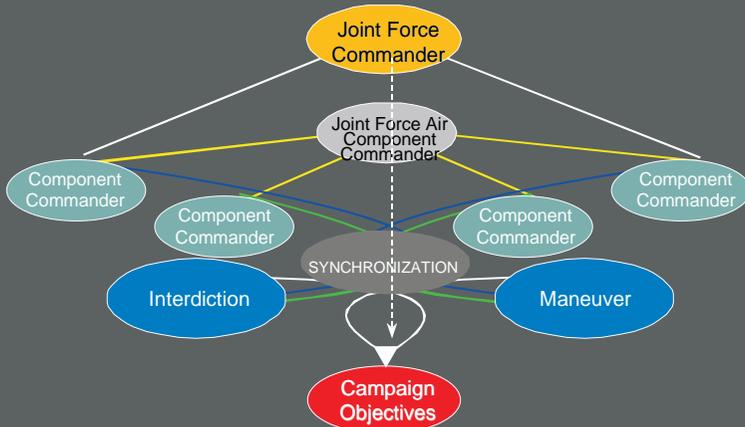
Air Interdiction

Air interdiction is interdiction conducted by means of air operations with the intent of diverting, disrupting, destroying, or delaying the enemy's military potential before it can be brought to bear effectively against friendly forces. Air interdiction is differentiated from other air operations by the objective or goal of the operation.

Successful joint air interdiction operations have resulted from a largely unimpeded access to the enemy's airspace. To ensure interdiction success, the JFC must establish conditions conducive to effective operations in enemy areas. Effective interdiction may allow freedom of action for other friendly operations. For example, an enemy's counter to interdiction may leave the enemy more susceptible to friendly surface maneuver. (**JP 3-03, Chapter IV, para 2a**)

Joint Air Operations Synchronizing Maneuver and Interdiction

Synchronization is defined as “the arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time.” Interdiction and maneuver are complimentary operations that can, and should, be synchronized to create dilemmas for the enemy.



JP 3-03, "DOCTRINE FOR JOINT INTERDICTION OPERATIONS" 23

Slide 23. Synchronization Maneuver and Interdiction

Synchronization Maneuver and Interdiction

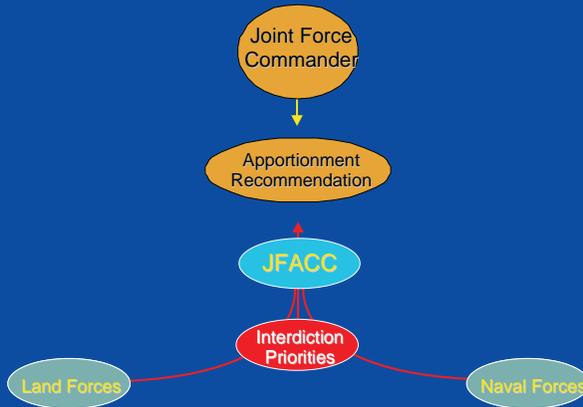
Synchronization is defined as “the arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time.” Interdiction and maneuver are complementary operations that can, and should, be synchronized to create dilemmas for the enemy. **Synchronizing interdiction and maneuver** (both land and sea) provides one of the most dynamic concepts available to the joint force. Interdiction and maneuver should not be considered as separate operations against a common enemy, but rather as complementary operations designed to achieve the JFC’s campaign objectives. Synchronizing interdiction and maneuver enhances the ability for each operation to more fully contribute to the successful outcome of a campaign.

JFCs typically conduct joint interdiction operations through functional component commanders. To ensure unity of command and effort throughout a theater and/or JOA, the JFC normally delegates the planning and execution of theater - and/or JOA-wide interdiction operations to the functional commander, usually the JFACC. (**JP 3-03, Chapter II, para 3**)

Joint Air Operations JFACC's Role in Interdiction



The JFACC, as the supported commander for the JFC's overall air interdiction effort, develops theater/JOA-wide targeting priorities and proposes the apportionment recommendation to the JFC.



JP 3-03, "DOCTRINE FOR JOINT INTERDICTION OPERATIONS" 24

Slide 24. JFACC's Role in Interdiction

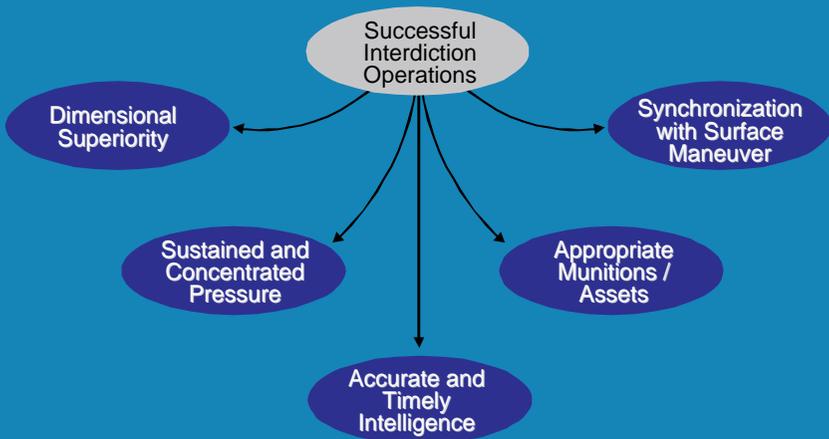
JFACC's Role in Interdiction

The JFACC, as the supported commander for the JFC's overall air interdiction effort, develops theater/JOA-wide targeting priorities and, giving consideration to land, naval, and air force designated interdiction priorities, proposes the apportionment recommendation to the JFC. The JFC provides apportionment guidance to the JFACC who, in turn, using priorities established in the JFC's decision, then plans and executes the theater - and/or JOA-wide interdiction effort. The JFACC normally has the majority of assigned and attached theater-ranging joint interdiction forces and the capability to direct and control them. (**JP 3-03, Chapter II, para 3**)

Joint Air Operations Effective Interdiction



The following are the elements which are normally required to successfully prosecute interdiction operations:



JP 3-03, "DOCTRINE FOR JOINT INTERDICTION OPERATIONS" 25

Slide 25. Effective Interdiction

Effective Interdiction

The following are the elements which are normally required to successfully prosecute interdiction operations:

Dimensional Superiority. Successful interdiction operations have resulted from a largely unimpeded access to the enemy's airspace. To ensure interdiction success, the JFC must establish conditions conducive to effective operations in enemy areas.

Sustained and Concentrated Pressure. Successful interdiction operations have highlighted the importance of sustained, concentrated efforts. Since interdiction is often directed against replaceable systems and repairable systems, sustained, persistent pressure, sufficient to impede efforts to replace or repair affected assets, is required. The JFC prioritizes and aggressively attacks high payoff, high value interdiction target sets to economize forces in one area.

Accurate and Timely Intelligence. Information about the enemy's lines of communications, tactical dispositions, and capabilities is imperative. Accurate and timely intelligence provides information on the enemy's probable course of action, identifies interrelated target systems and crucial nodes, and allows the commander to anticipate enemy's actions or counteractions and respond accordingly.

Appropriate Munitions/Assets. Mismatching available munitions or assets with target systems can greatly increase the time and resources required to achieve the objectives of the interdiction operation. Matching the correct system for the target enhances unity of effort, freeing excess assets for use elsewhere.

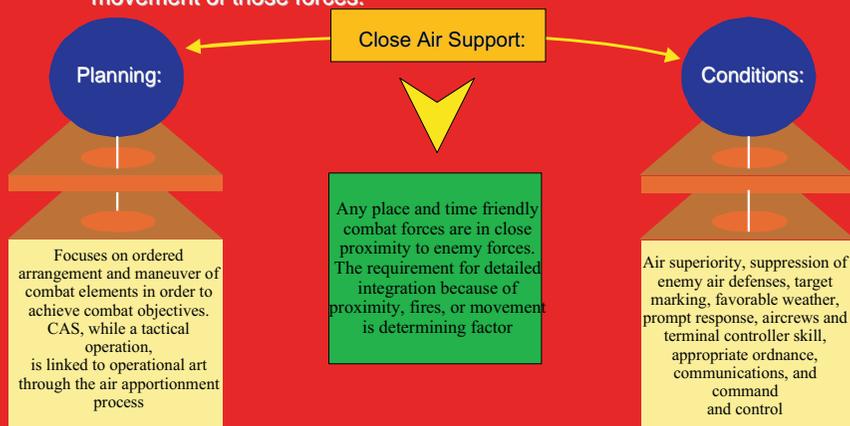
Synchronization With Surface Maneuver. One of the most important factors in successful interdiction operations is synchronizing interdiction and maneuver. Planning and conducting interdiction and surface operations within a coherent framework provides a synergistic effect. Effective interdiction can typically achieve many desired results. These include channeling the enemy's movements, constricting their logistics system, and forcing time-urgent movement upon them. (JP 3-03, Chapter IV, para 2)

Joint Air Operations

Close Air Support Definition and Conditions



Close air support (CAS) is defined as air action by fixed-wing and rotary-wing aircraft against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces.



JP 3-09.3, "JTTP FOR CLOSE AIR SUPPORT (CAS)" 26

Slide 26. Close Air Support Definition and Conditions

Close Air Support Definition and Conditions

CAS is defined as air action by fixed- and rotary-wing aircraft against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces. Joint CAS is CAS conducted through joint air operations or, in the case of rotary-wing aircraft, through the establishment of a command relationship between components.

CAS is planned and executed to accomplish military objectives assigned to tactical units or task forces. CAS planning focuses on the ordered arrangement and maneuver of combat elements in relation to each other and/or to the enemy to achieve combat objectives. While CAS is a tactical operation, it is linked to the operational art through the air apportionment process.

CAS can be conducted at any place and time friendly combat forces are in close proximity to enemy forces. The word “close” does not imply a specific distance; rather, it is situational. The requirement for detailed integration because of proximity, fires, or movement is the determining factor. CAS provides firepower in offensive and defensive operations to destroy, disrupt, suppress, fix, or delay enemy forces.

