Joint Publication 3-01.2

Joint Doctrine for Offensive Operations for Countering Air and Missile Threats

NOTICE:

Draft Publications do not represent officia

Final Coordination
19 August 2002

PREFACE

1. Scope

~~This publication provides the guidance necessary to conceptualize, plan, coordinate, and conduct successful offensive counterair operations throughout the range of military operations.~~ This publication builds upon the foundation of joint doctrine in JP 3-01, *Joint Doctrine for Countering Air and Missile Threats,* and provides more detailed guidance on the planning and conduct of offensive operations designed to counter adversary forces attempting to attack US forces or interest with air and/or missile assets.

2. Purpose

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

3. Application

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

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

For the Chairman of the Joint Chiefs of Staff:

JOHN P. ABIZAID
Lieutenant General, USA
Director, Joint Staff

Intentionally Blank

TABLE OF CONTENTS

Table of Contents

EXECUTIVE SUMMARY
COMMANDER'S OVERVIEW

- **Discusses Offensive Counterair (OCA) Operations and its Relationship to Defensive Counterair Operations**
- **Provides Command and Control (C2) Relationships and Service C2 Systems for OCA Execution**
- **Discusses Fundamentals for Planning OCA Operations**
- **Discusses Fundamentals for Executing OCA Operations**

Overview of Offensive Counterair

Offensive counterair (OCA) operations are conducted at the initiative of friendly forces.

Offensive counterair (OCA) seeks to dominate the adversary's airspace and prevent the launch of air and missile threats. OCA consists of offensive measures to destroy, disrupt or neutralize adversary aircraft, missiles, launch platforms and their supporting structures and systems. Ideally, joint OCA missions will prevent the launch of aircraft and missiles by destroying or neutralizing them prior to launch. **Those weapons that are launched should be destroyed or neutralized as close to their source as possible.**

OCA and defensive counterair operations need to be synchronized and integrated to achieve unity of effort for theater- and/or joint operations area-wide counterair.

Command and Control of Offensive Counterair

As the supported commander, the joint force air component commander normally exercises operational control over assigned and attached forces and tactical control over sorties from other components.

The joint force commander (JFC) normally designates the joint force air component commander (JFACC) as the supported commander for counterair. Though the **JFC determines the command and control (C2) relationships within the joint force, typically, the JFACC (a Service component commander) will exercise operational control over assigned and attached forces and tactical control over military capability or forces made available for tasking from other components. Surface forces will normally provide fire support, and attack helicopters may be provided in direct support**. Each Service has tactical C2 nodes that can execute OCA operations. Close coordination

between components is necessary to effectively plan and execute OCA operations.

Multinational considerations examine the capabilities of partners to ensure assigned tasks enable partners to make a contribution to the OCA mission.

In multinational operations, the Combined Joint Force Air Component Commander (CJFACC) must consider a number of factors such as force capabilities, information and equipment security levels, and procedural and organizational differences of multinational partners. The **CJFACC should ensure that all elements can make meaningful contributions to the overall counterair mission**.

Planning Offensive Counterair Operations

The joint intelligence preparation of the battlespace for OCA involves information about the adversary's capability to employ airpower. This information is used to develop our joint air operations plan which includes OCA.

The joint intelligence preparation of the battlespace provides the basis for support to the course of action selected by the JFC. For **OCA, this involves any information about the adversary's air and missile threat capability, such as types of weapons systems and operating bases, locations, and the supporting infrastructure, such as air defense radars, communications facilities or C2 nodes**. This type of information is used in the development of the joint air operations plan, a six-step process that involves **strategy-to-task methodology and helps to produce a master air attack plan**, the basis for the air tasking order.

OCA may require either positive or procedural airspace control measures.

Other important considerations in planning OCA are airspace control (required to execute OCA), **rules of engagement** (determines options, targets and methods), and **identification** (to avoid fratricide).

Air refueling, space, information and special operations all enable effective OCA operations.

There are also operations which enable OCA. Air refueling extends the range of OCA platforms. **Space operations** provide intelligence, communications, weather and global positioning, navigation and timing to support OCA. **Information operations** are used to provide information about the adversary and misinformation to the adversary. **Special operations** direct action missions are often integrated into OCA attack operations, such as those to destroy a mobile missile launcher or C2 node.

Executing Offensive Counterair Operations

The primary OCA missions are: OCA attack operations, fighter sweep, fighter escort and suppression of enemy air defenses (SEAD).

Attack operations are conducted against surface targets and attempt to **destroy or neutralize aircraft or missiles before**

they are launched. Attack operations also target support mechanisms such as C2 nodes, communications facilities, airfields, aircraft shelters, etc. Attack operations can be preplanned or immediate. The JFACC has many options in terms of resources for attack operations. Aircraft can be used where flexibility is required. Surface-to-surface missiles can be used in high risk areas. Where range permits, artillery and naval surface fire may be used to support attack operations.

Sweep and escort missions normally require fixed-wing assets.

Fighter sweep and fighter escort are air-to-air missions normally conducted over the adversary's airspace. Fighter **sweep seeks out and destroys adversary aircraft and missiles** within a defined volume of airspace. **Fighter escort is normally flown to provide protection from aerial attack** for a group of aircraft en route to/from a target area, or to protect high value airborne assets such as search and rescue or special operations forces aircraft.

Suppression of enemy air defenses is an OCA mission that disrupts or destroys adversary Integrated Air Defense System to enable freedom from attack over adversary airspace.

SEAD focuses on destroying or disrupting or degrading the adversary's surface based air defenses to enable friendly air operations over the adversary's airspace. It can be **theater wide** (affecting the adversary's Integrated Air Defense System) **localized** (focused on a particular air defense node such as electronic warfare radar) or **opportune** (target of opportunity). Destructive SEAD can be accomplished by both airborne and surface based weapons systems that can effectively target air defense systems. Disruptive SEAD temporarily denies or degrades air defense systems and is normally accomplished by an airborne jamming platform, or the use of expendables such as chaff, flares and decoys.

CONCLUSION

This publication provides the guidance necessary to conceptualize, plan, coordinate, and conduct successful OCA operations throughout the range of military operations.

Intentionally Blank

CHAPTER I
INTRODUCTION

World War II: Normandy
"If I didn't have air supremacy, I wouldn't be here."

General Dwight Eisenhower,
(Surveying the buildup area at Normandy, late June 1944.)

1. The Counterair Framework

a. The purpose of the joint counterair mission is to attain the desired degree of air superiority to allow freedom of action and to protect the joint force. To execute this mission, joint force commanders (JFCs) integrate the capabilities of each component to conduct offensive and defensive operations. Offensive counterair (OCA) operations seek to dominate ~~the~~ adversary~~'s~~ airspace and prevent the launch of threats, while defensive counterair (DCA) operations defeat adversary air and missile threats attempting to attack or penetrate friendly airspace. Note in Figure I-1 that while electronic warfare (EW) is not identified as a specific mission, it is a great enabler of both OCA and DCA.

Joint counterair missions may employ aircraft, surface-to-air missiles (SAMs), surface-to-surface missiles (SSMs), artillery, special operations forces (SOF), ~~or~~ and elements of information operations (IO~~s~~) against a variety of threats. These threats include ~~enemy~~ adversary aircraft and aerial platforms (manned or unmanned), ballistic missiles, cruise missiles (air, land, or sea launched) and air-to-surface missiles.

b. Counterair operations usually begin early in the conduct of joint operations, and their effects produce the desired degree of air superiority at the time and place of the JFC's choosing. Air superiority may not totally eliminate air and missile opposition. However, it limits ~~the~~ adversary~~'s~~ ability to conduct air and missile attacks and surveillance while providing a more favorable environment for joint forces to perform their tasks without prohibitive interference from adversary attacks. Air superiority may vary over time and geography. The degree of air superiority required depends on the overall situation and the JFC's concept of operations (CONOPS).

2. Focus of Offensive Counterair

a. OCA operations are the preferred method of countering air and missile threats. OCA consists of offensive measures to destroy, disrupt, or neutralize adversary aircraft, missiles, launch platforms, ~~anti-aircraft artillery~~ and their supporting structures and systems both before and after launch, but as close to the source as possible. OCA targets are those which directly or indirectly enable adversary airpower and can include petroleum, oils, and lubricants facilities, aircraft repair structures, command and control (C2) facilities, etc. Ideally, joint OCA operations will prevent the launch of, or destroy adversary aircraft and missiles ~~by destroying them~~ and their supporting infrastructure prior to launch. OCA includes:

- **Attack Operations.** Targeting all adversary air and missile forces and the surface elements that contribute to their ~~adversary's air and missile~~ capability.

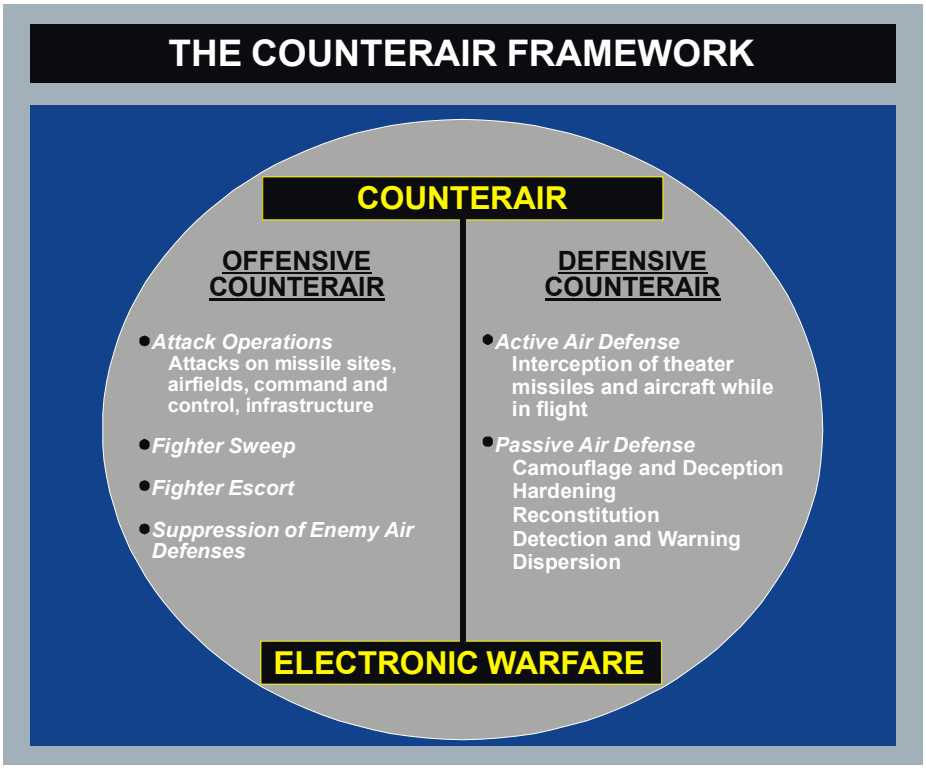


Figure I-1. The Counterair Framework

- **Fighter Sweep.** Seeking out ~~airborne adversaries~~ adversary aircraft or targets of opportunity for destruction in an allotted area of operations.

- ~~**Fighter**~~ **Escort.** Providing protection ~~to~~ sorties in support of other offensive air and air support operations over adversary territory or in a defensive counterair role to protect aircraft such as high value airborne assets (HVAAs) or close air support (CAS) ~~packages~~ missions.

- **Suppression of Enemy Air Defenses (SEAD).** Disrupting or destroying surface-based enemy air defense systems.