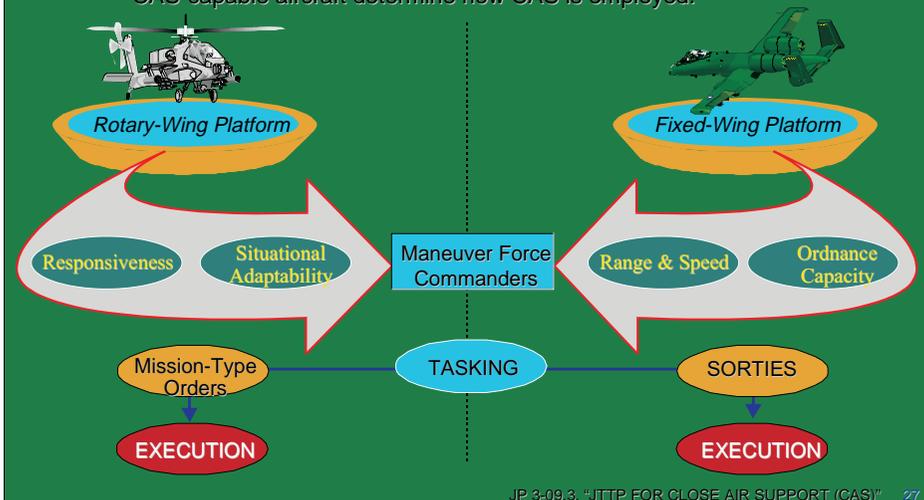
At times, CAS is the best force available to mass lethal capability rapidly to exploit tactical opportunities or to save friendly lives. Each Service performs CAS within its organic capabilities, organization, and training. As a result, a variety of aircraft are capable of performing CAS. Some however, are better designed and suited for the CAS mission than others. Regardless of Service, all aircraft capable of performing CAS must be fully integrated into joint operations to give the JFC flexibility in force employment. **(JP 3-09.3, Chapter I, paras 2 & 3)**

The conditions required for effective CAS include air superiority; suppression of enemy air defenses; target marking; favorable weather; prompt response; aircrews and terminal controller skill; appropriate ordnance; communications; and command and control. **(JP 3-09.3, Chapter I, para 8)**

Joint Air Operations

Fixed-and Rotary-Wing Close Air Support Employment

Close air support (CAS) can be employed with either fixed- or rotary-wing aircraft. The organizational structure, missions, and the characteristics of CAS-capable aircraft determine how CAS is employed.



Slide 27. Fixed- and Rotary-Wing Close Air Support Employment

Fixed- and Rotary-Wing Close Air Support Employment

CAS can be employed with fixed- or rotary-wing aircraft. The organizational structure, missions, and the characteristics of CAS-capable aircraft determine how CAS is employed. In a joint force, the integration of CAS-capable aircraft allows maneuver force commanders to take advantage of the distinctly different, but complementary, capabilities of each platform to support the fire and maneuver of their units. Although fixed- and rotary-wing aircraft can both provide CAS, employment considerations differ. Traditional planning and employment methods for fixed-wing CAS may not be best for rotary-wing aircraft.

While attack helicopters and fixed-wing aircraft capabilities are complementary, neither type can fully replace the air support provided by the other. The range, speed, and ordnance load of fixed-wing aircraft and the helicopter's excellent responsiveness and ability to operate in diverse conditions represent distinct advantages peculiar to each.

Fixed-wing aircraft are typically tasked and employed in terms of aircraft sorties. A sortie is defined as an operational flight by one aircraft performing a single mission. Fixed-wing CAS sorties are usually flown in groups of two to four aircraft. In the Air Force, these small groups are called flights; in the Navy and Marines, sections (two aircraft) or divisions (four). Special operations AC-130 gunships typically operate single-ship sorties during hours of darkness.

Army aviation units are organic to corps and divisions and perform missions as part of a combined arms team. Army helicopters are normally tasked through mission-type orders passed to a battalion or cavalry squadron which executes the mission as an integral unit and/or maneuver element. Special situations may arise that dictate employment of attack helicopters in smaller units. Although they can perform CAS missions in smaller groups, the preferred employment of Army attack helicopters is as an integral unit, operating under the control of a maneuver commander with mission-type orders.

Marine Corps attack helicopters are organized in squadrons and typically operate in sections and divisions. These units are assigned to and are integral to the Marine air-ground task force.

The Joint Force Special Operations Component Commander maintains a small fleet of special operations helicopters. These are normally armed for defensive protection but can perform emergency CAS. However, on occasion specially equipped SOF helicopters can provide organic CAS for SOF ground forces. **(JP 3-09.3, Chapter I, para 7)**



Joint Air Operations
Theater Airlift Definition and Purpose



Theater airlift consists of aircraft and ground assets, assigned to a combatant commander (other than USCINCTRANS) to provide common-user airlift in support of joint operations. The lowest practical level for assigning and operating common-user airlift forces is usually at the theater level.

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none">Speed, range, and easily modified cargo configurationAble to shift between missions and terminalsResponsive communications linkAble to depart, deliver, and return quickly	<ul style="list-style-type: none">Dependence on ground equipmentLarger and slower than most other combat and support aircraftVulnerable to air and surface attacksScarcity of theater airlift assets

THEATER OF OPERATIONS THEATER OF OPERATIONS

JP 3-17, "JTTP FOR THEATER AIRLIFT OPERATIONS" 28

Slide 28. Theater Airlift Definition and Purpose

Theater Airlift Definition and Purpose

Theater airlift consists of aircraft and ground assets, assigned to a combatant commander to provide common-user airlift in support of joint operations. The lowest practical level for assigning and operation common-user airlift forces is usually at the theater level. In certain circumstances, theater airlift forces may operate between theaters or between the continental United States and an overseas theater.

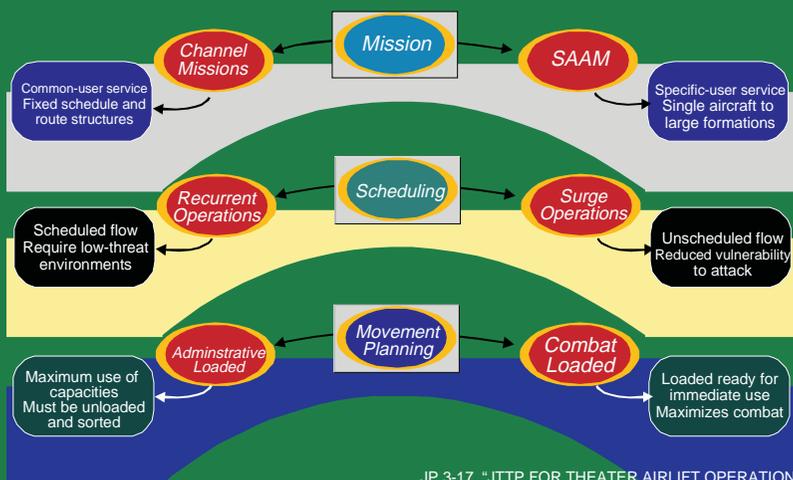
Effective employment of theater airlift forces requires an understanding of their operational and organizational relationships to other airlift forces. Operationally, the airlift mission links airlift terminals in a theater to other terminals. Airlift's primary mission is to establish air lines of communications between air terminals, as required for operations.

Theater airlift forces exist to support the plans, operations, and priorities of the geographic combatant commander by operating air transport aircraft and ground support assets for all theater forces. These forces have a dual identity in that they are both air operating forces and they are an element of the logistic support system.

It should be noted that while theater airlift's most important operational characteristics, flexibility and vulnerability, make it responsive, it can also be a potentially costly asset to use. Its principal logistic characteristics, limited capacity and relatively short cycle time, make it a precious resource to enhance key operations. The central problem of theater airlift planning is maximizing theater airlift support for immediate requirements, while also maximizing its contribution to the long-term requirements of the overall campaign. As a rule of thumb, theater airlift should not be tasked to fulfill a requirement that can be fulfilled by surface transportation assets. **(JP 3-17, Chapter I, para 1)**

Joint Air Operations Theater Airlift Categories

Theater airlift operations are categorized in different ways for different purposes. Theater airlift is usually divided between channel and Special Assignment Airlift Missions (SAAMs).



JP 3-17, "JTTP FOR THEATER AIRLIFT OPERATIONS" 29

Slide 29. Theater Airlift Categories

Theater Airlift Categories

Theater airlift operations are categorized in different ways for different purposes. Theater airlift is usually divided between channel and special assignment airlift missions (SAAMs). Channel missions provide common-user general airlift service (usually on relatively fixed schedules and route structures over an extended period of time), or they can be event-driven. SAAMs provide dedicated airlift for specific requirements, usually at times, places, and in load configurations requested by a specific user.

For scheduling purposes, theater airlift is conducted on either a recurrent or surge basis. Recurrent operations establish a scheduled flow of individual aircraft to make the most of available aircraft and ground support assets. These kinds of operations would be used in low-threat environments. For higher threat environments, surge operations maximize the ability of air defense forces to protect airlift assets because they usually reduce movements in time and space and reduce their vulnerability to detection and attack.

For movement planning purposes, theater airlift aircraft are either administrative- or combat-loaded. Administrative loading gives primary consideration to achieving maximum use of aircraft passenger and cargo capacities, without regard to ground force tactical considerations. Combat loading arranges personnel and material to arrive at their intended destination in an order and condition so that they are ready for immediate use. **(JP 3-17, Chapter I, para 2)**

Joint Air Operations Theater Airlift Tasks



Deployment

Administrative or combat movement of personnel, units, and materiel into or within an area of responsibility (AOR) or joint operations area before they engage in operations

Employment

Combat movement of units as an integral part of their operations

Routine Sustainment

Administrative air movement of materiel and personnel to reinforce or resupply forces already deployed and/or employed in operations

Combat Sustainment

Combat movement of supplies, materiel, and personnel to reinforce or resupply units already engaged in combat operations

Redeployment

Combat or administrative air movement of personnel, units, and materiel from deployed positions within an AOR or JOA

Force Extraction

Combat air movement of personnel, units, and materiel from positions in the immediate vicinity of enemy forces

Slide 30. Theater Airlift Tasks

Theater Airlift Tasks

For operational planning purposes, most **theater airlift** missions perform one of six basic **tasks**.

Deployment, involving the administrative or combat movement of personnel, units, and materiel into or within an AOR or JOA before they engage in operations.

Employment, consisting of combat movement of units as an integral part of their operations.

Routine sustainment, providing administrative air movement of materiel and personnel to reinforce or resupply forces already deployed or employed in operations.

Combat sustainment, or the combat movement of supplies, materiel, and personnel to reinforce or resupply units already engaged in combat operations.

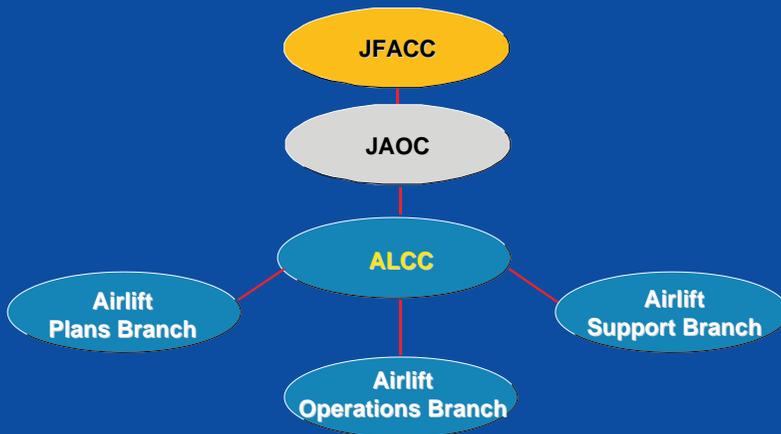
Redeployment, the combat or administrative air movement of personnel, units, and materiel from deployed positions within an AOR or JOA.

And finally, **force extraction**, involving combat air movement of personnel, units, and materiel from positions in the immediate vicinity of enemy forces. (**JP 3-17, Chapter I, para 2**)

Joint Air Operations Command & Control of Airlift Forces



The joint air operations center (JAOC) is the organization through which the JFACC controls joint air operations, including theater airlift. Within the JAOC, an airlift coordination cell (ALCC) plans, coordinates, and manages the execution of theater airlift operations.



JP 3-17, "JTTP FOR THEATER AIRLIFT OPERATIONS" 31

Slide 31. Command and Control of Airlift Forces

Command and Control of Airlift Forces

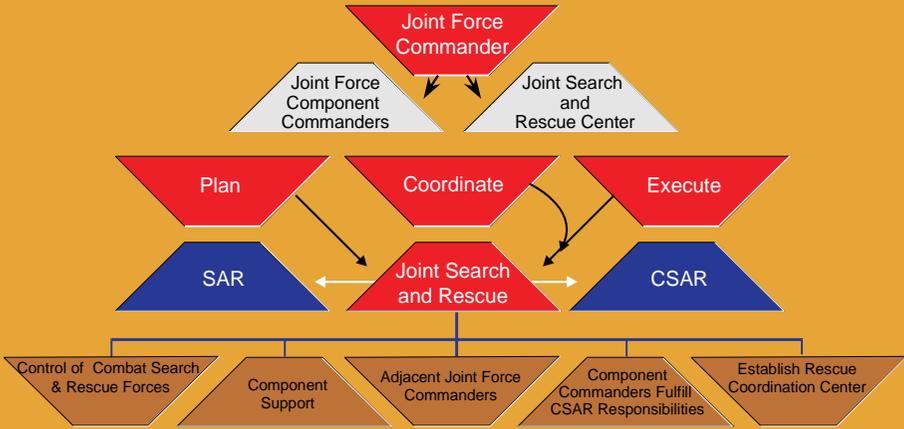
As we have discussed previously, **the JAOC is the organization through which the JFACC controls joint air operations, including theater airlift.** Within the JAOC, an airlift coordination cell (ALCC) plans, coordinates, and manages the execution of theater airlift operations.

The exact organization of the ALCC will be dependent upon the requirements of the JFC and in the JFACC's concept of organizing and operating the JAOC. Ordinarily, 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 air operation centers planning and operational elements. The JFACC generally exercises control of the ALCC through the JAOC director. As part of the JAOC director's staff, the Chief, ALCC, plans, coordinates, and manages the execution of theater airlift operations with assigned forces. This centralized control and decentralized execution enhances the timely integration of theater airlift into the overall theater air effort and, consequently, into the theater campaign as a whole. **(JP 3-17, Chapter II, para 3)**



Joint Air Operations JFC Responsibilities for CSAR

JFCs have primary authority and responsibility for CSAR in support of US forces within their AORs/JOAs, including civilian personnel. When planning, JFCs should ensure that host-nation laws, policies, regulations, and capabilities are taken into consideration.



JP 3-50.2, "DOCTRINE FOR JOINT COMBAT SEARCH AND RESCUE" 32

Slide 32. JFC Responsibilities for CSAR



JFC Responsibilities for Combat Search And Rescue

JFCs have primary authority and responsibility for combat search and rescue (CSAR) in support of US forces within their AORs and/or JOAs, including civilian personnel such as Civil Reserve Air Fleet crew members and deployed technical representatives. When planning and executing this responsibility, JFCs should ensure that appropriate host-nation policies, laws, regulations, and capabilities are taken into consideration.

JFCs normally delegate responsibility to recover personnel to the joint force component commanders. Additionally, the JFC should establish a joint search and rescue center (JSRC) to monitor recovery efforts; to plan, coordinate, and execute joint search and rescue (SAR) and CSAR operations; and to integrate CSAR operations with other evasion, escape, and recovery operations within the geographical area assigned to the joint force. Joint SAR and CSAR operations are those that have exceeded the capabilities of the component commanders in their own operations and require the efforts of two or more components of the joint force to accomplish the operation.

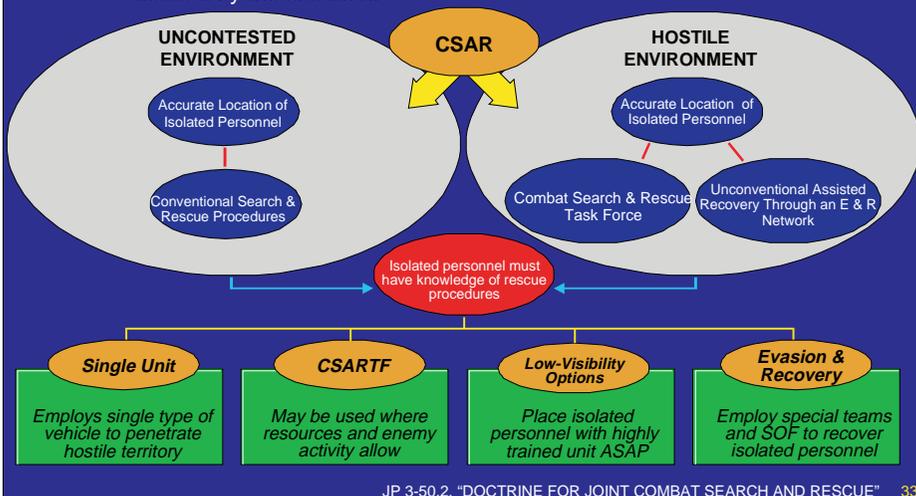
Control of CSAR Forces. JFCs normally exercise control of all forces committed to a joint CSAR operation through a designated component commander or through the JSRC.

Component Support. JFCs should ensure all joint force components support CSAR operations of the other components to the fullest extent practicable.

Unit commanders should be prepared, based on inherent capabilities, to conduct CSAR in support of their own operations and to provide mutual CSAR support to other units. Such CSAR support should be planned concurrently with ongoing offensive and/or defensive combat operations and should take into account the capabilities of adjacent units. CSAR requirements exceeding available capabilities should be forwarded to the component rescue coordination center. **(JP 3-50.2, Chapter I, paras 2, 4 & 5)**

Combat Search and Rescue Recovery Methods

Joint CSAR forces may employ any one of a variety of procedures to recover isolated personnel. The specific method of recovery employed will be dictated by the situation.



JP 3-50.2, "DOCTRINE FOR JOINT COMBAT SEARCH AND RESCUE" 33

Slide 33. Combat Search and Rescue Recovery Methods

Combat Search and Rescue Recovery Methods

Joint CSAR forces may employ any one of a variety of procedures to recover isolated personnel. The specific method of recovery employed will be dictated by the situation. A universally essential condition for a successful recovery is an accurate location of isolated personnel. Personnel in nontactical or uncontested environments can expect to be recovered by conventional SAR procedures. Recovery methods employed in hostile environments could range from use of a combat search and rescue task force (CSARTF) to unconventional assisted recovery through an evasion and recovery (E&R) net. Regardless of the situation, isolated personnel must be knowledgeable of recovery procedures and prepared to assist in their recovery to the greatest extent possible. Several joint CSAR recovery methods are listed below:

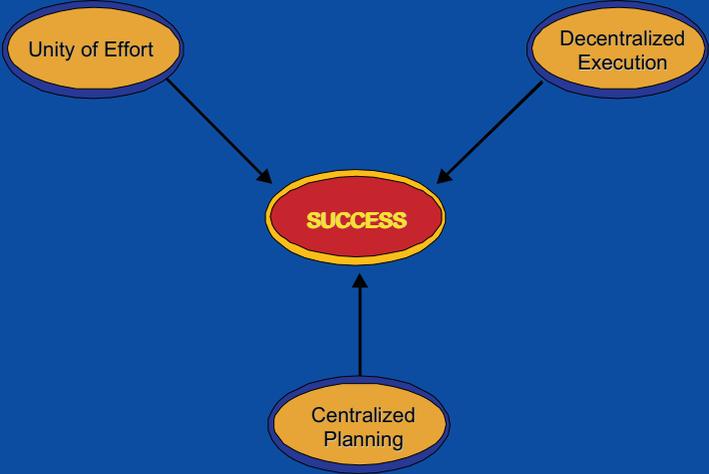
Single Unit. This method employs a single type of vehicle, normally a helicopter or flight of helicopters, to penetrate hostile or denied territory without support of a CSARTF. This recovery method requires knowledge of the exact location of isolated personnel. The recovery vehicle's defense is accomplished by remaining undetected through the use of masking terrain, darkness, or adverse weather as cover rather than the use of firepower. This mission should be planned and executed with communications silent or emission control as required. Other electronic emissions (such as radar, and transponders) should be kept to the minimum to accomplish the mission. Thorough preparation, including exhaustive navigation planning and threat analysis, is the key to success. The single unit recovery is the preferred method of recovery, but terrain, enemy activity, and lighting conditions may suggest using the CSARTF method.

CSARTF. This method of recovery, used previously in Southeast Asia, has severe limitations when facing a significant air threat but may be used where resources and enemy activity allow. CSARTF elements can help the recovery vehicle by pinpointing the location and authenticating isolated personnel, protecting isolated personnel and the recovery vehicle from enemy activity, and providing navigation assistance and armed escort to the recovery vehicle. The CSARTF is coordinated through premission planning and briefings with all participating elements. Mission planners must consider operations security when planning and executing the mission, use secure communications whenever possible, and exercise emissions control and communications silent procedures when required. Typical CSARTF elements are airborne mission commander, on-scene commander, recovery helicopters, rescue escort, rescue combat air patrol, and support aircraft.

Low-Visibility Options. The general concept of employing clandestine specialized teams and SOF in recovery operations is to place isolated personnel in company with a highly trained unit as soon as possible and to move them to an area of friendly control.

E&R. E&R includes employment of clandestine specialized teams and SOF to conduct recovery of isolated personnel. (JP 3-50.2, Chapter II, para 4)

**Joint Air Operations
Conclusion**



34

Slide 34. Conclusion

Conclusion

This discussion has been an overview of the key elements of joint air operations. We have covered many issues, including the fundamentals and principles of joint air operations, the JFC and JFACC's role in these operations, and the planning processes involved. We have considered the basics of counterair operations, both offensive and defensive, and briefly covered SEAD operations. Air interdiction and theater airlift were highlighted along with airspace control and close air support. More importantly, I hope you have discovered that successful use of joint air forces to support the JFC's operation or campaign plan requires unity of effort, centralized planning, and decentralized execution.

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APPENDIX A

Section II

Joint Air Operations
Outline of Briefing Script

Joint Air Operations Outline of Briefing Script

I. Joint Air Operations Fundamentals.

A. Today we will be discussing **joint air operations**. We will begin by covering some **fundamentals** of joint air operations, to include the designation of a JFACC and airspace control. We will discuss counterair operations, air interdiction, CAS, theater airlift, and CSAR.

B. Joint air operations are defined as those air operations performed with air capabilities and/or forces made available by components in support of the JFC's operation or campaign objectives, or in support of other components of the joint force. Joint air operations do not include those air operations that a component conducts in direct support of itself. **(JP 3-56.1, Chapter I, para 2)**

C. As with all operations, it is important that the JFC integrates and synchronizes the actions of assigned, attached, and supporting forces in space, time, and purpose.