Further discussion of each of these missions can be found in Chapter IV, "Offensive Counterair Execution."

b. OCA operations are high priority as long as the adversary has the air and missile capability to threaten friendly forces and conduct aerial surveillance. This publication expands on the information in Joint Publication (JP) 3-01 *Joint Doctrine for Countering Air and Missile Threats*, by focusing on OCA operations. This publication includes C2, planning, and execution of OCA operations.

3. Synchronization and Integration of ~~OCA~~ Offensive Counterair and Defensive Counterair~~A~~

OCA and DCA operations provide the freedom from attack, freedom to maneuver, and the freedom to attack.

a. OCA and DCA are complementary operations. They provide the freedom from attack, freedom to maneuver, and the freedom to attack necessary for success in air, land, naval, space or special operations. Considerations for integrating and synchronizing OCA and DCA are:

- The relationship between OCA and DCA is situation dependent. Under some circumstances OCA operations my be predominate under others, particularly military operations other than war, DCA may be used exclusively.

- A single commander with an adequate C2 system is responsible for planning and executing both OCA and DCA operations. If properly organized and established this C2 system should be able to seamlessly flow assets from one mission to the other based upon the mission, phase and changing daily requirements to support the JFC and his scheme of maneuver and fires.

- OCA and DCA operations should maximize the strengths and minimize vulnerabilities of each type of operation.

b. Synchronization, integration and unity of effort between OCA and DCA operations are facilitated by the use of many of the same sensors, weapons, and C2 systems. Timely exchange of information, in addition to situational awareness, interoperability among C2 and intelligence nodes, and decision support tools facilitate seamless connectivity between commanders and components.

c. Interoperable systems facilitate centralized planning and decentralized execution. Architecture is a critical element in OCA/DCA synchronization and integration. Command, control, communications, computers, and intelligence (C4I) systems meld communications, sensors, automation, and intelligence with decision makers, operators, and weapons throughout the battlespace. They enable the joint force to simultaneously detect adversary aircraft, theater missiles, and air defense targets; to warn friendly forces; and to rapidly react to neutralize or destroy the threat.

OCA and DCA are mutually supporting operations, which provide the freedom from attack, freedom to maneuver and the freedom to attack necessary for success in air, land, sea, or ~~space~~special operations. Close coordination between joint commanders and early campaign planning are required to integrate both operations.

a. Before counterair (CA), joint theater missile defense (JTMD) (previously covered in JP 3-01.5, *Doctrine for Joint Theater Missile Defense*) was the significant air doctrine that closely synchronized the attack with the defense. While JTMD is an integral part of CA, detailed missile defense planning to counter this specific threat is often necessary to properly synchronize and integrate the two efforts and their operational elements. The overall CA tenets of centralized planning and decentralized execution of OCA/DCA operations continue to remain key.

- In addition to passive and active defense, JTMD incorporates planning and C2 actions to facilitate OCA attack operations. **Preemptive destruction of theater missiles (TMs) especially provides greater force protection than engaging them in flight**. While these attacks are accomplished via offensive air or land force fires and maneuver, **the purpose is defensive and these attacks must be planned and synchronized with the overall DCA scheme to maximize the effectiveness of resources**.

- Considerations for integrating and synchronizing OCA and DCA:

  •• The relationship between OCA and DCA is situationally dependent. Under some circumstances OCA operations may be predominant~~e~~, under others, ~~particularly military operations other than war,~~ DCA may be used exclusively.

  •• A single commander with an adequate C2 system is responsible for planning and executing both OCA and DCA operations. If properly organized and established, this C2 system should be able to seamlessly flow assets from one mission to the other based upon the mission, phase, and changing daily requirements to support the JFC and ~~his~~the scheme of maneuver and fires.

  •• OCA and DCA operations should maximize the strengths and minimize vulnerabilities of each type of operation.

b. Synchronization, integration and unity of effort between OCA and DCA operations are facilitated by the use of many of the same sensors, weapons, and C2 systems. Timely exchange of information, in addition to situational awareness, interoperability among C2 and intelligence nodes, and decision support tools facilitate seamless connectivity between commanders and components.

c. Interoperable systems facilitate centralized planning and decentralized execution. Architecture is a critical element in OCA/DCA synchronization and integration. Command, control, communications, computers, and intelligence (C4I) systems meld communications, sensors, automation, and intelligence with decision makers, operators, and weapons throughout the battlespace. They enable the joint force to simultaneously detect adversary aircraft, TMs, and air defense targets; to warn friendly forces; and to rapidly react to neutralize or destroy the threat.

Upon a theater ballistic missile (TBM) launch, in-theater sensors and other national assets detect the launch and begin tracking the adversary missile. These systems provide near real time ballistic missile warning, trajectory, launch point and impact point data to C2 nodes through the joint theater ground station, the Global Command and Control System (GCCS) and Global Broadcast System. After launch, US Space Command provides primary TBM warning. Missile warning infra-red data is processed by the theater event system which is composed of three separate, similar, and complementary ground processing elements which disseminate data over C2 nodes to tactical users and also via prearranged voice networks. Simultaneously, C2 systems alert friendly forces in the predicted TBM impact zone. Friendly forces execute active and passive air defense measures to counter the threat. A Patriot battery, which has also been exchanging tracking surveillance data with an Aegis missile cruiser through the C4I network, via tactical digital information link, tracks the threat and launches a hit to kill missile on the incoming TBM when it's within range. Simultaneously, joint force intelligence, surveillance, and reconnaissance (ISR) systems are cued through GCCS to acquire the adversary launch site. These systems then pass on fire-control targeting data to a designated weapons system, which is employed to destroy the mobile launcher. This seamless process should be executed in less than 10 minutes from the TBM launch. A similar scenario could apply to a package of adversary strike aircraft preparing to takeoff from an adversary airfield (detected by ISR assets). An OCA strike against the airfield and aircraft before they takeoff is the preferred method. Simultaneously, DCA forces are alerted of a potential air strike, so friendly forces can initiate active and passive air defense measures.

OCA and DCA operations use many of the same sensors, weapons, and C2 systems.

OCA/DCA COUNTERAIR MISSION SEQUENCE

The following scenario is an example of the sequence of events occurring during synchronized and integrated offensive counterair (OCA)/defensive counterair (DCA) mission execution:

Upon an enemy theater ballistic missile (TBM) launch, intelligence, surveillance, and reconnaissance (ISR) assets (to include in-theater, national and Defense Support Program satellites) detect the launch and begin tracking an enemy missile. These systems provide near real time ballistic missile warning, trajectory, launch point and impact point data to counterair command and control (C2) nodes through the theater air-ground system, the Global Command and Control System (GCCS), and Global Broadcast System. Simultaneously, C2 systems alert friendly forces in the predicted TBM impact zone. Friendly forces execute active and passive defense measures to counter the threat. A PATRIOT battery, which has also been exchanging tracking data within the command, control, communications, computers, and intelligence network through the tactical digital information link, tracks the threat and launches a hit-to-kill missile on the incoming TBM when it is within range. Simultaneously, joint force ISR systems are cued through GCCS to acquire the enemy launch site. These systems then pass on critical data to the designated weapons system, which is launched or employed to destroy another mobile launcher which is preparing to launch. Overall, the attack/defend sequence is executed within single digit single-digit minutes of the TBM launch. A similar scenario could apply to a package of enemy strike aircraft preparing to takeoff from an enemy airfield (detected by ISR assets). An OCA strike against the airfield and the aircraft, before they take off, is the preferred method. Simultaneously, DCA forces are alerted of a potential air strike, so friendly forces can initiate active and passive defense measures.

VARIOUS SOURCES

CHAPTER II
COMMAND AND CONTROL

"Air control can be established by superiority in numbers, by better employment, by better equipment, or by a combination of these factors."

General Carl A. "Tooey" Spaatz

1. General

The emerging capabilities of air and missile threats require joint forces to be more responsive, flexible, and interoperable than ever before. The manner in which JFCs organize their forces directly affects the responsiveness and versatility of ~~joint force operations~~the counterair forces. The JFC~~s~~ organizes forces to accomplish the mission based on ~~their~~ his vision and ~~concept of operations~~ CONOPS. Unity of effort, centralized planning and decentralized execution are key considerations. Unity of effort is necessary for effectiveness and efficiency; centralized planning is essential for synchronizing and integrating the efforts of all available forces; and decentralized execution is essential to generate the tempo of operations required and to cope with the uncertainty, disorder, and fluidity of combat. The JFC delegates tasks to subordinates to enable effective spans of control, responsiveness, tactical flexibility, and protection.

2. Responsibilities and Command Relationships

a. The JFC organizes forces, assigns responsibilities, and establishes command relationships to include supported and supporting relationships and any necessary coordinating instructions. The joint force air component commander (JFACC) is normally the supported commander for counterair which includes both OCA and DCA. *Amplifying detail on the command relationships for counterair can be found in Chapter II, ~~Joint Publication (~~JP~~)~~ 3-01,* Joint Doctrine for Countering Air and Missile Threats.

b. Close coordination among component commanders and the JFC is necessary to effectively plan and execute OCA operations and to ensure a synergistic effort. Some OCA operations require short reaction time. In these situations, timely component-to-component coordination is necessary. The JFC may apportion component ~~capability and/or~~ forces to the JFACC to support counterair missions throughout the theater/joint operations area (JOA) ~~wide counterair missions~~. The JFC determines the most appropriate command ~~authority over~~ relationships for forces made available to conduct OCA. The functions of the JFACC, area air defense commander (AADC) and airspace control authority (ACA) must be integrated to ensure that ~~OCA and DCA~~ joint air operations and airspace control are synchronized (see JP 3-01, *Joint Doctrine for Countering Air and Missile Threats*, for a description of the functions of the JFACC, AADC, and ACA). The responsibilities of the JFACC, AADC, and ACA are interrelated and are normally assigned to one individual, but they may be assigned to two or more individuals when the situation dictates. Based on the situation, if the JFC decides not to assign the responsibilities of JFACC, AADC, and ACA to one individual, then close coordination between all three positions is essential. ~~Typically, the JFACC exercises operational control (OPCON) over assigned and attached forces and tactical~~

The ~~BCD~~ AWACS assists in the synchronization of joint air operations.

~~control over sorties made available from other components.. Surface forces provide fire support while attack helicopters may be placed in a direct support role.~~Typically for OCA, air and naval forces provide air sorties tactical control, and surface forces provide fire support and attack helicopters in direct support.

c. The joint air operations center (JAOC) serves as the command center for the JFACC and is the focal point for OCA operations. Refer to JP 3-30, *Command and Control for Joint Air Operations*, for more detailed information. The following describes elements of the component C2 systems used for OCA operations.

- **Air Force Theater Air Control System (TACS).** The Air Force TACS provides a C2 infrastructure ~~to~~ that can support Air Force or joint air operations. The TACS includes the personnel, procedures, and equipment necessary to plan, direct, and control air operations and to coordinate air operations with other components. It is composed of control agencies, sensors, and communications facilities to provide centralized control and decentralized execution of operations. ~~The focal point for tasking and exercising OPCON is the aerospace operations center, the senior element of the TACS.~~ The senior element of the TACS is the aerospace operations center, which is the focal point for tasking and exercising C2 activities. Subordinate elements of the TACS include Airborne ~~and~~ Warning and Control System (AWACS), control and reporting center (CRC), ~~a~~Air ~~s~~Support ~~o~~Operations ~~c~~Center (ASOC), ~~t~~Tactical ~~a~~Air ~~c~~Control ~~p~~Party (TACP), ~~a~~Airborne ~~b~~Battlefield ~~c~~Command and ~~c~~Control ~~c~~Center (ABCCC), and ~~j~~Joint ~~s~~Surveillance, ~~t~~Target ~~a~~Attack ~~r~~Radar ~~s~~System (JSTARS).