1. Additionally, to accomplish the assigned mission, the JFC develops a concept of operation and organizes forces based on that concept.
2. The organization should be sufficiently flexible as well as responsive. Sound organization should provide:
 - a. unity of effort, for effectiveness and efficiency;
 - b. centralized planning, for controlling and coordinating the efforts of all available forces; and
 - c. decentralized execution, to cope with the uncertainty, disorder, and fluidity of combat. **(JP 3-56.1, Chapter I, para 3)**

D. Most often, joint forces are organized with a combination of Service and functional component commands, with their authority and responsibilities defined by the JFC.

1. The JFACC is an example of a functional component commander. The JFC will normally designate a JFACC to exploit the capabilities of joint air operations.
2. The JFACC directs this exploitation through a cohesive joint air operations plan for centralized planning and a responsive and integrated control system for decentralized execution. **(JP 3-56.1, Chapter I, para 3)**

E. In cases where a JFACC is not designated, the JFC and his staff may plan, direct, and control joint air operations.

1. Typically, this would occur when a conflict or situation is of limited duration,

scope, and/or complexity.

2. The JFC may elect to centralize selected functions, such as planning, coordinating, and tasking, within the staff to provide direction, control, and coordination of the capabilities and/or forces assigned to the joint force. **(JP 3-56.1, Chapter I, paras 3 & 10)**
3. The JFC's decision not to designate a JFACC is influenced by span of control, duration and scope of operations, and the necessary degree of centralized planning and control.
4. If a JFACC is not designated, unity of effort in joint air operations requires the JFC to centrally plan and coordinate joint air operations with other joint force operations. **(JP 3-56.1, Chapter II, para 10)**

F. The air capabilities and/or forces made available for JFACC or JFC planning and tasking are determined by the JFC in consultation with component commanders, and are based on the assigned objectives and the concept of operations.

1. Component commanders make capabilities and/or forces available to the JFC for tasking to support the joint force as a whole based on assigned component missions and JFC guidance.
2. However, only the JFC has the authority to reassign, redirect, or reallocate a component's direct support air capabilities.
3. When a component does not have the organic air capabilities and/or forces to support their assigned mission, the JFACC or JFC will task available joint air forces (through the joint air tasking order [ATO]) based on the JFC's air apportionment decision. **(JP 3-56.1, Chapter II, para 1)**

G. Though missions vary widely across the range of military operations from war to MOOTW, the framework and processes for joint air operations are consistent. Unity of effort, centralized planning, and decentralized execution are as important in MOOTW as in war. **(JP 3-56.1, Chapter I, para 4)**

II. Joint Force Air Component Commander Responsibilities

- A. As we have mentioned previously, the JFC will normally designate a JFACC.
 1. The JFC will base the decision to designate a JFACC on several factors such as JFC's overall mission, concept of operations, the missions and tasks assigned to subordinate commanders, forces available, duration and nature of joint air operations desired, and the degree of unity of command and control of joint air operations required.
 2. The JFC will normally assign **JFACC responsibilities** to the component commander having the preponderance of air assets and the capability to plan,

task, and control joint air operations. **(JP 3-56.1, Chapter II, para 2)**

B. The authority and command relationships of the JFACC are established by the JFC.

1. These typically include exercising OPCON over assigned and attached forces and TACON over other military capabilities and/or forces made available for tasking.
2. The JFC may also establish supporting and supported relationships between components to facilitate operations.
3. The JFC normally assigns missions and issues mission-type orders to all components. With receipt of the mission goes the authority to conduct operations in accordance with the JFC's intent and concept of the operation. **(JP 3-56.1, Chapter II, para 3)**

C. Air Force Command Relationships

1. As expected, the responsibilities of the JFACC are assigned by the JFC. These generally include planning, coordination, allocation, and tasking of joint air operations based on the JFC's concept of operations and air apportionment decision.
2. Specific JFACC responsibilities normally include:
 - a. Developing a joint air operations plan to best support joint force objectives as assigned by the JFC or higher authority.
 - b. Recommending to the JFC apportionment of the joint air effort, after consulting with other component commanders.
 - c. Providing centralized direction for the allocation and tasking of capabilities and/or forces made available based on the JFC air apportionment decision.
 - d. Controlling execution of joint air operations as specified by the JFC, to include making timely adjustments to targeting and tasking of available joint capabilities and/or forces.
 - e. Coordinating joint air operations with operations of other component commanders and forces assigned to or supporting the JFC.
 - f. Evaluating the results of joint air operations and forwarding combat assessments to the JFC to support the overall combat assessment effort.
 - g. Performing the duties of the ACA, when assigned that responsibility by the JFC.
 - h. Performing the duties of the AADC, when assigned that responsibility by

the JFC.

i. Functioning as the supported commander for counterair operations, strategic attack operations (when joint air operations constitute the bulk of the capability), theater airborne reconnaissance and surveillance, and the JFCs overall air interdiction effort.

j. Functioning as a supporting commander, as directed by the JFC, for operations such as CAS, air interdiction within the land and naval component areas of operations, and maritime support. **(JP 3-56.1, Chapter II, para 4)**

III. JFACC, ACA, and AADC Interrelationships and Responsibilities

A. **The responsibilities of the JFACC, ACA, and AADC are interrelated** and should normally be assigned to one individual.

1. The functions and responsibilities of the JFACC, ACA, and AADC must be integrated in order to unite joint air operations with joint airspace control and joint air defense operations in support of the JFC's campaign.
2. Designating one component commander as JFACC, AADC, and ACA may simplify coordination required to develop and execute fully integrated joint air operations.
3. If conditions do not permit this assignment, then close coordination between all three positions is essential. **(JP 3-56.1, Chapter II, para 5)**

B. The JFC also designates the position of ACA with responsibilities including coordinating and integrating the use of the airspace control area.

1. Subject to the authority and approval of the JFC, the ACA develops broad policies and procedures for airspace control and for the coordination required among units within the AOR and/or JOA.
2. The ACA establishes an airspace control system that is responsive to the needs of the JFC, provides for integration of the airspace control system with that of the host nation, and coordinates and deconflicts user requirements.
3. A key responsibility of the ACA is to provide the flexibility needed within the airspace control system to meet contingency situations that necessitate rapid employment of forces.
4. Finally, centralized direction by the ACA does not imply assumption of OPCON or TACON over any air assets. Matters on which the ACA is unable to obtain agreement will be referred to the JFC for resolution. **(JP 3-56.1, Chapter II, para 2)**

C. Methods to accomplish this coordination and integration vary throughout the range

of military operations from war to MOOTW that include both combat and noncombat activities.

1. The methods range from positive control of all air assets in an airspace control area to procedural control of all such assets, with any effective combination of positive and procedural control between the two extremes.
2. It is up to the JFC, through the ACP, to decide the appropriate method based on the concept of operations. **(JP 3-56.1, Chapter II, para 5c)**

D. Depending on the environment, mission, and location throughout the range of military operations, the degree of control may need to be rigorous and the ROE may be more restrictive.

1. This is especially true in a MOOTW environment that can transition quickly from combat to noncombat and back again and often has constraints on the forces, weapons, tactics employed, and level of violence.
2. Consequently, as a minimum, in MOOTW environments prone to such fluctuations, all air missions, including both fixed- and rotary-wing of all components, must appear on the appropriate ATO and/or flight plan. **(JP 3-56.1, Chapter II, para 5d)**

E. The JFC will normally assign overall responsibility for air defense to an AADC. This position is necessary for successful air defense operations.

1. The AADC's responsibilities lie with developing an integrated operation of all available air defense systems.
2. Authority to integrate air defense forces and operations in overseas land areas will be delegated to the AADC.
3. Air defense operations should also be coordinated with other tactical operations, both on and over land and sea.
4. Representation from the other components involved will be provided, as appropriate, to the AADC's headquarters. **(JP 3-01.5, Chapter II, para 3 and JP 3-56.1, Chapter II, para 2e)**

IV. JFACC Organization and Joint Air Operations Center

A. The JFACC's operations center will often be designated a JAOC.

1. The JAOC is structured to operate as a fully integrated facility and staffed to fulfill all of the JFACC's responsibilities.
2. JFACC organizations may differ based on the specific AOR and/or JOA requirements and operations.

3. However, the two organizations or functions that should be common to all JAOCs are Combat Plans and Combat Operations.
 - a. Planning “future joint air operations” is the responsibility of Combat Plans, which includes the responsibility of drafting the joint air operations plan to support the JFC’s campaign or objectives and building the daily joint ATO.
 - b. Execution of the daily joint ATO is carried out by Combat Operations.
 - c. This organization closely follows the action of current joint air operations, shifting missions from their scheduled times or targets and making other adjustments as the situation requires. **(JP 3-56.1, Chapter II, para 6a)**
- B. Component commanders have ready access to the JFACC and staff through the component liaisons.
 1. These liaisons work for their respective component commanders and work with the JFACC and staff.
 2. Senior component liaisons serve as conduits for direct coordination between the JFACC and their respective component commanders.
 3. They must be equipped and authorized to communicate directly with their respective component commander. **(JP 3-56.1, Chapter II, para 7a)**
 - a. Each component normally provides liaison elements that work within the JAOC.
 - b. These liaison elements consist of experienced warfare specialists who provide component planning and tasking expertise and coordination capabilities. **(JP 3-56.1, Chapter II, para 7b)**
- C. The JFACC’s staff should be organized and manned so that component representation reflects the composition of the joint force.
 1. This representation will provide the JFACC with the expertise needed to effectively employ the capabilities made available.
 2. Functional component staffs require advanced planning for efficient operations.
 3. Such individuals should be identified and trained during peacetime and used when JFACC staffs are formed for exercises and actual operations to ensure an effective transition to combat operations. **(JP 3-56.1, Chapter II, para 8)**
- D. Functional area experts, such as intelligence, logistics, airspace, plans, and communications, provide the critical and unique expertise in support, plans, and execution

functions, as appropriate for the employment scenario.

E. Mission experts, like air-to-air, air-to-ground, reconnaissance, and air refueling, provide the technical warfighting expertise required to plan and employ capabilities made available by the components. **(JP 3-56.1, Chapter II, para 8a)**

V. Concept of Joint Air Operations Development

A. **Planning for joint air operations begins with understanding the joint force mission.** The JFC's strategic appreciation of the political, economic, military, and social forces affecting the AOR and/or JOA and articulation of the strategic and operational objectives needed to accomplish the mission form the basis for determining components' objectives.

B. The JFACC staff uses the mission, the JFC's strategic appreciation and objectives, and the components' objectives to devise an air estimate of the situation.

1. This estimate follows a systematic series of steps to formulate a course of action (COA).
2. When the JFACC's COA is approved by the JFC, it becomes the basic concept of the joint air operations, stating "what" will be done.
3. The "how" part is stated in the joint air operations plan and supporting plans.
 - a. The joint air operations plan documents the JFACC's plan for integrating and coordinating joint air operations.
 - b. It encompasses operations of capabilities from joint force components.
4. The JFACC's daily guidance ensures that joint air operations effectively support the joint force objectives while retaining enough flexibility to adjust to the dynamics of the range of military operations. **(JP 3-56.1, Chapter III, para 1)**

VI. Joint Air Operations Planning Process: Five Phases

A. Normally, there are **five phases in the joint air operations planning process**, and each phase produces a desired product. While presented in a sequential order, the phases are not all required to be completed in order. Work on the various phases may be concurrent or sequential. However, at some point, phases must be integrated and the products of each phase must be checked and verified for coherence.