- **Army Joint Fire Support C2 Agencies.** Fire support elements (FSEs) are established from battalion to corps level. The FSE is the agency responsible for planning, execution and coordination of joint fires and fire support within the unit's area of operations (AO). These elements can support OCA operations by advising the Army unit commander on

capabilities and on the effective use of fire support assets and by assisting in the planning and coordination of attacks of OCA targets within the surface AO.

•• **Deep Operations Coordination Cell (DOCC).** The DOCC is an Army organization frequently used at division, corps, and army levels that serves as the center for focusing and integrating the planning, coordination, synchronization, and execution functions for Army deep operations. Working with the battlefield coordination detachment (BCD) and other coordination elements, the DOCC plans and coordinates, as appropriate, the use of fires, combined arms maneuver, SOF, and Army airspace ~~command and control~~ C2 in support of deep operations inside the AO, which may include OCA attack operations. ~~For operations outside the AO, the~~ The DOCC must coordinate operations outside the AO to avoid adverse effects and fratricide. If Army deep ~~maneuver~~ operations have an adverse effect~~s~~ ~~with~~ on other ongoing missions, the issue must be resolved through the appropriate component commander.

•• **Battlefield Coordination Detachment.** The Army provides a BCD as the interface for selected battlefield functions between the Army forces (ARFOR) and the JFACC. A BCD is collocated with the JAOC. The BCD supports OCA operations by advising the JFACC/JAOC on the capabilities and effective employment of Army systems. The BCD passes JFACC requests for ARFOR support for OCA. The BCD assists in the synchronization of joint air operations (including course of action [COA]) with Army maneuver and fires and the exchange of operational and intelligence data.

- **Army Air and Missile Defense Command (AAMDC).** The AAMDC plans, analyzes, tracks and develops air and TM targets that are nominated for attack through its attack operations cell

  For more information on Army fire support C2 agencies, see JP 3-09, Doctrine for Joint Fire Support.

- **Navy Tactical Air Control System (NTACS).** NTACS is the principal air control system afloat. The senior Navy air control agency is the Navy tactical air control center (TACC) and the subordinate airborne element is the E-2 Hawkeye aircraft. The Navy TACC is responsible for planning and conducting naval air operations as well as coordinating operations that affect airspace. If the JFACC's command operations center is afloat, the Navy TACC may support operations for the JAOC. The link between the JFACC and naval commanders is the Naval and Amphibious Liaison Element (NALE) located in the JAOC. ~~t~~The NALE assists in integrating naval air capabilities to help the JFACC meet JFC objectives through the NTACS.

  ~~*The NTACS is described in greater detail in JP 3-09.3,* Joint Tactics, Techniques, and Procedures for Close Air Support.~~

- **The Marine Air Command and Control System (MACCS).** The MACCS provides the Marine aviation combat element (ACE) commander with the capability to C2 and influence the application of

Marine aviation assets. The Marine air command and control agencies involved in OCA are the Tactical Air Command Center and the Tactical Air Operations Center (TAOC).

•• The Tactical Air Command Center is the senior agency for the ACE commander and battlestaff to plan, command, supervise, and direct Marine air-ground task force (MAGTF) air operations. The Tactical Air Command Center maintains complete information on the friendly situation, including ~~status of air and ground forces, the air situation, and~~ an integrated air picture with ground combat information essential to the air effort. It can provide automated displays, air tasking order (ATO) generation equipment, and data link feeds. ~~Typically, the Marine Tactical Air Command Center is employed with the lead element of a Marine expeditionary force. Functionally, it is divided into two mutually supporting sections: the current operations section, and the future operations section. The current operations section which executes the current day's ATO and supervises the current air situation, and the future operations section, which does directed detailed planning and recommends allocation of aviation resources. The future operations section creates the Marine portion of the ATO.~~ Functionally, it is divided into four mutually supporting sections; current operations, future operations, future plans, and air combat intelligence. The current operations section executes and assesses the daily ATO, while the future operations section —helps develop future ATOs and operation orders for the ACE. The future plans section conducts aviation planning in support of the next mission, or potential mission, assigned to the MAGTF. The air combat intelligence section supports the entire tactical air command center by producing and disseminating aviation-specific, all-source intelligence required to plan and execute air operations.

•• ~~The TAOC is responsible for real time surveillance of assigned airspace, airspace control and management control of the intercept of hostile aircraft and missiles, and provides positive control and navigational assistance to friendly aircraft. It can be used to enhance the ability of the Tactical Air Command Center in support of deep operations. Its closest joint counterpart is the Air Force's CRC.~~ The TAOC is the principle air defense agency in the MAGTF. Subordinate to the tactical air command center, the TAOC provides real time surveillance, direction, positive control, and navigational assistance for friendly aircraft. It performs real time direction and control of all antiair warfare operations, including manned interceptors and surface-to-surface weapons.

- The Marine Corps normally provides a Marine liaison officer to the JAOC to serve as the Service conduit within the JAOC.

d. SOF can play a significant role in OCA operations. The joint force special operations component commander (JFSOCC) and the JFACC ~~are both supported commanders for JOA wide operations~~ may share common operational areas. Therefore, SOF aviation and surface activities must be closely coordinated with all joint OCA operations,

from planning through execution, to provide integration, and deconfliction, and to prevent fratricide. Integration is crucial since JFACC air assets and SOF routinely operate deep in adversary territory. The special operations liaison element (SOLE) serves as the JFSOCC's representative to the JFACC. The SOLE coordinates, deconflicts and integrates all SOF air and surface activity into the JFACC's ATO and the ACA's airspace control order (ACO).

3. Command and Control Decisions

Success of OCA operations depends on timely, often real-time C2 decisions. C2 should be considered as not just organizations/systems, but the application of command (i.e., commander's intent, objectives, desired effects, etc.) with control (i.e., rules of engagement (ROE), unity of effort, planning, executing, etc.), and normally under the tenet of centralized control and decentralized execution. The joint task force C2 structure must facilitate C2 of OCA operations as required by the JFACC and the JFC. C2 for OCA may not be the same as for other joint force missions, so OCA planners must consider any differences in the timeliness and capabilities of the C2 systems of all components, down to the tactical level. Assets under the C2 of the JFACC should be able to rapidly react to changes required in OCA operations. One reason is to execute joint fires against time sensitive targets (TSTs) that have been identified, prioritized, and approved by the JFC for action. This requires real-time or near real-time C2. For example, through real-time C2 decisions, preplanned air assets may be diverted from their primary mission to an emerging higher priority target (e.g., a mobile theater ballistic missile launcher), or ground or airborne alert aircraft, as tasked through the ATO, may be launched against a TST. Even with the planned connectivity, unless the procedures are established and well rehearsed, execution of real-time C2 decisions can be delayed or mishandled.

3. Multinational Considerations

a. Most joint operations are conducted within the context of an alliance (the result of formal agreements; i.e., treaties.) or a coalition (an ad hoc arrangement between two or more nations for common action). The international situation, along with the perspectives, motives, goals and values of each ally or coalition member vary, making each multinational operation unique. Figure II-1 identifies a number of factors that affect the military capabilities of nations.

b. These factors necessitate that the JFC (in multinational operations the JFC is titled the multinational force commander) evaluate key considerations and differences involved in planning, and executing operations in a multinational environment. The JFC must consider their coalition partners' national interests and objectives and be prepared to negotiate with allies and coalition partners when planning and developing rules of engagement (ROE), airspace control measures, weapon control measures, and other appropriate areas. In a coalition, not all participants can be tasked for all missions. Some partners may be restricted to the types of targets they are permitted to attack and the level of risk they are willing to accept due to domestic politics or arms limitation agreements. All critical forces and geopolitical areas should receive adequate protection from air and missile threats. Sharing intelligence and warning information is an important consideration from both the security and also vital to

Figure II-1. Factors Affecting the Military Capabilities of Nations

~~ensuring~~ unity of effort perspectives The senior US officer needs to become personally concerned with the issues of intelligence sharing and releasing of information early in the process in order to ensure the commander's requirements have been clearly stated and understood.

c. When planning and executing OCA operations, the combined joint force air component commander (CJFACC) must consider force capabilities and disparities, information and equipment security levels, and procedural and organizational differences. Language barriers may influence the ability of coalition air forces to achieve unity of effort. Before assigning tasks to elements of force, the CJFACC should ensure that all elements can make meaningful contributions to the overall counterair mission. Agreement on objectives, threats, and a clearly defined, responsive and interoperable C2 structure are crucial to effective OCA operations. The CJFACC should consider using trained advisory personnel to assess partners' airpower capabilities and limitations and to keep forces connected at the tactical level.

See JP 3-0, Doctrine for Joint Operations, *and JP 3-16,* Joint Doctrine for Multinational Operations, *for further detail concerning multinational operations.*

CHAPTER III
~~PLANNING~~ OFFENSIVE COUNTERAIR ~~OPERATIONS~~PLANNING

"Know your enemy and know yourself, in a hundred battles you will be successful."

Sun Tzu

1. Introduction

The JFACC is responsible for the planning and execution of OCA operations. There are three important aspects of the planning process: setting clearly defined objectives, determining effects that support the objectives, and unity of effort. Proper planning for OCA operations relies on accurate joint intelligence preparation of the battlespace (JIPB). OCA planning is part of an overall joint air operations plan, discussed further in this chapter. Other considerations for OCA planning are ~~adersary's~~ adversary air defense systems, airspace control, ROE, and identification requirements.

2. Joint Intelligence Preparation of the Battlespace

a. Knowledge of the adversary is one of the fundamentals of joint warfare. JIPB is a continuous process, which enables the JFC and his staff to visualize the full spectrum of adversary capabilities and potential COAs across all dimensions of the battlespace. JIPB provides the basis for intelligence direction and synchronization that supports the COA selected by the JFC.

Details on the JIPB process can be found in JP 2-01.3, JTTP for Joint Intelligence Preparation of the Battlespace.

b. For offensive counterair, this would relate to any information about ~~the~~ adversary~~'s~~ air and missile threats and supporting infrastructure. It ~~also~~ would also include information on adversary integrated air defense, C2 networks, ~~and adversary~~ radar coverage, and other early warning/detection systems. Specifically for OCA, the intelligence preparation of the battlespace (IPB) will provide available information on:

- Aircraft operating bases and dispersal sites to include aircraft carriers and other air capable ships.

- TMs and their operating locations; target sets, to include launch platforms and infrastructure: C2 nodes, missile stocks, forward operating locations/bases, trans-load sites, and logistics.

- Signal operating instructions, vulnerabilities, redundancies, capabilities, locations, and order of battle of ~~the~~ adversary~~'s~~ integrated air defense systems (IADSs), communication links, and C4I systems and facilities.

- ~~Surface-to-air missiles (~~SAMs~~)~~, antiaircraft artillery (AAA), and ~~EW~~ early warning/ground control intercept (GCI) sites and facilities.

- Signals intelligence and EW assets.

- Climate and terrain within the JOA and their effects on friendly and adversary operations.

- Strengths and vulnerabilities of adversary offensive and defensive air systems.

- Changes of ~~the~~ adversary~~'s~~ indirect and direct threat emitters, including wartime reserve modes and reprogramming of target sensing weapon systems.

- Location, status, ~~of all key nodes and targets that affect the adversary's ability to sustain air operations~~ and disposition of weapons of mass destruction ~~storage facilities~~ capability.

- Location and status of all key nodes and targets that affect the ability to sustain air operations.

3. Offensive Counterair~~CA~~ and the Joint Air Operations Plan

~~a. OCA planning is an integral part of overall joint air operations planning. Normally, there are five stages in the joint air operations planning process as shown in Figure III-1, and each stage produces a desired product. The steps are not required to be completed in the given order, and various phases may be concurrent or sequential. The stages must be integrated and the products of each phase must be checked and verified for consistency.~~

~~• **Operational Environment Research.** The product of this phase is primarily the IPB that presents an in depth knowledge of the operational environment. This phase is focused on gaining information about friendly and adversary capabilities and intentions, doctrine, and the environment in which the operations will take place. Key factors such as threats and airbase availability will affect the strategy development process. A large adversary air threat will require more time and dedicated assets to achieve air superiority, to the initial detriment of other missions.~~

~~• **Objective Determination.** The products of this phase are clearly defined, quantified objectives that will contribute towards the accomplishment of the JFC's overall objectives. The source of planning objectives is usually documented in the JFC's initial planning guidance and the operation or campaign plan. Joint air objectives are derived from the JFC's objectives, and OCA objectives are derived from the JFACC's joint air operations plan (JAOP). The objective of OCA operations is to seize the initiative and gain and maintain air superiority over the adversary's territory. This involves two tasks. The first is to render the adversary's offensive air and missile capability combat ineffective. The second is to render the adversary's defensive air and missile capability combat ineffective.~~

~~• **Strategy Identification.** The JFC, in coordination with his component commanders, selects a strategy best suited to attain his objectives within identified constraints by taking advantage of adversary COGs. The selected strategy also ensures that friendly COGs are protected. The JFACC then develops a plan that supports the JFC's strategy. Strategic focus is typically one of coercion, denial, or decapitation. A strategy of coercion intends to convince the adversary that the losses associated with his COA are not worth the gains that he desires. A strategy of denial~~

seeks to make the adversary incapable of pursuing his chosen COA. A strategy of decapitation is focused on breaking critical C2 linkages and isolating key leadership. The product of this phase is a clearly defined joint air operations strategy statement.

- **Centers of Gravity (COG) Identification.** The product of this phase is to identify the strategic, operational, and tactical COGs that will achieve JFACC and JFC objectives. A COG describes the central features of an adversary system or force's power that, if defeated, may have the most decisive result. It is important to remember that COGs are dynamic agents of action or influence; they make things happen. A useful way of analyzing COGs is using a construct of COG – Critical Capabilities – Critical Requirements – Critical Vulnerabilities. Critical Capabilities are primary abilities that merits a COG to be identified as such for a given scenario, situation, or mission. From the adversary's point of view, examples of these critical capabilities include the ability to: survive attacks, receive critical intelligence and information, and communicate with higher commanders and subordinate units. From the JFACC's point of view, critical capabilities include the abilities to: project power long distances, locate enemy units/forces, parry and surprise enemy attacks, destroy enemy units/forces, and maintain strength. Critical requirements are defined as essential conditions, resources and means for a critical capability to be fully operative. Examples include, C2 systems, transportation nodes, lines of communications, fighter aircraft, SAM systems, etc. Finally, critical vulnerabilities are critical requirements, or components, that are deficient, or vulnerable to neutralization, interdiction, or attack (moral/physical harm) in a manner achieving decisive results – the smaller the resources and effort applied and the smaller the risk and cost, the better. This effort should include both operators and intelligence personnel. After enemy critical vulnerabilities are identified, they should be prioritized. This priority is based on the critical vulnerability's impact on achieving the objective, in the shortest possible time and with the fewest resources. The prioritized list of critical vulnerabilities is sent into the Joint Targeting Process after JFACC approval. The joint force typically has the ability to attack COGs throughout the area of responsibility (AOR)/JOA. Proper analysis of what constitutes a COG, and how best to attack it, forms the heart of this phase in JAOP planning. For example, the adversary IADS may need to be defeated before air operations can be conducted against COGs. This was the case during DESERT STORM.

- **JAOP Development.** Once strategic objectives are established, this phase develops the strategy by identifying the critical nodes that support or adversary COGs. Next, targets are selected that are vulnerable to attack and that will best affect the critical nodes in order to gain the associated operational objectives. Lastly, the most appropriate weapon systems are selected for employment to gain the desired effects within operational and tactical constraints. The result of this phase is the final JAOP that details how joint air operations employment will support the JFC's operation or

~~campaign plan. The JAOP should identify objectives and target sets (to include TSTs) by priority order, describing in what order they should be attacked or dealt with, the desired results, and the weight of effort required to achieve the desired results in support of the JFC's objectives. OCA operations are conducted to gain and maintain air superiority or air supremacy throughout the JOA, or are localized in time and place to support emerging or limited joint operations. Establishing the appropriate degree of air superiority is the necessary prerequisite for the effective use of military power. For OCA operations it should account for current and potential adversary offensive and defensive threats and indicate the phasing of joint air operations in relation to the JFC's operation or campaign plan. The results of the planning process are incorporated into the daily Master Air Attack Plan (MAAP) (see Figure III-2 for sample MAAP). The MAAP forms the basis of the daily ATO. During MAAP development OCA resources are allocated to accomplish specific targets. OCA planning considers the operational context and environment, and the results from current operations. Planners will work with specialty teams, component liaisons, and unit representatives; the Aerospace Operations Directive, Joint Integrated Prioritized Target List, threat situation, joint prioritized collection, forecast weather, weapons system availability, air refueling, and weapons employment options are synchronized. The MAAP has sufficient flexibility to adapt to the changing situation throughout the theater. Planners adjust to the changing availability of joint assets to ensure each task or target is assigned the best available capability.~~

a. Normally, there are six phases to the air estimate process that results in the joint air operations plan. OCA planning is an integral part of this overall joint air operations planning.

While the phases are presented in sequential order, work on them can be either concurrent or sequential. Nevertheless, the phases are integrated and the products of each phase are checked and verified for coherence. Figure III-1 illustrates the six phases.

For detailed description of the joint air estimate process, see JP 3-30, Command and Control for Joint Air Operations.

The main effort of mission analysis is in analyzing the JFC guidance, the situation, resources and risks involved. Mission analysis provides the data that is used to answer the "who, what, when, where and why" of an operation. The JFACC uses the mission analysis to produce air objectives that support the JFC's campaign. In general terms, the focus of OCA is to attain and maintain air superiority over adversary territory. This requires that both an adversary's offensive and defensive air and missile capability be made combat ineffective. Specific OCA objectives must be clearly defined to reduce the risk of mission failure. They must also be measurable so that the JFACC can know when OCA operations have achieved the intended effect(s).

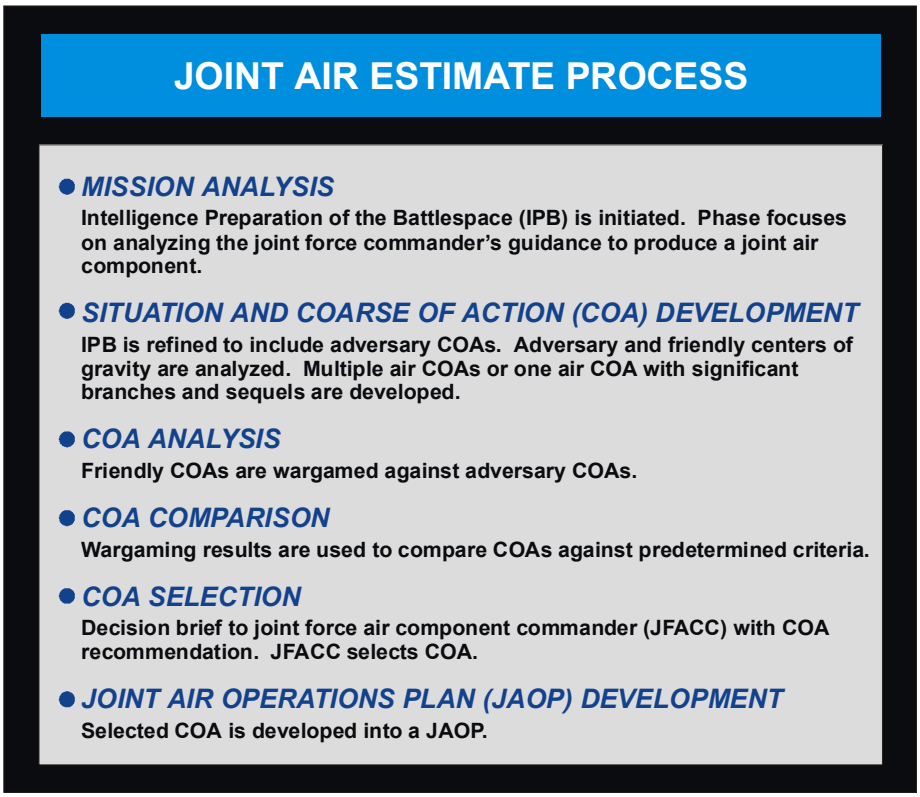


Figure III-1. Joint Air Estimate Process

After establishing OCA objectives, the JFACC uses the data from the mission analysis to examine resources and risks, as well as adversary COA (both known and anticipated) to arrive at the best possible scheme for integrating OCA into the JFACC's COA for joint air operations.

The JFACC's COA is approved or amended by the JFC and gets translated into a final JAOP that includes details on how OCA is integrated into the overall air operations that will support the JFC's operation or campaign plan. The JAOP should identify objectives by priority order, describing in what order they should be attacked or dealt with, the desired effects, and the weight of effort required to achieve the desired results in support of the JFC's objectives. For OCA operations it should account for current and potential adversary offensive and defensive threats and indicate the phasing of joint air operations. The results of the planning process are incorporated into the daily Master Air Attack Plan (MAAP) (see Figure III-2 for sample MAAP).

The MAAP forms the basis of the daily ATO. During MAAP development OCA resources are allocated to accomplish specific tasks. OCA planning considers the operational context and environment, and the results from current operations. Planners will work with specialty teams, component liaisons, and unit representatives; the Aerospace Operations Directive, Joint Integrated Prioritized Target List, threat situation, joint prioritized collection, forecast weather, weapons system availability, air refueling,

Commanders must identify the ~~strategic, operational, and tactical~~ centers of gravity that will achieve JFACC and JFC objectives.

IRAQI INTEGRATED AIR DEFENSE SYSTEM DURING DESERT STORM

"The underlying principle of the SEAD plan was to attack KARI [nickname for Iraqi integrated air defense system] as a whole. It would not be necessary to kill all the SAM sites; it would be enough, if the coalition SEAD assets intimidated the Iraqis to the point that those running SAM sites would refrain from turning radar on. Finally, the plan to suppress enemy air defenses aimed to defeat the SAM threat, so that allied aircraft could operate at medium altitudes which would minimize the threat posed by Iraqi AAA. In effect, planners looked to maximize the inherent inefficiencies and frictions within KARI. They believed that the Iraqis could not operate effectively without centralized direction; once the system began to break down at the center, it would no longer function at all."