1. **Phase 1 is called Operational Environment Research.** The product of this phase is primarily the intelligence preparation of the battlespace and gathering an in-depth knowledge of the operational environment.
2. **Phase 2 is termed Objective Determination.** The products of this phase

are clearly defined and quantifiable objectives that will contribute to the accomplishment of the JFC's operation or campaign objectives.

3. Phase 3 consists of Strategy Identification.

- a. The product of this phase is a clearly defined joint air strategy statement.
- b. The operation or campaign plan communicates the JFC's strategy.
- c. The joint air strategy states how the JFACC plans to exploit joint air capabilities to support the JFC's objectives.
- d. The joint air operations plan is how the JFACC communicates, promulgates, and articulates this strategy.

4. Phase 4 is Center(s) of Gravity Identification.

- a. The product of this phase is the identification of those COGs that could be defeated to satisfy the JFC's strategic, operational, and tactical objectives and those friendly COGs to defend.

5. Lastly, phase 5 is the Joint Air Operations Plan Development.

- a. The product of this phase is the joint air operations plan that details how joint air operations will support the JFC's operation or campaign plan.
- b. Based on the JFC's guidance, the JFACC develops the joint air operations plan. (**JP 3-56.1, Chapter III, para 3**)

VII. Targeting Cycle Phases and Responsibilities

- A. Targeting is the process of selecting targets and matching the appropriate response to them.
 1. It takes into account strategic and operational requirements and capabilities and the threat to friendly forces imposed by the adversary.
 2. Targeting occurs at all levels of command within a joint force and is performed at all levels by forces capable of attacking targets with both lethal and nonlethal disruptive and destructive means.
 3. Targeting is complicated by the requirement to deconflict duplicative targeting by different forces or different echelons within the same force and to synchronize the attack of those targets with other components of the joint force.
 4. An effective and efficient target development process and air tasking cycle are essential for the JFACC and/or JFC staff to plan and execute joint air

operations.

5. This joint targeting process should integrate capabilities and efforts of national, unified, joint force, and component commands, all of which possess varying capabilities and different requirements. The process is the same in war and MOOTW. **(JP 3-56.1, Chapter IV, para 1)**

B. The targeting process is a cyclical one, which begins with guidance and priorities issued by the JFC and continues with identification of requirements by components; the prioritization of these requirements; the acquisition of targets or target sets; the attack of targets by components; component and JFC assessment of the attacks; and continuing guidance from the JFC on future attacks. Some important points about the targeting cycle are as follows.

1. The cycle begins with objectives and guidance, proceeds through execution, and ends with combat assessment. Targeting mechanisms should exist at multiple levels.
2. The National Command Authorities or headquarters senior to JFCs may provide guidance, priorities, and targeting support to JFCs. After the JFC makes the targeting and air apportionment decisions, components plan and execute assigned missions.
3. The JFC may establish and task an organization within the JFC staff to accomplish these broad targeting oversight functions or may delegate the responsibility to a subordinate commander (e.g., JFACC).
4. Typically, the JFC organizes a joint targeting coordination board.
5. The JFC will normally delegate the authority to conduct execution planning, coordination, and deconfliction associated with joint air targeting to the JFACC and/or JFC staff and will ensure that this process is a joint effort. **(JP 3-56.1, Chapter IV, para 2)**

C. Synchronization, integration, deconfliction, allocation of air capabilities and/or forces, and matching appropriate weapons against target vulnerabilities are essential targeting functions for the JFACC.

1. Other components targeting requirements to support their assigned missions are provided to the JFC and JFACC via the target information report.
2. All component commanders within the joint force should have a basic understanding of each component's mission and general concept of operations and/or scheme of maneuver to support the JFC's campaign.
3. Therefore, components should provide the JFACC a description of their direct support plan through the liaison elements within the JAOC. This basic understanding will allow for coordination and deconfliction of targeting efforts

between each component and within the JFC staff and agencies. (**JP 3-56.1, Chapter IV, para 3**)

VIII. Joint Air Tasking Cycle and Joint ATO Phases

A. A **joint air tasking cycle** is used to provide for the efficient and effective employment of the joint air capabilities made available.

1. The cycle provides a repetitive process for the planning, coordination, allocation, and tasking of joint air missions, within the guidance of the JFC.
2. It accommodates changing tactical situations or JFC guidance, as well as requests for support from other component commanders.
3. It is important to note that a timely joint ATO is critical as other joint force components conduct their planning and operations based on a prompt, executable joint ATO, and are dependent on its information.

B. There are usually three joint ATOs at any given time:

1. the joint ATO in execution, (today's plan),
2. the joint ATO in production, (tomorrow's plan), and
3. the joint ATO in planning, (the following day's plan).

C. The joint air tasking cycle begins with the JFC's air apportionment process and culminates with the combat assessment of previous missions. (**JP 3-56.1, Chapter IV, para 4**)

D. The **joint ATO phases** are related to the targeting cycle.

1. The approach is the same, a systematic process that matches available capabilities with targets to achieve operational objectives.
2. However, the number of ATO phases may vary based on theater and contingency requirements.

E. In Phase 1, the **JFC and/or component coordination**, the JFC consults often with his component commanders to assess the results of the warfighting effort and to discuss the strategic direction and future operation plans.

1. The JFC provides broad guidance and objectives and his vision of what constitutes military success.
2. The JFC also defines the intent of the operation or campaign and sets priorities. This guidance will also include the JFC's air apportionment decision.

F. Phase 2 is **target development**.

1. The specific objectives received during Phase 1 are used to focus target development.
2. Targets are nominated to support the targeting objectives and priorities provided by the JFC.
 - a. In accordance with the JFC's objectives and component targeting requirements, the JFACC and/or JFC staff will develop the joint air operation plans to employ available capabilities and/or forces.
 - b. The end product of the target development phase is a prioritized list of targets — the JIPTL that supports the objectives and conforms to guidance.

G. During phase 3, the **weaponizing and/or allocation** phase, targeting personnel quantify the expected results of lethal and nonlethal weapons employment against prioritized targets.

1. The JIPTL, the prioritized listing of potential targets, constructed during the previous phase, provides the basis for weaponizing assessment activities.
2. The final prioritized targets are then included into the MAAP. The resulting MAAP is the plan of employment that forms the foundation of the joint ATO.

H. Phase 4 is **joint ATO development**.

1. After the MAAP is approved by the JFACC, detailed preparations continue by Combat Plans section on the joint ATO, special instructions, and the airspace control order.
2. The ACA and AADC instructions must be provided in sufficient detail to allow components to plan and execute all missions tasked in the joint ATO.
3. The JAOC reviews each air capable component's allocation decision and/or air allocation request message and may prepare a sortie allotment message back to the components as required, in accordance with established operations plans guidelines.

I. Phase 5 brings us to **force execution**.

1. The JFACC and/or JFC staff directs the execution and/or deconflicts all capabilities and/or forces made available for a given joint ATO.
2. The JFC may give the JFACC the authority to redirect joint air operations.
 - a. The affected component commander must approve all requests for redirection of direct support air assets.

b. Affected component commanders will be notified by the JFACC upon redirection of joint sorties previously allocated in the joint ATO for support of component operations.

c. Aircraft or other capabilities and/or forces not apportioned for tasking, but included in the ATO for coordination purposes, will be redirected only with the approval of the respective component commander or designated senior JAOC liaison officer.

d. Components execute the joint ATO as tasked and recommend changes to the JAOC as appropriate, given emerging JFC and component requirements.

J. Phase 6 is **combat assessment**

1. CA is done at all levels of the joint force.

2. The JFC should establish a dynamic system to support CA for all components.

a. Normally, the joint force operations officer will be responsible for coordinating CA, assisted by the joint force intelligence officer.

b. CA evaluates combat operations effectiveness to achieve command objectives. (**JP 3-56.1, Chapter IV, para 5**)

IX. **Airspace Control**

A. All components of the joint force share the theater and/or JOA airspace for offensive and defensive operations.

1. Because of this, airspace control can become very complex.

2. The timely exchange of information over reliable, interoperable means of communication is needed to effectively coordinate, integrate, and deconflict joint counterair operations.

3. Execution of the airspace control plan is accomplished through airspace control orders that provide specific airspace control procedures applicable for defined periods of time.

4. The primary goal of airspace control is to enhance the effectiveness of air, land, sea, and special operations forces in accomplishing the JFC's objectives. Other key goals should be deconflicting and identifying all airspace users and eliminating fratricide.

B. Standardized airspace control procedures and close coordination help facilitate common understanding of airspace use, reduce the possibility of confusion, and contribute to the overall effectiveness of counterair.

1. The JFC establishes the geographic boundaries within which airspace control is to be exercised and provides priorities and restrictions regarding its use.
2. Airspace control is designed to integrate different airspace users and provide them with responsive and timely support. Integration with host-nation airspace and air defense control systems is essential. (**JP 3-01, Chapter III, paras 1-2**)

X. Airspace Control Plan - Principles and Methods

A. The **airspace control plan** is approved by the JFC to establish procedures for the airspace control system in the joint force AOR and/or JOA.

1. The ACP must be tied to the area air defense plan and coordinated with the other joint operation plans because these documents together allow for the conduct of operations along the range from fully capable and operating command and control systems to greatly degraded command and control systems.
2. The ACP must consider procedures and interfaces with the international or regional air traffic systems necessary to effectively support air logistics, augmenting forces, and JFC objectives.
3. As a consequence, the ACP should be preplanned as much as possible and be put in a simplified, understandable format.
4. Because the airspace control area normally coincides with air defense boundaries, coordination between combat zone airspace control and area air defense operations must be addressed.

B. The ACP should be coordinated with representatives of the host nation(s) in whose airspace the operations will take place and with civil air activities that may occur in or near the airspace.

1. There also should be close planning and coordination between representatives of both offensive and defensive weapon systems of US and multinational armed services.
2. Broad areas of concern for developing the ACP include familiarity with the basic operation plan, combined with knowledge of host and multinational political constraints, capabilities and procedures of military and civil air traffic control systems, and general locations of friendly and enemy forces.
3. It is imperative that the ACP support an orderly transition from peacetime operations to combat operations. Such a transition could occur during a period of increasing tensions or suddenly without much warning.

C. The area air defense plan needs to be written with detailed engagement procedures

that are integral to the ACP and operations in the combat zone.

1. Combat zone airspace control and area air defense operations need to plan for operations in a degraded C4 environment.
2. Detailed engagement procedures and decentralized control procedures that apply to air defense are key to operations in a degraded environment.
3. Air defense interface is critical to effective combat zone airspace control. The geographic arrangement of weapons and the location of specific types of air defense operations, as well as specific procedures for identification of aircraft, are important factors to include in the ACP. (**JP 3-52, Chapter II, para 3**)

XI. Fundamentals of Joint Airspace Control in the Combat Zone

A. There are **fundamental issues** that must be addressed with regard to **joint airspace control in the combat zone**.

1. Combat zone airspace control increases combat effectiveness by promoting the safe, efficient, and flexible use of airspace with a minimum of restraint placed upon the friendly airspace users.
2. Airspace control includes coordinating, integrating, and regulating airspace to increase operational effectiveness; however, the airspace control authority does not have the authority to approve, disapprove, or deny combat operations that is vested only in operational commanders.
3. Combat zone airspace control needs to provide a commander the operational flexibility to employ forces effectively in a joint or multinational campaign or operation.
4. The primary objective of combat zone airspace control is to maximize the effectiveness of combat operations without adding undue restrictions and with minimal adverse impact on the capabilities of any Service or functional component.

B. The airspace of the combat zone is a crucial dimension of the battlefield and is used by all components of the joint and multinational forces to conduct assigned missions.

1. A high concentration of friendly surface, subsurface, and air-launched weapon systems must share this airspace without unnecessarily hindering the application of combat power in accordance with the JFC's campaign plan.
2. The primary goal of combat zone airspace control is to enhance air, land, maritime, and special operations force effectiveness in accomplishing the JFC's objectives. (**JP 3-52, Chapter I, paras 2-4**)

XII. Principles of Joint Airspace Control in the Combat Zone.

A. The airspace control system supporting joint force operations must be based on the principle of unity of effort because a coordinated and integrated combat airspace control system is essential to successful operations.

B. A major reason for close coordination between airspace control, air traffic control, and area air defense elements is to reduce the risk of fratricide and balance those risks with the requirements for an effective air defense. Identification requirements for airspace control must be compatible, mutually supporting and interoperable with those for air defense.

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

D. Common combat zone airspace control procedures within the joint force AOR and/or JOA enhance the effectiveness of air operations. These procedures need to allow maximum flexibility, close coordination between land, maritime, SOF, and air operations, and rapid concentration of combat power in a specific portion of airspace in minimum time.

E. Procedural control needs to be uncomplicated and readily accessible to all aircrews, air traffic controllers, air defense weapons controllers, and airspace controllers.

F. The airspace control system in the combat zone must have a reliable, jam-resistant, and secure C4 network.

1. However, care must be exercised to avoid control procedures that rely heavily on voice communications.
2. Emphasis should be placed on simple, flexible air traffic control schemes, and “in the blind” procedures.

G. Airspace control systems in the combat zone need to be durable and redundant because they are likely to be prime targets for an attacker.

H. The airspace control structure in the combat zone needs to be responsive to evolving enemy threat conditions and to the evolving operation and need to promote the rapid massing of combat power.

I. Service component air traffic controller training, which emphasizes military terminal air traffic control in peacetime conditions, needs to be augmented by combat-specific air traffic control training. Combat zone airspace control procedures and personnel must be exercised in peacetime to be effective in combat.

J. Flexibility and simplicity must be emphasized throughout to maximize the effectiveness of forces operating within the system.

K. Combat zone airspace control needs to be capable of supporting day or night and all-weather operations.

L. In summary, the combat zone airspace control procedures must prevent mutual interference from all users of the airspace, facilitate air defense identification, and safely accommodate and expedite the flow of all air traffic in the theater of operations. In accomplishing these broad tasks, the basic principles of war and the JFC's concept of operations remain the cornerstones of operations. **(JP 3-52, Chapter I, para 4)**

XIII. Joint Counterair Operations

A. **Joint counterair** encompasses those mutually supportive **operations** used by the JFC in a concerted effort to gain air superiority and provide force protection. Joint forces will normally conduct intensive and continuous counterair operations when gaining air superiority.

1. These operations include such measures as the use of aircraft, surface-to-surface and SAMs, cruise missiles, and EW to counter the air and missile threat.
2. Both offensive and defensive operations are involved. JFCs integrate and exploit the mutually beneficial effects of offensive and defensive counterair actions to destroy, neutralize, or minimize the effectiveness of air and missile threats (both before and after launch).

B. The JFC will normally seek to gain and maintain air superiority early in the conduct of joint operations.

1. Air superiority protects the joint force and vital assets. It enables and enhances joint operations in all dimensions.
2. Inherently, all components contribute to the air superiority effort. The JFC combines air, land, sea, space, and special operations forces into an effective joint team and integrates a variety of weapon systems to counter enemy air and missile threats. **(JP 3-01, Chapter I, paras 1-2)**

XIV. Joint Offensive Counterair

A. **OCA** consists of those offensive operations aimed at destroying, disrupting, or limiting enemy air and missile power. This enables friendly use of otherwise contested airspace and reduces the enemy's air and missile threat posed against friendly forces.

B. Ideally, most joint OCA operations will prevent the launch of aircraft and missiles by destroying them and their overall supporting systems on the surface. Otherwise, joint OCA operations will seek out and destroy or neutralize these threats as close to their source as possible.

C. These operations are generally conducted at the initiative of joint forces. **(JP 3-01,**

Chapter I, para 2a)

XV. Joint Defensive Counterair

A. **Joint defensive counterair** is synonymous with air defense and consists of active and passive operations conducted to protect friendly forces and vital interests.

1. The term air defense represents all defensive measures designed to destroy attacking enemy aircraft and missiles, or to nullify or reduce the effectiveness of such attacks should they escape destruction on the ground.
2. Consequently, the active and passive defense elements of TMD are integral parts of air defense.
3. Since the enemy may integrate aircraft and missile attacks, the basic defense criteria to detect, identify, intercept, and destroy remains the same for all air defense operations.
4. All air defense operations rely on the same resources, are often conducted simultaneously in the same airspace, and are all subject to the weapons control procedures and measures of the AADC.

B. Active Air Defense

1. Active air defense is direct defensive action taken to destroy attacking air and missile threats or reduce their effectiveness against friendly forces and assets.
2. Active air defense defeats air and missile threats by using weapons systems such as aircraft, land- and sea-based SAMs, and EW. Integration of these weapon systems will allow for a defense in depth, using multiple engagements.

C. Passive Air Defense

1. Passive air defense consists of measures taken to posture the force to reduce vulnerability and minimize the effectiveness of hostile air and missile attacks.
2. These measures (camouflage, concealment, deception, hardening) improve survivability by reducing the likelihood of detection and targeting and also minimize the potential effects of surveillance and attack.
3. Unlike many other air defense operations, passive air defense does not involve the employment of lethal weapons. (**JP 3-01, Chapter I, para 3**)

XVI. Definition and Objectives

A. The main objectives of JTMD are as follows:

1. To demonstrate US resolve to deter aggression through the establishment of a TMD capability.
 2. To protect US-deployed and multinational forces as well as critical assets and areas of vital interest or political importance from attack by TMs.
 3. To detect and target theater missile systems; to detect, warn, and report a theater missile launch; and to coordinate a multifaceted response with other combat operations.
 4. To reduce the probability of and/or minimize the effects of damage caused by a theater missile attack.
 5. To ensure that the JFC has the freedom to conduct joint operations without undue interference from theater missile operations conducted by the enemy. **(JP 3-01.5, Chapter I, para 2)**
- B. It is important to emphasize that TMD is inherently a joint mission.
1. Therefore, joint force components, supporting combatant commanders, and multinational force TMD capabilities must be integrated toward the common objective of neutralizing or destroying the enemy's TM capability. This must be integrated into and in support of the JFC's overall concept of operations and campaign objectives.
- C. During the planning stage, TMD forces, requirements, and capabilities must be integrated into all phases of the operation and mission areas early on.
- D. Assessment of a given threat and risk analysis will provide the basis for integration of the appropriate JTMD capability into the force package to ensure synchronization and efficient use of the limited number of dual-purpose systems.
- E. JTMD should be capable of countering threats from TMs and their associated C4I, targeting, and logistic support systems. In addition, JTMD systems should possess the capability for rapid global deployability and intratheater mobility.
- F. The TM threat may appear across the range of military operations.
1. JTMD systems and procedures must be adaptable for joint or multinational operations in any contingency.
 2. For example, in addition to warfighting situations, humanitarian assistance or noncombatant evacuation operations may be threatened by hostile forces that have a TM capability. **(JP 3-01.5, Chapter I, para 3)**

XVII. The Four Operational Elements of Theater Missile Defense

- A. There are **four operational elements that make up TMD**: passive defense, active

defense, attack operations, and TMD C4I.

1. **Passive defense** applies to measures to reduce vulnerability and minimize damage and includes deception, nuclear, biological, and chemical protection as well as EW.
2. **Active defense** applies to protection by in-flight destruction and destruction of airborne launch platforms, and includes multitiered defense in-depth and active EW.
3. **Attack Operations** applies to offensive action by land, sea, air, space, and SOF and includes destruction, disruption, or neutralization of theater missile launch platforms and supporting command, control, and communications.
4. **TMD C4I** consists of timely and accurate data and systems to plan, monitor, direct, control, and report TMD operations as well as integrated systems of doctrine, organizational structures, and supporting intelligence.

B. It is crucial to coordinate and integrate all four of these elements into cohesive and coherent combat operations in order to counter theater missiles. (**JP 3-01.5, Chapter I, para 5**)

XVIII. Types of Suppression of Enemy Air Defenses Operations

A. The three categories of J-SEAD are AOR and /or JOA air defense system suppression, localized suppression, and opportune suppression.

1. AOR/JOA air defense system suppression is conducted in support of joint operation or campaign objectives; it consists of AOR and/or JOA-wide operations conducted against specific enemy air defense systems to degrade or destroy their effectiveness.
 - a. Detailed planning and coordination of AOR and/or JOA air defense system suppression operations occur before hostilities if possible.
 - b. Refinement and modification of AOR and/or JOA air defense system suppression plans should be coordinated in a manner consistent with the procedures to develop the original joint air operations plan.
2. The concept of AOR and/or JOA air defense system suppression efforts is to target high payoff air defense assets that will result in the greatest degradation of the enemy's total system.
 - a. These targets include enemy airborne warning and control systems, radars and associated C4 for early warning, ground controlled interception, and long range SAM systems.
 - b. The objectives of AOR and/or JOA air defense system suppression will

depend upon the type of air operations, like interdiction, counterair, maritime, and others, planned to support the JFC operation or campaign plan. **(JP 3-01.4, Chapter III, para 2)**