SOURCE: *The Gulf War Air Power Survey (GWAPS)*,Volume II

and weapons employment options are synchronized. The MAAP has sufficient flexibility to adapt to the changing situation throughout the theater. Planners adjust to the changing availability of joint assets to ensure each task or target is assigned the best available capability.

b. **OCA Missions and Resources**

• **Attack Operations.** All Service and functional components normally have forces capable of supporting attack operations. Fixed-wing aircraft provide a long range, high payload capacity~~, and~~ with the ability to deliver precision weapons outside of many threat envelopes. Manned aircraft are flexible; if conditions do not permit attack of the primary target, they can be diverted to attack secondary targets. ~~Surface-to-surface missile~~ SSM systems provide destruction capability particularly useful in high-risk areas. Sea or air launched cruise missiles can attack targets in high-risk areas without risking flight personnel. SOF ~~forces~~ have the capability to conduct operations that include direct action, ~~provide~~ providing terminal guidance, ~~observe~~ observing attacks, and collecting intelligence. Artillery and naval surface

fire can attack OCA targets in range. ~~In a surface AO, s~~Surface-to-surface fires may provide the safest and fastest method of attack. While not their primary mission, attack helicopters may be used to attack certain OCA targets.

~~• **Fighter Sweep and Escort.** Any fighter aircraft with air-to-air ordnance and fire control radar can conduct fighter sweep and escort missions against enemy fighter aircraft. Aircraft with beyond visual range identification (ID) systems and radar optimized against air-to-air threats are desired for the sweep and escort role. Fighter sweep and escort missions are more effective when supported by early warning radar assets. Escorts against SAMs require specialized equipment designed to detect, identify, and suppress enemy air defense radar.~~

• **Fighter Escort.** Normally, air-to-air capable fighter aircraft are used as escorts to protect high value airborne assets (i.e., AWACS, RIVET JOINT, JSTARS, etc.), fighter-bombers, bombers, airlift, tanker, and other friendly aircraft from attacks by adversary aircraft. When surface air defense threats are a concern, specially equipped and trained air defense suppression assets can be used in a supporting escort role (see Localized Suppression in Chapter IV, "Offensive Counterair Execution"). The capabilities of fighter escorts (i.e., speed, sophistication of weaponry, data links, guns, etc.) are determined by the operational/tactical commanders responsible for air operations after considering the mission requirements.

• **Fighter Sweep.** These offensive missions by fighters/fighter-bombers are designed to seek out and destroy adversary aircraft in an allotted area of operations. Normally, fighter sweeps are conducted in areas where the commander has attained or nearly attained air superiority, otherwise attack operations and SEAD missions are better suited because of the adversary threat. One of the objectives is further destruction of all adversary air and missile assets. Airborne warning and control, and airborne targeting assets (i.e., AWACS, JSTARS, etc.) should be used to support fighter sweeps.

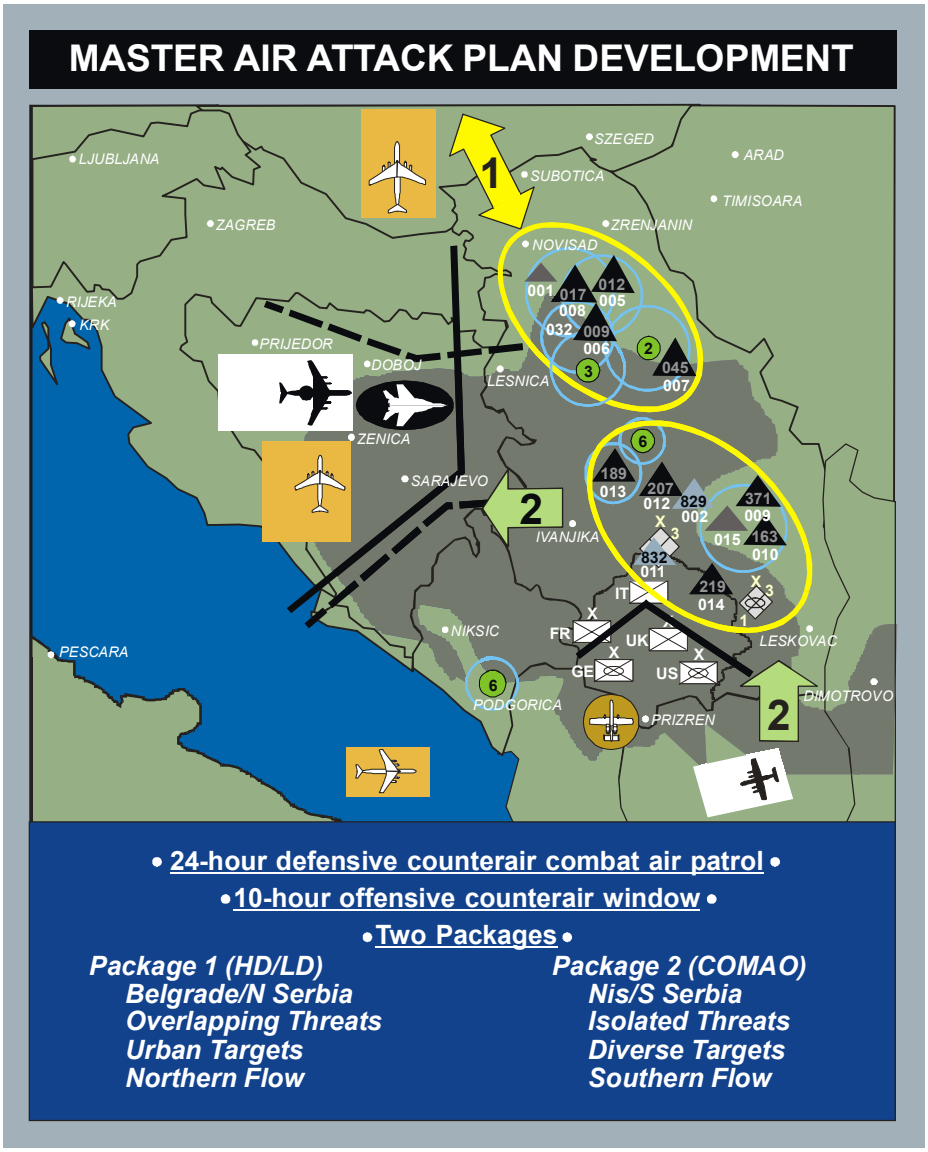


Figure III-2. Master Air Attack Plan Development

- **SEAD.** ~~Resources include: aircraft equipped with anti radiation missiles (ARMs) to attack IADS radar systems, air to ground munitions to attack all IADS components, or EW devices to jam IADS components; attack helicopters; direct or indirect fires (including mortars, artillery, missiles, or naval surface fire); and direct action by SOF. SEAD operations can be accomplished through destructive and disruptive means. Destructive means seek the destruction of the target system or operating personnel and increase aircraft survivability, however destructive means may place large demands on the available combat~~

~~capabilities/forces. Examples include air-to-ground munitions, air-to surface and surface-to-surface missiles, air scatterable mines, and artillery. Disruptive means temporarily deny, degrade, deceive, delay, or neutralize enemy IADS. Active disruptive means include electronic attack, ARMs, directed energy, electromagnetic jamming, electromagnetic deception, expendables (chaff, flares, and decoys) and tactics such as deception, avoidance, or evasive flight profiles. Passive disruptive means include emission control, camouflage, infrared shielding, warning receivers, and material design features.~~ The SEAD mission is used to disrupt or destroy adversary surface air defense systems that threaten friendly air operations. Specially trained aircrew and specially equipped aircraft are designed for SEAD missions, especially against an IADS. SEAD dedicated aircraft are normally equipped with special electronic detection and countermeasures equipment, deceptive expendables (chaff, flares, or decoys), and anti-radiation missiles (ARMs) for use against emitting radars. Specialized SEAD assets should not be used for other missions without a SEAD requirement. Other fighter and fighter-bomber aircraft can be armed to support the SEAD mission, especially against the adversary air defense infrastructure. SEAD assets are also used in conjunction with other air operations/missions (i.e., air interdiction, OCA attack, etc.) when adversary surface air defenses are a factor. Traditionally, there are three categories of SEAD: area of responsibility (AOR)/JOA- wide joint SEAD, localized SEAD, and opportune suppression.

See Chapter IV, "Offensive Counterair Execution," for more detailed discussions.

- ~~**Air Tasking Order Development.** After the JFACC approves the MAAP, detailed preparations continue on the ATO. There are normally multiple ATOs in various stages of development up to execution. Components may submit critical changes to target requests and asset availability. If the affected ATO has been published, such changes will likely end up as amendments to the ATO. The ACA and AADC instructions provide sufficient detail to execute all missions tasked in the ATO. These directions enable combat operations without undue restrictions, balancing combat effectiveness with the safe, orderly, and expeditious use of airspace.~~

4. Adversary Integrated Air Defense Systems

a. Adversary IADS include detection, C2, and weapons integrated into a system. They are assigned to protect those assets critical to achieving ~~the~~ adversary~~'s~~ strategic, operational, and tactical objectives. IADS attempt to destroy, disrupt, or neutralize friendly attack air and missile systems. Defensive tactics may include jamming aircraft navigation, communication, and/or target acquisition systems to degrade effectiveness. IADS have become increasingly complex and can differ widely in terms of organization, sophistication, and operational procedures. The IADS need to be analyzed in depth to avoid its strengths and exploit its weaknesses.

b. **IADS ~~Command and Control~~ C2.** Traditionally, adversaries have exercised

rigid control over air defense activities. Air defense commanders located in centralized C2 posts provide warning and cueing, assign targets, and control weapons readiness using overlapping and redundant communication links. However, potential adversaries may employ a decentralized system, where multiple nodes may have the capability to direct the entire IADS. ~~IADS frequently combine radar and C2 systems from many countries.~~ Radio-based C2 is now being supplemented by communications over landline (cable), microwave, cellular, and internet systems.

c. **IADS Employment.** Mobile ~~IADS~~ air defense elements may stress echeloning of forces in depth and include tactical and strategic SAM and AAA systems. ~~Passive t~~Technologies are now available that allow passive detection and give little warning prior to engagement by ~~IADS~~ air defense forces. Adversaries have become adept at camouflage, concealment, and deception, complicating targeting. SAM forces have become more mobile, with some systems demonstrating a "shoot-to-move" time in minutes rather than hours or days. Modern SAM systems have been dramatically improved in both range and capability and some older systems have received substantial upgrades that continue to make them serious threats to US forces. Long-range SAMs are usually located near high-value targets and provide barrier, area, and point defense coverage. However, their range and mobility mean these systems could provide air defense coverage over the forward edge of the battlefield at various stages of the conflict and threaten friendly airborne platforms well into friendly airspace. Short-range air defense (SHORAD) includes ~~Man-portable~~ man-portable air defense~~s~~ systems (MANPADSs) ~~include short-ranged SAMs~~ that may be guided by ~~infrared~~ infra-red (IR) or radio frequency methods, and by AAA. ~~MANPADs~~ SHORAD will probably present ~~the~~ a primary threat for air assault, ~~airlift,~~ air mobility, and CAS operations. Their proliferation and lack of warning make them a serious threat to all fixed- and rotary-wing aircraft operating at low and medium altitudes, ~~and~~ especially during takeoff and landing. OCA planners should expect MANPADS and AAA coverage wherever adversary forces are encountered.

5. Airspace Control

a. Airspace control includes coordinating, integrating, and regulating airspace to increase operational effectiveness. 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/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. The ACA develops the airspace control plan (ACP) and, after JFC approval, promulgates it throughout the AOR/JOA. Implementation of the ACP is through the ACO, which must be complied with by all components.

b. The purpose of the ACP is to accommodate and expedite the flow of air traffic in the AOR/JOA. The ACP is discussed in greater detail in JP 3-52, *Doctrine for Joint Airspace Control in the Combat Zone.* The objective is to maximize effectiveness of combat operations without adding undue restrictions and with minimal adverse impact on the capabilities of any Service or functional component. Airspace control functions must be closely coordinated with other operations

throughout the JOA. Because ~~the~~ airspace control areas normally coincide with air defense boundaries and there are many ~~more~~ issues relating to airspace control ~~the~~ for DCA ~~mission,~~ operations, the ACP must still ~~be developed to~~ allow the effective and efficient conduct of the OCA mission. Airspace control must be flexible enough to meet rapid changes in some ~~OCA~~ air operations, such as the prosecution of time-sensitive targets (TSTs). Airspace control should be executed through a ~~real time~~ responsive theater/tactical air control system. Specially equipped airborne warning and control assets are often used for real time airspace control. Specific OCA requirements that must be accounted for in the ACP include:

- Orbit locations for airborne warning and C2, surveillance, reconnaissance, air refueling, and EW platforms ~~supporting the OCA effort~~.

- Procedures to expeditiously route outbound OCA packages through friendly ~~IADS~~ airspace. This issue can become more complex in a coalition or multinational environment.

- Procedures to ~~C2~~ control OCA missions during attack operations, fighter sweeps, and escort missions. These missions will often be beyond the line of sight of ground based C2 agencies and may require airborne C2 or relay platforms.

- ~~Return to force procedures for OCA packages (i.e., m~~Minimum risk routes~~)~~. Identification, friend or foe (IFF) turn off/on procedures/locations. Sanitizing returning OCA packages.

- Procedures to rapidly deconflict airspace to allow attack of TSTs by long range surface fires such as ~~Army Tactical Missile System, land attack surface missile,~~ SSMs or cruise missiles.

c. ~~The R~~real time airspace control is ~~normally~~ executed ~~through tactical airspace~~ via elements of the theater air control ~~units~~ system. The sensor capability of airborne platforms makes them well suited for providing airspace control for real time execution of OCA operations.

6. Rules of Engagement

ROE are directives issued by a competent military authority which delineate the circumstances and limitations under which United States forces will initiate and/or continue combat engagement with other forces encountered. Baseline ROE are found in ~~CJCS~~ Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3121.01A, *Standing Rules of Engagement for US Forces*.

The Joint Chiefs of Staff (JCS) Standing Rules of Engagement (SROE) provide implementation guidance on the application of force for mission accomplishment and the exercise of the inherent right and obligation of self-defense. See CJCSI 3121.01A, *Standing Rules of Engagement for US Forces*. The SROE establish fundamental policies and procedures governing the actions to be taken by US force commanders in the event of military attack against the United States and during all military operations, contingencies, terrorist attacks, or prolonged conflicts outside the territorial jurisdiction of the United States.

Combatant commanders may augment the JCS SROE with theater-specific ROE

and with supplemental instructions. However, nothing in the SROE or in the combatant commander promulgated ROE, may limit a commander's inherent authority and obligation to use all necessary means available and to take all appropriate actions in self-defense of the unit and other US forces in the vicinity.

The JFC implements the JCS SROE and, acting through the combatant commander's delegated authority, develops the JOA-specific ROE. ~~The JFC is responsible for establishing and implementing the ROE.~~ The JFC normally requests inputs from subordinate commanders when developing the ROE. To prevent ROE violations or misunderstandings, they should be simple, easily understandable rules with little room for interpretation. When planning OCA operations, the component commanders must ensure they comply with the established ROE for the JOA. ROE can limit or restrict certain options, targets, and methods. ROE are normally found in the Special Instructions section of the ATO.

7. Combat Identification

The objective of combat identification (CID) is to maximize mission effectiveness by providing high confidence IFF. Proper identification of targets is important to OCA operations in order to prevent fratricide and permit employment of weapons at optimum ranges. Some systems have an autonomous identification capability, and data links and digital information exchanges (including real time imagery of target areas) greatly enhance the ability to perform effective CID. Maximizing weapons performance conserves resources and reduces risk to friendly forces. CID information may be obtained from onboard or off board surface, air, and space systems. An effective C2 system is required to gather, assimilate, assess and distribute this information from myriad sources. Thorough knowledge of the scheme of maneuver, operation~~s~~ plans and airspace control measures documented in the ACP, ACO, and area air defense plan are also essential to the process. To avoid a single point of failure, no one node acts as an exclusive conduit of all CID information. Electronic methods~~, which~~ provide the most rapid and reliable means of identification~~,~~ and are normally used when available. Visual and procedural means of identification are not as practical but may be essential in some scenarios. Airspace control requires an effective combination of positive and procedural CID. Positive identification relies on a high confidence CID derived from visual observation, radar observation of point of origin, and/or electronic means by an authorized control facility. Procedural identification relies on a combination of airspace control measures documented in the ACP or ACO. For most scenarios, a combination of positive and procedural techniques is used to identify friendlies, neutrals, and foes. For SEAD operations correct identification of electromagnetic signals is important to prevent electromagnetic interference between friendly systems.

8. Enabling Offensive Counterair ~~CA~~ Operations

a. **Air ~~Mobility~~ Refueling.** The use of air mobility resources is one example of enabling operations contributing to the overall success of OCA operations. Air refueling assets can greatly increase the range and endurance of aircraft conducting OCA missions deep into adversary territory. During Operation DESERT STORM, air refueling operations extended the range of F-117s

Air refueling assets can greatly increase the range and endurance of aircraft conducting OCA missions deep into adversary territory.

enabling them to strike vital Iraqi air defense C2 nodes deep in Iraq.

b. **Space Operations.** ~~Due to t~~The enabling capabilities that military space operations bring to the joint force~~, these operations and capabilities~~ should be considered when planning OCA operations. For example, to support attack operations, space force~~s enhancement~~ may provide initial threat detection and location, ~~assured~~ global and theaterwide communications, ~~C4I,~~ real time weather, ~~and~~ high-resolution imagery, and signals intelligence. In addition, global positioning, navigation, and timing assets facilitate the accuracy of precision munitions and theaterwide identification (ID). ~~Under the space control mission area, s~~Space assets also may be used to facilitate emission control and jamming/spoofing when conducting SEAD missions.

c. **IRS Operations.** ISR operations provide situational awareness. These platforms provide the most accurate "picture" of the adversary. ISR assets are generally high demand/low density and require careful planning.

d. **Information Operations.** The joint force is most effective when they can exploit information and achieve information superiority. Effective integration of IO is essential in OCA operations and planning. Information warfare (IW) is part of IO and is conducted to achieve specific objectives over an adversary. ~~For example,~~ Examples of IW include actions ~~disrupting~~ that disrupt vital air defense information transmissions, ~~that degrade~~ degrading ~~the~~ adversary~~'s capability to recognize the situation until it is too late or to take appropriate action can facilitate the successful accomplishment of~~ situational awareness, or denying sensor capability, as in SEAD missions. Information and the accompanying technology can also provide the basis for weapons accuracy, effective C2, seamless communications, intelligence gathering and dissemination, and sensor data processing. IW can be executed against OCA targets such as C2 systems, theater missiles, air defenses, and airfields/operating bases. Examples include malicious codes, EW, or electromagnetic pulse generators, which may afford access to a target inaccessible by other means. Military deception is part of offensive IO and can be used to

Information and the accompanying technology can also provide the basis for weapons accuracy.

effectively achieve OCA objectives. Psychological operations (PSYOP) are also a subset of IW and can play a role in degrading the ~~enemy~~ adversary air defenses. For example, a real or imagined ability by friendly forces to target specific air defense components could be magnified by a PSYOP ~~campaign~~ operation. Such a distorted image could cause individual adversary soldiers to abandon their equipment at critical times.

For more information on information operations see JP 3-13, Joint Doctrine for Information Operations.

e. **Special Operations (SO).** SO have become an integral part of a theater campaign across the range of military operations and SO capabilities should be considered in OCA plans. For example, SOF ~~direct action~~ missions may be integrated into OCA attack operations to destroy or disrupt TBM launch sites, ~~or~~ provide terminal guidance for air attacks, conduct stand off attacks, raids, etc. to ~~destroy an~~ adversary airfields, air defense sites, or ~~a~~ critical C2 nodes. When performing special reconnaissance missions, SOF can provide critical target and threat assessments and ~~post strike~~ post-strike reconnaissance to measure the results of an attack operation or SEAD mission.

THE FIRST COUNTERAIR MISSION OF DESERT STORM

"At 0239, twenty-one minutes before H-hour, Army APACHE helicopters, led by three Air Force MH-53s, attacked two Iraqi early warning sites up on the frontier. This first mission opened a corridor for several packages of aircraft with early missions. A package of F-15Es, a four ship in the lead, moved through the gap to attack SCUD sites in western Iraq; two EF-111s supported that strike by jamming Iraqi radar. Another eighteen F-15Es followed to attack other fixed and mobile SCUD launchers."

SOURCE: *The Gulf War Airpower Survey (GWAPS)*, Volume II, pg 120

CHAPTER IV
OFFENSIVE COUNTERAIR EXECUTION

"If you don't control the air, you'd better not go to war."

General Charles Horner

1. General

The preferred ~~method of countering~~ strategy to counter air and missile threats is to execute OCA operations ~~to destroy or disrupt them~~ prior to the launch. These operations include OCA attack operations, fighter sweep, escort, and SEAD (Figure IV-1). ~~These operations~~ and rely on C4I systems, which support real and near real time deconfliction with other operations.

2. Attack Operations

OCA attack operations are offensive actions ~~against~~ to disrupt or destroy surface targets~~, which~~ that contribute to ~~the~~ adversary~~'s~~ air and missile capabilities. ~~The objective of attack operations is to disrupt or destroy adversary aircraft and missile forces by attacking prior to launch. These operations attempt to prevent the launch of aircraft and missiles by attacking elements such as launch and~~ including ~~intelligence, surveillance, and reconnaissance (~~ISR~~)~~ platforms, C2 nodes, ammunition stocks and infrastructure. Attack operations are executed by component-level forces capable of attacking targets with both lethal and nonlethal means to achieve the desired effects. Counterair attack operations can be preemptive or reactive and sustained efforts ~~are~~ may be required to reduce or neutralize ~~an~~ adversary~~'s~~ air and missile capabilities~~,~~ because of the significant threat to friendly forces. Attack operations are highly dependant on C2 systems and processes and rapid targeting capability. These systems should be thoroughly coordinated, synchronized, and integrated among joint force components. Attack operations are complex and challenging because many adversary systems may be hard to detect. Most systems will be dispersed, deployed in depth, mobile, and employ passive electronic measures. To enhance the probability of success, joint forces should plan and execute attack operations using all-source intelligence to locate ~~and attack an~~ adversary~~'s~~ air and missile systems, components and supporting infrastructure.