3. Localized suppression operations are normally confined to geographical areas associated with specified ground targets or friendly transit routes. These operations contribute to local air superiority, facilitating joint operations in the area.
 - a. The concept of localized suppression operations occur throughout the AOR and/or JOA for all components.
 - b. Localized suppression operations have time and space limitations because they protect specific operations or missions; however, the effects of those missions may extend beyond the objective time period. **(JP 3-01.4, Chapter III, para 3)**
4. Many air defense threats are not identified in enough time for planned suppression. **Opportune suppression** is usually unplanned and includes aircrew self-defense and attack against targets of opportunity. The JFC or higher authority will establish the ROE for opportune suppression. Some of these rules include the following.
 - a. **Aircrew self-defense**, stating that unless otherwise dictated by the laws of war, restrictions ordinarily should be imposed only for the safety of friendly forces.
 - b. **SEAD targets of opportunity** are those enemy air defense systems detected by surface or airborne sensors or observers within range of available weapons and not yet targeted.
 - c. **Targets Acquired by Observers or Controllers**. Many combat elements may often be in good position to acquire SEAD targets of opportunity. Observers, spotters, controllers and liaison officers from the components have the authority to request suppression for SEAD targets of opportunity. Some examples are Air Force air liaison officers, airborne forward air controllers and tactical air control parties. The observers or controllers will forward these requests through their respective fire support channels.
 - d. **SEAD targets acquired by aircrews** may pass the information to the agency controlling their mission if they have not engaged them because of mission priorities, system capabilities, or SEAD ROE. This agency immediately passes the targeting data through the appropriate system or systems to coordinate with the force best suited for targeting. **(JP 3-01.4, Chapter III, para 4)**

XIX. Joint Suppression Measures

- A. During J-SEAD operations, suppression requirements vary according to mission objectives, system capabilities, and threat complexity.
1. Major employment considerations include overall air defense system architecture, capabilities of system components, geography and terrain, disposition and density of defenses, weather, resupply and repair capabilities, and friendly force organization, training, and equipment.
 2. J-SEAD operations can be accomplished through destructive and disruptive means and using sound combinations of the two can maximize their effectiveness.
- B. Destructive means seek the destruction of the target system or operating personnel.
1. The effects are cumulative and increase aircraft survivability, but destructive means may place large demands on the available combat capabilities and/or forces.
 2. Examples of destructive SEAD capabilities are bombs, air and surface-to-surface missiles, air scatterable mines, and artillery.
- C. Disruptive means temporarily deny, degrade, deceive, delay, or neutralize enemy air defense systems to increase aircraft survivability. Disruptive means may be either:
1. Active means, such as electronic attacks; or
 2. Passive means, such as emissions control and camouflage.
- D. Joint air operations may require support for suppression of enemy air defenses from resources other than aircraft.
1. The JFC may direct components to support joint air operations with assets, capabilities, or forces, in addition to the air capabilities and/or forces provided.
 2. Some measures a commander may request include reconnaissance and target-acquisition support and EW.
- E. Deception can support SEAD activities by causing confusion for the enemy as to the location and or timing of friendly air operations.
1. Electronic deception can be especially effective when the enemy is attempting to conduct air operations in the vicinity of their own air defenses.
 2. In this situation, electronic degradation of enemy identification friend or foe can create a dilemma for the enemy by forcing them to choose between increased risk of fratricide and imposing restrictions on their own air operations.

3. In either case, enemy operations are degraded. As an economy of force action, drones, decoys, and unmanned aerial vehicles, as well as manipulative, simulative, and imitative communications or actions, should be used wherever suitable. **(JP 3-01.4, Chapter I, para 4)**

XX. Joint Maritime Operations (AIR) Definition

A. **The objective of JMO (AIR)** is to destroy, degrade, or neutralize enemy warfighting capabilities in the maritime environment and to increase the combat effectiveness of the joint force through optimum use of all available JMO (AIR) forces.

B. JMO (AIR) are employed to destroy or reduce to an acceptable level the enemy air, surface, and subsurface threat to friendly forces and to suppress enemy commerce; to gain and maintain local air superiority in the maritime environment in order to protect vital sea areas and sea lines of communications; and to support land-based operations as directed and guided by the JFC.

C. To enhance the combat effectiveness of the joint force, JMO (AIR) forces may have to integrate their operations with the uniquely interdependent air, surface, and subsurface operations of naval task forces. Essentially, JMO (AIR) will be employed to support two interrelated operations, sea control and maritime power projection. **(JP 3-04, Chapter I, para 3-4)**

XXI. Interdiction Definition and Objectives

A. **Interdiction is an action to divert, disrupt, delay, or destroy the enemy's surface military potential** before it can be used effectively against friendly forces. **(JP 3-03, Chapter I, para 1)**

B. This can be accomplished in the following ways:

1. **Diversion.** Interdiction can divert enemy forces intended for battle areas where they are immediately or critically required. It may divert enemy ground forces to a location more favorable to the JFC and can divert enemy naval, engineering, and personnel resources to the tasks of repairing and recovering damaged equipment and facilities, while keeping lines of communications open.
2. **Disruption.** Interdiction can disrupt the enemy's C4I systems, intelligence collection capability, transportation systems, supply lines, and industrial base. Interdiction thus disrupts the movement and routing of the enemy's information, materiel, forces, and supplies.
3. **Delay.** Interdiction can delay enemy forces and supplies. When this happens, friendly forces gain time. What JFCs do to improve their situation in the time gained is critical to any assessment of interdiction's contribution, but it does not guarantee a major impact on combat operations. Delay is also critical in achieving additional interdiction payoffs. For example, it can lengthen

the time during which enemy land or naval forces are at risk of attack.

4. **Destruction.** The destruction of enemy forces, support elements, and supplies is the most direct of the four interdiction actions in achieving the goals of the operation.
 - a. Destroying transportation systems is usually not an end in itself but contributes to the delay, diversion, and disruption of enemy forces and materiel.
 - b. The demonstrated or perceived ability to destroy may cause the enemy to move only at night, or to mass air defense assets around critical transportation nodes. **(JP 3-03, Chapter I, para 3)**

XXII. Air Interdiction

A. **Air interdiction** is interdiction conducted by means of air operations with the intent of diverting, disrupting, destroying, or delaying the enemy's military potential before it can be brought to bear effectively against friendly forces. Air interdiction is differentiated from other air operations by the objective or goal of the operation.

B. Successful joint air interdiction operations have resulted from a largely unimpeded access to the enemy's airspace.

1. To ensure interdiction success, the JFC must establish conditions conducive to effective operations in enemy areas.
2. Effective interdiction may allow freedom of action for other friendly operations. For example, an enemy's counter to interdiction may leave the enemy more susceptible to friendly surface maneuver. **(JP 3-03, Chapter IV, para 2a)**

XXIII. Synchronization Maneuver and Interdiction

A. Synchronization is defined as "the arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time."

1. Interdiction and maneuver are complementary operations that can, and should, be synchronized to create dilemmas for the enemy.
2. **Synchronizing interdiction and maneuver** (both land and sea) provides one of the most dynamic concepts available to the joint force.
3. Interdiction and maneuver should not be considered as separate operations against a common enemy, but rather as complementary operations designed to achieve the JFC's campaign objectives.
4. Synchronizing interdiction and maneuver enhances the ability for each operation to more fully contribute to the successful outcome of a campaign.

B. JFCs typically conduct joint interdiction operations through functional component commanders. To ensure unity of command and effort throughout a theater and/or JOA, the JFC normally delegates the planning and execution of theater - and/or JOA-wide interdiction operations to the functional commander, usually the JFACC. **(JP 3-03, Chapter II, para 3)**

XXIV. JFACC's Role in Interdiction

A. The JFACC, as the supported commander for the JFC's overall air interdiction effort, develops theater-wide and/or JOA-wide targeting priorities and, giving consideration to land, naval, and air force designated interdiction priorities, proposes the apportionment recommendation to the JFC.

B. The JFC provides apportionment guidance to the JFACC who, in turn, using priorities established in the JFC's decision, then plans and executes the theater-wide and/or JOA-wide interdiction effort.

C. The JFACC normally has the majority of assigned and attached theater-ranging joint interdiction forces and the capability to direct and control them. **(JP 3-03, Chapter II, para 3)**

XXV. Effective Interdiction

A. The following are the elements which are normally required to successfully prosecute interdiction operations:

1. **Dimensional Superiority.** Successful interdiction operations have resulted from a largely unimpeded access to the enemy's airspace. To ensure interdiction success, the JFC must establish conditions conducive to effective operations in enemy areas.
2. **Sustained and Concentrated Pressure**
 - a. Successful interdiction operations have highlighted the importance of sustained, concentrated efforts.
 - b. Since interdiction is often directed against replaceable systems and repairable systems, sustained, persistent pressure, sufficient to impede efforts to replace or repair affected assets, is required.
 - c. The JFC prioritizes and aggressively attacks high payoff, high value interdiction target sets to economize forces in one area.
3. **Accurate and Timely Intelligence**
 - a. Information about the enemy's lines of communications, tactical dispositions, and capabilities is imperative.

b. Accurate and timely intelligence provides information on the enemy's probable course of action, identifies interrelated target systems and crucial nodes, and allows the commander to anticipate enemy's actions or counteractions and respond accordingly.

4. Appropriate Munitions/Assets

a. Mismatching available munitions or assets with target systems can greatly increase the time and resources required to achieve the objectives of the interdiction operation.

b. Matching the correct system for the target enhances unity of effort freeing excess assets for use elsewhere.

5. Synchronization With Surface Maneuver

a. One of the most important factors in successful interdiction operations is synchronizing interdiction and maneuver.

b. Planning and conducting interdiction and surface operations within a coherent framework provides a synergistic effect.

c. Effective interdiction can typically achieve many desired results. These include channeling the enemy's movements, constricting their logistics system, and forcing time-urgent movement upon them. **(JP 3-03, Chapter IV, para 2)**

XXVI. Close Air Support Definition and Conditions.

A. CAS is defined as air action by fixed- and rotary-wing aircraft against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces.

B. Joint CAS is CAS conducted through joint air operations or, in the case of rotary-wing aircraft, through the establishment of a command relationship between components.

C. CAS is planned and executed to accomplish military objectives assigned to tactical units or task forces.

1. CAS planning focuses on the ordered arrangement and maneuver of combat elements in relation to each other and/or to the enemy to achieve combat objectives.

2. While CAS is a tactical operation, it is linked to the operational art through the air apportionment process.

C. CAS can be conducted at any place and time friendly combat forces are in close proximity to enemy forces.

1. The word “close” does not imply a specific distance; rather, it is situational. The requirement for detailed integration because of proximity, fires, or movement is the determining factor.
2. CAS provides firepower in offensive and defensive operations to destroy, disrupt, suppress, fix, or delay enemy forces.

D. At times, CAS is the best force available to mass lethal capability rapidly to exploit tactical opportunities or to save friendly lives.

1. Each Service performs CAS within its organic capabilities, organization, and training. As a result, a variety of aircraft are capable of performing CAS. Some however, are better designed and suited for the CAS mission than others.
2. Regardless of Service, all aircraft capable of performing CAS must be fully integrated into joint operations to give the JFC flexibility in force employment. **(JP 3-09.3, Chapter I, paras 2 & 3)**

E. The conditions required for effective CAS include the following:

1. Air superiority
2. Suppression of enemy air defenses
3. Target marking
4. Favorable weather
5. Prompt response
6. Aircrews and terminal controller skill
7. Appropriate ordnance
8. Communications; and
9. Command and control. **(JP 3-09.3, Chapter I, para 8)**

XXVII. Fixed- and Rotary-Wing Close Air Support Employment

A. CAS can be employed with fixed- or rotary-wing aircraft.

B. The organizational structure, missions, and the characteristics of CAS-capable aircraft determine how CAS is employed.