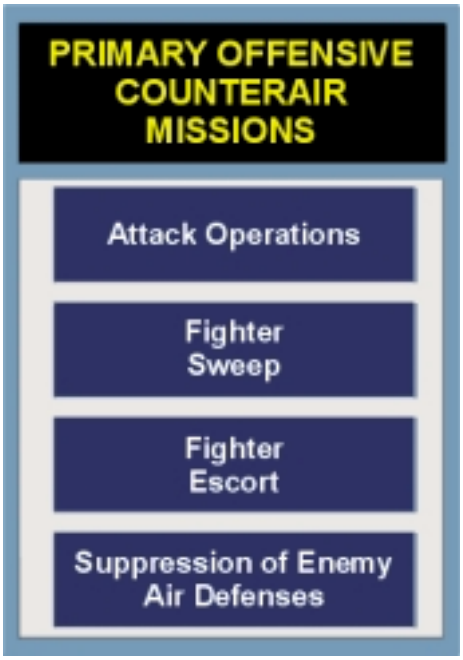


Figure IV-1. Primary Offensive Counterair Missions

a. ~~**Threats.** The OCA threats, which are targeted in attack operations, are aircraft, theater surface-to-surface missiles, early warning radar, reconnaissance, surveillance and target~~

~~acquisition platforms, and C4I nodes, and their supporting infrastructure. During attack operations, adversary aircraft are targeted on airfields and in aircraft shelters. Aircraft supporting infrastructure include the runways, airfields, maintenance facilities, personnel and their logistic support. TMs are weapons that possess both military threat and political intimidation characteristics. The TM target set includes launch platforms and infrastructure, C2 nodes, missile stocks, forward operating locations/bases, trans-load sites and logistics).~~ **Targets.** Attack operations target the following components of adversary air and missile capability:

- Air and missile unit C2 nodes/centers;
- Aircraft on airfields and in shelters;
- TM fixed and mobile launchers;
- Airfield runways and taxiways;
- Maintenance facilities and equipment;
- Operations and maintenance personnel;
- Logistic support (e.g., fuel storage, munitions depots, electrical power generation);
- ISR and target acquisition systems.

b. **Resources**

- Systems used to support attack operations include fixed- and rotary-wing aircraft, cruise missiles, SOF, cannon and rocket propelled artillery, other surface-to-surface fires, ground maneuver forces, EW and ISR systems. Manned aircraft are flexible and provide a pilot in the loop to make last minute decisions in the target area. Surface-to-surface weapons are responsive and many deliver lethal fires regardless of the weather conditions. Cruise missiles can attack targets at great ranges and mitigate risk to friendly forces. SOF ~~forces~~ have the capabilities to perform special reconnaissance, terminal guidance and direct action. ~~The covert or clandestine nature of SOF forces also~~ The ability of SOF to conduct clandestine and/or covert operations allows them to gather battle damage assessment information on known or suspected target areas beyond the range and capabilities of other joint forces.

- Attack operations are highly ~~dependant~~ dependent upon predictive and developed intelligence. Because of the difficulty in detecting highly mobile launch systems, a seamless network of C4I systems and sensors should be employed to share information and support near real time targeting and attack. National sensor systems will normally be required to augment theater air and surface based systems. Many national and Department of Defense space systems provide tactical information to assist in launch point determination and tracking. Additionally, intelligence products collected by these systems can enable theater forces to anticipate hostile air and missile operations and determine adversary unit locations.

c. **Execution.** The JFC may apportion additional component capabilities and/or forces to the JFACC to support theater/JOA-wide attack operations. The JFACC's recommendation and the JFC's decision on apportionment determine the

amount of effort made available for OCA attack operations.

- **~~Preplanned~~ Planned Attack Operations.** Normally, OCA targets are nominated and prioritized through the joint targeting process (JP 3-60, *Joint Doctrine for Targeting*, Chapter II describes the joint targeting process in greater detail). The JFC may have a list of approved TSTs that must be attacked at the on-set of hostilities. Typically, JFCs organize a joint targeting coordination board (JTCB). The primary concern of the JTCB is the employment of operational fires and shaping the joint force's battlespace in the JOA, including fires supporting OCA attack operations. The JTCB may simultaneously address at least three ATO cycles that are either being planned or are about to be executed.

- **Immediate Attack Operations.** The quicker the joint force can locate, identify, and target the adversary air and missile threats, the quicker they can be attacked and defeated. ~~These operations are conducted over, through, or in adversary territory.~~ Immediate missions are conducted against emerging mobile and TSTs and require the execution of mutually supporting tasks (e.g., detection, acquisition, and identification, tracking and attack). These operations rely on sensor systems, a responsive near real time sensor management and communications network and weapon systems capable of attacking targets at great ranges as soon as adequate targeting information is presented. ~~Execution of immediate attack operations is centrally controlled, decentrally executed and governed by ROE and established procedures.~~

- **Target Acquisition.** Acquisition and tracking systems ~~receive~~ may utilize cuing from ~~a~~ wide-area and local surveillance systems and receive warning data from other intelligence sources. Acquisition supports target identification and discrimination and timely target engagement by accurately locating and monitoring targets and transmitting information relative to target movement.

  - **Target Detection.** In the case of

The JFACC's recommendation and the JFC's decision on apportionment determine the amount of effort made available for OCA attack operations.

TMs, detection ~~requires identification of launch signatures and the accurate location of the launch system. Much of this same data will be also shared between active and passive defense forces~~ can be accomplished through identifying launch signatures or intelligence sources such as measurement and signature intelligence or communications intelligence. To support attack operations in all environments, joint forces should diminish adversary countermeasures while capitalizing on distinctive equipment signatures. Surveillance capabilities should integrate national level intelligence with theater level capabilities. Space, sea, air and ground based area and point surveillance sensors will also be key to establishing a comprehensive surveillance network. Detection involves a systemic search of areas of interest identified during the IPB. After detection, warning or location data should be passed immediately to joint and component intelligence and operations centers, executing units and air and surface search equipment. Simultaneously, tactical warnings should also be provided to potential friendly-targeted assets.

•• **Identification.** Identification of air and TM platforms and supporting nodes requires management of target movement data, determination of the type of system employed, and discrimination of the launch and support systems from decoys. Target ID also requires the use of predictive intelligence including the identification of potential future target locations, area limitation analysis, and automated cuing of sensors to threatening targets.

- **Attack.** Observed ~~enemy~~ adversary activity should trigger timely execution. ~~Enemy~~ Adversary targets identified in the IPB database are included in the joint force's plan for preemptive strikes or operations at the onset of hostilities. Targets acquired are attacked in accordance with JFC guidance. The goal is to attack immediate targets as they present themselves.

- EW is employed against ~~adversary~~ enemy C2, communications, surveillance and target acquisition to disrupt their air and missile

For OCA attack operations, the JFACC makes an effective decision for employing the best capable attack asset.

operations. The primary goal of EW in attack operations is to blind an adversary thereby setting the conditions to successfully attack air and missile related targets.

- ~~OCA attack operations are executed by component level forces capable of attacking targets with both lethal and nonlethal means to achieve the desired effects.~~ **ATO.** The ATO ~~is~~ should be flexible enough to deal with immediate ~~OCA missions~~ attack operations. The combat operations division of the JAOC is responsible for adjusting the ATO in order to deal with real time developments in the battlespace. One method used in the ATO to permit this flexibility is designating forces in the ATO as either ground alert or airborne alert. These on-call assets can then be tasked real time against immediate targets.

- **TSTs.** ~~A critical factor in attacking TSTs is the requirement to conduct all the steps of the joint targeting cycle in a short time. The authority to engage TST OCA targets should be delegated to the C2 node that has the best information or situational awareness to perform the mission and direct communications to the weapon systems. Placing the appropriate level of battlespace awareness at subordinate C2 nodes can streamline the C2 cycles and allow timely engagement of OCA targets. For some types of TST, the time available to acquire, target, and attack may be very brief. In this case, an accelerated process is normally used. OCA attack operations are a continuous cyclic process. The cycle for a preplanned target may take hours even days, but successful prosecution of TSTs requires this cycle to be completed in a matter of minutes. To achieve this time compression, the JFC should provide guidance on TSTs and specify priorities for attacking them. The JFC guidance should enable the phases of the targeting cycle to be performed simultaneously rather than sequentially. For OCA attack operations, the JFACC makes an effective decision for employing the best capable attack asset.~~ Delegating authority and placing the appropriate level of C4I systems with subordinate commanders can streamline decisions to allow for timely engagement of targets associated with OCA attack operations.

For more information ~~on JTTP for TSTs~~ see JP 3-60, Joint Doctrine for Targeting.

3. Fighter Sweep ~~and Fighter Escort~~

~~The fighter sweep is an offensive mission by fighter aircraft to seek out and destroy adversary aircraft, cruise missiles, or targets of opportunity in an allotted sector. Fighter escorts is likewise an offensive mission where fighters provide specific protection against adversary fighter aircraft.. Escort aircraft are normally assigned to protect specific groups of friendly aircraft while en route to or from a target area (for example, escort for air interdiction or strategic attack). Escort aircraft may also protect airlift, air to air refueling, EW, C2, search and rescue, and SOF infiltration/exfiltration aircraft.~~ The fighter sweep is an offensive mission by fighter aircraft to seek out and destroy adversary aircraft or airborne targets of opportunity in an allotted sector. The need for fighter sweep missions will depend on the air and missile threat and the objectives of the joint air operations plan.

a. **Threats/Targets.** ~~The threats for fighter sweep and fighter escort missions are any adversary aircraft which have the capability to disrupt or destroy primary mission aircraft. Primary mission aircraft are those aircraft on OCA attack, interdiction, CAS, or strategic attack missions. During sweep and escort missions fighters are only concerned with adversary aircraft airborne in their specific sector or those adversary aircraft which could be a threat to the strike package they are protecting. An escort aircraft can also provide protection against a SAM threat. These SEAD capable aircraft are designated to protect a specific aircraft or package of aircraft against the SAM threat in that sector.~~ The fighter sweep is a flexible air mission because threats/targets can be anywhere in the allotted sector. Fighter sweeps should only be planned into areas where the threat from surface-based air defenses has been minimized, if not eliminated, through tactics or attrition, to enable the concentration of assets on the destruction of adversary aircraft and airborne targets of opportunity.

b. **Resources.** ~~Any fighter aircraft with air-to-air ordnance can conduct fighter sweep and escort missions against adversary fighter aircraft. Aircraft with beyond visual range ID systems and radar optimized against air to air threats are desired for the sweep and escort role. Fighter sweep and escort missions are more effective when early warning radar assets such as the AWACS or GCI assets are used in conjunction with the fighters. Escorts against SAMs and AAA require specialized equipment specifically designed to detect, identify, and suppress adversary air defense radar. This is normally localized suppression and is covered in more detail in the SEAD section.~~ Primary mission aircraft are normally those same fighter aircraft used for OCA attack, interdiction, CAS, strategic attack and escort missions. Friendly early warning and GCI radar sites, and airborne warning and control aircraft should be tasked to support the mission. This may be especially important when aircraft with beyond visual range ID systems and weapons are used, or when significant numbers of adversary aircraft may be encountered. SEAD aircraft are not normally required because the adversary surface-based air defenses should not be a threat (through tactics or attrition). Based on mission duration and distances, aerial refueling

58TFS FIGHTER SWEEP/ESCORT DURING DESERT STORM

"The plan's essence — as far as the 58th was concerned — was that twenty F-15s, in line with strategically positioned four ships from several squadrons, were going to be the first air-to-air fighters to sweep across the Iraqi border after the STEALTHs, F-15E bombers, and TOMAHAWK missiles had made a surprise attack mostly on Baghdad's vital command and communications centers, hopefully knocking them out and, with them, the country's air defenses.

Then, as the bombers, done with their surprise missions, sped back to safety south over the border, the EAGLES, including two four ships from the 58th would charge in over their top, engaging any ~~adversary~~ enemy fighters . . . and clearing a path for the waves of conventional nonstealth bombers and other warplanes that would be following."