1. In a joint force, the integration of CAS-capable aircraft allows maneuver force commanders to take advantage of the distinctly different, but complementary, capabilities of each platform to support the fire and maneuver

of their units.

2. Although fixed- and rotary-wing aircraft can both provide CAS, employment considerations differ. Traditional planning and employment methods for fixed-wing CAS may not be best for rotary-wing aircraft.
 - a. While attack helicopters and fixed-wing aircraft capabilities are complementary, neither type can fully replace the air support provided by the other. The range, speed, and ordnance load of fixed-wing aircraft and the helicopter's excellent responsiveness and ability to operate in diverse conditions represent distinct advantages peculiar to each.
 - b. Fixed-wing aircraft are typically tasked and employed in terms of aircraft sorties. A sortie is defined as an operational flight by one aircraft performing a single mission. Fixed-wing CAS sorties are usually flown in groups of two to four aircraft. In the Air Force, these small groups are called flights; in the Navy and Marines, sections (two aircraft) or divisions (four). Special operations AC-130 gunships typically operate single-ship sorties during hours of darkness.
 - c. Army aviation units are organic to corps and divisions and perform missions as part of a combined arms team. Army helicopters are normally tasked through mission-type orders passed to a battalion or cavalry squadron which executes the mission as an integral unit and/or maneuver element. Special situations may arise that dictate employment of attack helicopters in smaller units. Although they can perform CAS missions in smaller groups, the preferred employment of Army attack helicopters is as an integral unit, operating under the control of a maneuver commander with mission-type orders.
 - d. Marine Corps attack helicopters are organized in squadrons and typically operate in sections and divisions. These units are assigned to and are integral to the Marine air-ground task force.
 - e. The Joint Force Special Operations Component Commander maintains a small fleet of special operations helicopters. These are normally armed for defensive protection but can perform emergency CAS. However, on occasion specially equipped SOF helicopters can provide organic CAS for SOF ground forces. (JP 3-09.3, Chapter I, para 7)

XXVIII. Theater Airlift Definition and Purpose

A. Theater airlift consists of aircraft and ground assets assigned to a combatant commander to provide common-user airlift in support of joint operations.

1. The lowest practical level for assigning and operation common-user airlift forces is usually at the theater level.

2. In certain circumstances, theater airlift forces may operate between theaters or between the continental United States and an overseas theater.
- B. Effective employment of theater airlift forces requires an understanding of their operational and organizational relationships to other airlift forces.
1. Operationally, the airlift mission links airlift terminals in a theater to other terminals.
 2. Airlift's primary mission is to establish air lines of communications between air terminals, as required for operations.
- C. Theater airlift forces exist to support the plans, operations, and priorities of the geographic combatant commander by operating air transport aircraft and ground support assets for all theater forces. These forces have a dual identity in that they are both air operating forces and they are an element of the logistic support system.
- D. It should be noted that while theater airlift's most important operational characteristics, flexibility and vulnerability, make it responsive, it can also be a potentially costly asset to use.
1. Its principal logistic characteristics, limited capacity and relatively short cycle time, make it a precious resource to enhance key operations.
 2. The central problem of theater airlift planning is maximizing theater airlift support for immediate requirements, while also maximizing its contribution to the long-term requirements of the overall campaign.
 3. As a rule of thumb, theater airlift should not be tasked to fulfill a requirement that can be fulfilled by surface transportation assets. **(JP 3-17, Chapter I, para 1)**

XXIX. Theater Airlift Categories

- A. **Theater airlift operations are categorized in different ways for different purposes.**
1. Theater airlift is usually divided between channel and special assignment airlift missions (SAAMs).
 2. Channel missions provide common-user general airlift service (usually on relatively fixed schedules and route structures over an extended period of time), or they can be event-driven.
 3. SAAMs provide dedicated airlift for specific requirements, usually at times, places, and in load configurations requested by a specific user.
- B. For scheduling purposes, theater airlift is conducted on either a recurrent or surge basis.

1. Recurrent operations establish a scheduled flow of individual aircraft to make the most of available aircraft and ground support assets. These kinds of operations would be used in low-threat environments.
 2. For higher threat environments, surge operations maximize the ability of air defense forces to protect airlift assets because they usually reduce movements in time and space and reduce their vulnerability to detection and attack.
- C. For movement planning purposes, theater airlift aircraft are either administrative- or combat-loaded.
1. Administrative loading gives primary consideration to achieving maximum use of aircraft passenger and cargo capacities, without regard to ground force tactical considerations.
 2. Combat loading arranges personnel and material to arrive at their intended destination in an order and condition so that they are ready for immediate use. **(JP 3-17, Chapter I, para 2)**

XXX. Theater Airlift Tasks

- A. For operational planning purposes, most **theater airlift** missions perform one of six basic **tasks**:
1. **Deployment**, involving the administrative or combat movement of personnel, units, and materiel into or within an AOR or JOA before they engage in operations.
 2. **Employment**, consisting of combat movement of units as an integral part of their operations.
 3. **Routine sustainment**, providing administrative air movement of materiel and personnel to reinforce or resupply forces already deployed or employed in operations.
 4. **Combat sustainment**, or the combat movement of supplies, materiel, and personnel to reinforce or resupply units already engaged in combat operations.
 5. **Redeployment**, the combat or administrative air movement of personnel, units, and materiel from deployed positions within an AOR or JOA.
 6. And finally, **force extraction**, involving combat air movement of personnel, units, and materiel from positions in the immediate vicinity of enemy forces. **(JP 3-17, Chapter I, para 2)**

XXXI. Command and Control of Airlift Forces

- A. As we have discussed previously, **the JAOC is the organization through which the**

JFACC controls joint air operations, including theater airlift. Within the JAOC, an airlift coordination cell (ALCC) plans, coordinates, and manages the execution of theater airlift operations.

B. The exact organization of the ALCC will be dependent upon the requirements of the JFC and in the JFACC's concept of organizing and operating the JAOC.

1. Ordinarily, the ALCC will consist of an airlift plans branch, an airlift operations branch, and an airlift support branch.
2. These airlift elements, though consolidated in the ALCC, will coordinate with various air operation centers' planning and operational elements.
3. The JFACC generally exercises control of the ALCC through the JAOC director. As part of the JAOC director's staff, the Chief, ALCC, plans, coordinates, and manages the execution of theater airlift operations with assigned forces.
4. This centralized control and decentralized execution enhances the timely integration of theater airlift into the overall theater air effort and, consequently, into the theater campaign as a whole. **(JP 3-17, Chapter II, para 3)**

XXXII. JFC Responsibilities for Combat Search And Rescue.

A. JFCs have primary authority and responsibility for CSAR in support of US forces within their AORs and/or JOAs, including civilian personnel such as Civil Reserve Air Fleet crew members and deployed technical representatives.

B. When planning and executing this responsibility, JFCs should ensure that appropriate host-nation policies, laws, regulations, and capabilities are taken into consideration.

C. JFCs normally delegate responsibility to recover personnel to the joint force component commanders.

1. Additionally, the JFC should establish a JSRC to monitor recovery efforts; to plan, coordinate, and execute joint SAR and CSAR operations; and to integrate CSAR operations with other evasion, escape, and recovery operations within the geographical area assigned to the joint force.
2. Joint SAR and CSAR operations are those that have exceeded the capabilities of the component commanders in their own operations and require the efforts of two or more components of the joint force to accomplish the operation.
 - a. Control of CSAR Forces. JFCs normally exercise control of all forces committed to a joint CSAR operation through a designated component commander or through the JSRC.
 - b. Component Support. JFCs should ensure all joint force components support

CSAR operations of the other components to the fullest extent practicable.

c. Unit commanders should be prepared, based on inherent capabilities, to conduct CSAR in support of their own operations and to provide mutual CSAR support to other units. Such CSAR support should be planned concurrently with ongoing offensive and/or defensive combat operations and should take into account the capabilities of adjacent units. CSAR requirements exceeding available capabilities should be forwarded to the component rescue coordination center. (**JP 3-50.2, Chapter I, paras 2, 4 & 5**)

XXXIII. Combat Search and Rescue Recovery Methods

A. Joint CSAR forces may employ any one of a variety of procedures to recover isolated personnel.

B. The specific method of recovery employed will be dictated by the situation. A universally essential condition for a successful recovery is an accurate location of isolated personnel.

1. Personnel in nontactical or uncontested environments can expect to be recovered by conventional SAR procedures.
2. Recovery methods employed in hostile environments could range from use of a combat search and rescue task force (CSARTF) to unconventional assisted recovery through an evasion and recovery (E&R) net.
3. Regardless of the situation, isolated personnel must be knowledgeable of recovery procedures and prepared to assist in their recovery to the greatest extent possible. Several joint CSAR recovery methods are listed below.

a. **Single Unit.** This method employs a single type of vehicle, normally a helicopter or flight of helicopters, to penetrate hostile or denied territory without support of a CSARTF. This recovery method requires knowledge of the exact location of isolated personnel. The recovery vehicle's defense is accomplished by remaining undetected through the use of masking terrain, darkness, or adverse weather as cover rather than the use of firepower. This mission should be planned and executed with communications silent or emission control as required. Other electronic emissions (such as radar) and transponders should be kept to the minimum to accomplish the mission. Thorough preparation, including exhaustive navigation planning and threat analysis, is the key to success. The single unit recovery is the preferred method of recovery, but terrain, enemy activity, and lighting conditions may suggest using the CSARTF method.

b. **CSARTE.** This method of recovery, used previously in Southeast Asia, has severe limitations when facing a significant air threat but may be used where resources and enemy activity allow. CSARTF elements can help the recovery vehicle by pinpointing the location and authenticating isolated

personnel, protecting isolated personnel and the recovery vehicle from enemy activity, and providing navigation assistance and armed escort to the recovery vehicle. The CSARTF is coordinated through premission planning and briefings with all participating elements. Mission planners must consider operations security when planning and executing the mission, use secure communications whenever possible, and exercise emissions control and communications silent procedures when required. Typical CSARTF elements are airborne mission commander, on-scene commander, recovery helicopters, rescue escort, rescue combat air patrol, and support aircraft.

c. **Low-Visibility Options.** The general concept of employing clandestine specialized teams and SOF in recovery operations is to place isolated personnel in company with a highly trained unit as soon as possible and to move them to an area of friendly control.

d. **E&R.** E&R includes employment of clandestine specialized teams and SOF to conduct recovery of isolated personnel. **(JP 3-50.2, Chapter II, para 4)**

XXXIV. Conclusion

A. This discussion has been an overview of the key elements of joint air operations. We have covered many issues including the fundamentals and principles of joint air operations, the JFC and JFACC's role in these operations and the planning processes involved. We have considered the basics of counterair operations, both offensive and defensive, and briefly covered SEAD operations. Air interdiction and theater airlift were highlighted along with airspace control and close air support.

B. More importantly, I hope you have discovered that successful use of joint air forces to support the JFC's operation or campaign plan requires unity of effort, centralized planning, and decentralized execution.

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