SOURCE: *Wings of Fury* by Robert Wilcox, 1996, pp 220-221

may also be required. EW may be used to enhance the element of surprise/disruption, and give the attacking force a tactical advantage.

c. **Execution.** ~~Fighter sweep involves employing fighter aircraft over designated areas of adversary territory to seek out and destroy the adversary's aircraft. Fighter sweep seeks to eliminate the adversary's tactical options and should be closely coordinated with other air operations to permit long range identification and beyond visual range weapons employment. Autonomous sweep operations use only fighter fire control radar and ID systems; however, sweep is more effective when combined with external GCI or AWACS and when off board identification systems are used. Escort employs fighter aircraft in a direct support role to strike aircraft or high value airborne assets. Their primary mission is to protect the designated platform against adversary air to air and the surface to air threat. Modern fighters often practice self-escort through mixed carriage of long range air to air missiles along with their air to surface weapons load. The goal is not necessarily destruction of adversary aircraft. The level of force engagement and protection is determined by the actions of the threat aircraft and SAMs. If the adversary chooses not to attack because a fighter escort is present or is screening the force from the adversary, then the objective of OCA escort has been met. Conversely, escort fighters must exercise caution against being drawn away from the force by diversion or decoy, thus leaving the force vulnerable to adversary aircraft and SAMs/AAA.~~ Although a flexible air mission, the fighter sweep involves employing fighter aircraft over hostile territory. Fighter sweep missions should normally follow a series of OCA attack and SEAD operations aimed at neutralizing/destroying the adversary offensive and defensive aircraft and missiles threats. However, a sweep may be synchronized into a rapid series of OCA operations (including attack, SEAD and escort missions), or into other offensive air operations (i.e., interdiction, strategic attack, etc.). Normally, detailed planning and coordination, good intelligence and robust C2, including real time threat warnings, are essential to prevent surprises by the adversary and to ensure synchronization or deconfliction with other friendly operations. Ground or airborne warning and control assets enhances overall effectiveness, but if those supporting resources are not available, execution of autonomous fighter sweeps with fighters using only their own fire control radar and ID systems are possible.

4. Fighter Escort

The fighter escort mission is critical to offensive air operations. Fighter escorts fly in direct support of primary mission aircraft en route to and from a target area (i.e., for air interdiction, OCA attack, SEAD, etc.). Escort fighters may also protect airlift, air refueling, EW, C2, combat search and rescue, and SOF aircraft. Escort missions may also be planned as DCA missions to protect high value airborne assets (i.e., AWACS, RIVET JOINT, etc.) from potential adversary fighter attack.

a. **Threats/Targets.** The threats for fighter escorts are any adversary aircraft with a capability to disrupt or destroy the primary mission aircraft. Escort fighters target only those airborne aircraft that threaten the primary mission. Fighter escorts in conjunction with their supported aircraft must avoid the direct threat of adversary surface-based air defenses. If SAM/AAA threats cannot be avoided, the threat and risk to the primary mission and fighter escorts requires a SEAD mission in support.

Fighter escorts provide protection against adversary fighter aircraft and are normally assigned to protect specific groups of friendly aircraft.

b. **Resources.** Dedicated air-to-air fighters, especially those with beyond visual range ID systems and weapons, and radar optimized for air-to-air threats are best suited for the escort mission. However, any fighter with air-to-air ordnance and fire control radar can conduct escort missions. Escort missions are more effective when ground and airborne early warning or GCI radar assets are available for threat warnings. Airborne C2 assets are normally required especially during rapidly synchronized/complex operations. The duration of the escort mission may require aerial refueling support for the escorts, even if not for the primary mission or other support aircraft. EW support may also be required to disrupt the effectiveness of adversary acquisition, tracking and interception capabilities.

c. **Execution.** Air planners must evaluate the threat posed by the adversary counterair forces and determine the type and size of fighter escort force required, because the same air assets are usually shared for DCA operations. The planners must also coordinate the support required by the escort force (i.e., air refueling, EW, C2, etc.). The specific responsibilities of the fighter escort force must be clear to all participants. In direct support, their mission is to protect the primary mission force, and not necessarily the destruction of adversary aircraft. If the adversary chooses not to attack because a fighter escort is present, then the objective of OCA escort has been met. Conversely, escort fighters must exercise caution against being drawn away from the escorted force by diversion or decoy, leaving that force vulnerable to other adversary aircraft.

5. ~~J~~ Suppression of Enemy Air Defenses ~~EAD~~ Operations

SEAD is any activity that neutralizes, destroys, or temporarily degrades adversary surface-based air defenses by destructive and/or disruptive means to allow friendly operations freedom of action through adversary airspace. SEAD operations are based upon the JFACC's joint air operations plan (JAOP) and the components' suppression needs, target priorities, and availability of appropriate suppression means. ~~Joint suppression of~~

~~*Air defense threats can encompass many systems normally integrated in a national, alliance, or subnational architecture called an IADS.*~~ *Robust IADS normally require SEAD to enable attack operations.*

~~enemy air defenses (J-SEAD) is a broad term that encompasses all SEAD activities provided by components of a joint force in support of one another. SEAD and J-SEAD are not ends in and of themselves but, rather, they are a subset of OCA operations, which enable all friendly air operations. J-~~SEAD operations can fall into three categories: AOR/JOA air defense system suppression, localized suppression, and opportune suppression. AOR/JOA air defense system suppression creates increasingly favorable conditions for friendly operations by disabling adversary air defense systems or major capabilities of those systems. Localized suppression operations normally have specified time and space limitations because they support specific operations or missions. Under localized suppression, SEAD aircraft may escort specific aircraft(s) to protect them from a SAM threat in that sector. Opportune suppression includes self-defense and offensive attacks against adversary air defense targets of opportunity. SEAD objectives are specified by the JFC, who will consider the unique capabilities of each component to contribute to counterair operations. SEAD operations require correct identification of adversary systems to prevent fratricide.

a. **Threat.** Air defense threats can encompass many systems normally integrated in a national, alliance, or sub-national architecture called an IADS. Potential threat IADS have become increasingly complex and can differ widely from country to country in terms of organization, sophistication, and operational procedures. Any potential threat IADS needs to be analyzed in depth to identify its command structure and potential strengths and weaknesses. Since the end of the Vietnam conflict US forces have expended considerable effort to develop counter-IADS forces, which generally fit in the SEAD mission area. These combat-proven efforts are well known to US potential adversaries and have in turn led to countermeasures and tactics based on US demonstrated procedures, capabilities, and weapons characteristics. SEAD operations target the following components of adversary IADS:

- IADS C2 nodes/centers
- SAM sites
- AAA
- Early warning radars
- SAM storage bunkers
- Operations and maintenance personnel.

- ~~Adversary IADS attempt to disrupt or neutralize friendly aircraft before they threaten adversary forces and critical assets. They may provide protection for high value assets, strategic targets, C2 nodes and critical military units. Adversary IADS procedures may include jamming aircraft navigation, communication, and target acquisition systems to degrade effectiveness. To accomplish these tasks, adversary IADS traditionally exercise rigid control over air defense activities. Air defense commanders located in centralized C2 posts provide warning and cueing, assign targets, and control weapons readiness using overlapping and redundant communication links.~~

- ~~Doctrine for mobile IADS elements may stress echeloning of forces in-depth and include tactical and strategic SAMs and AAA systems. IADS have developed into hybrid organizations, which frequently combine adversary, neutral and friendly radar and C2 systems. IADS command structure may be a rigid, centrally controlled organization or a flexible, locally run operation. Traditional radio based C2 is now being supplemented by communications over landline (cable), microwave, cellular, and internet systems. Each of these areas presents new challenges to SEAD planners.~~

- ~~Passive technologies are now available that will give US forces little warning prior to engagement by IADS forces. Adversaries have become adept at CCD which complicate SEAD targeting. SAM forces have become increasingly mobile, with some potential adversaries demonstrating less than ten minutes required from shoot to move.~~

- ~~Recent SAM systems have been dramatically improved in both range and capability and some older systems have received substantial upgrades that continue to make them serious threats to US forces. Long-range SAMS are usually located near high-value targets and provide barrier, area, and point defense coverage. Their long range and mobility mean these systems could provide air defense coverage over the forward edge of the battle area at various stages of the conflict and threaten friendly airborne platforms well into friendly airspace. Adversary doctrine will likely place a high priority on the suppression or destruction of airborne C2, standoff jamming, and reconnaissance assets. Recent developments in long range SAMs, some with antiradiation guidance, place these aircraft at risk in many scenarios.~~

- ~~MANPAD Systems include short-ranged SAMs that may be guided by electro-optical or RF methods. MANPADs will probably present the primary threat for air assault, airlift, and CAS operations. Their proliferation and lack of warning~~

~~make them a serious threat to all fixed- and rotary-wing aircraft operating at low and medium altitudes, particularly in areas that might otherwise be considered nonhostile, such as during takeoff and landing. The maneuver of ground forces must be a key consideration when planning J-SEAD operations. Although SAM and AAA systems sometimes fail to keep pace with high tempo maneuver operations, they eventually establish coverage over these maneuvers. J-SEAD planners should expect MANPAD and AAA coverage wherever adversary forces are encountered. In addition, fratricide issues need to be addressed when friendly ground forces are in the proximity of the adversary, particularly where ARMs) are being used.~~

b. **Resources.** Each component has its own unique capabilities to suppress enemy air defense systems. Historically, the component directly affected by the threat has assumed the immediate responsibility for suppressing adversary air defense threats. However, the distinct capabilities provided by each component, the diverse combinations these capabilities offer, and the aggregate of total ~~J-~~SEAD capabilities allow US forces to choose the best means and ways to conduct particular ~~J-~~SEAD operations from the array of available options. Some of these options include aircraft with ARMs and other air-to-surface munitions, EW, attack helicopters, direct or indirect fires (including mortars, artillery, missiles, or naval surface fire), and direct action by SOF. ~~J-~~SEAD operations can be accomplished through destructive and disruptive means.

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

- **Disruptive Means.** Disruptive means temporarily deny, degrade, deceive, delay, or neutralize enemy air defense systems to increase aircraft survivability. Disruptive means may be either active or passive.

  •• Active means include electronic attack, ARMs, directed energy, electromagnetic jamming, electromagnetic deception, expendables (chaff, flares, and decoys) and tactics such as deception, avoidance, or evasive flight profiles. In addition, unmanned aerial vehicles can be used to actively employ disruptive means.

  •• Passive means include emission control, camouflage, ~~infrared~~ IR shielding, warning receivers, and material design features.

Each component has its own unique capabilities to suppress enemy air defense systems.

c. **Execution.** The JFACC accomplishes planning and coordination of ~~J~~SEAD based on the JFC's operation or campaign objectives. The following three paragraphs describe execution of the three categories of ~~J~~SEAD: JOA air defense system suppression, localized suppression, and opportune suppression.

- **JOA Air Defense System Suppression.** JOA air defense system suppression efforts should target high payoff air defense assets that will result in the greatest degradation of the adversary's total system. These targets include AWACS, radar and associated C2 systems for early warning, GCI sites, and long range SAM systems. ~~The objectives of JOA air defense system suppression will depend upon the type of air operations (interdiction, counterair, maritime, etc.) planned to support the JFC operation or campaign plan. The immediate objective of JOA air defense system suppression operations is to permit effective friendly air operations by protecting friendly airborne systems, disrupting the cohesion of adversary air defenses, and establishing flexibility for friendly operations on both sides of the forward line of own troops.~~ The immediate objective of JOA air defense system suppression operations is to disrupt adversary IADS throughout the JOA; deny the adversary the ability to integrate his air defenses. The duration and level of disruption of adversary IADS will depend upon the JFC's objectives and the sophistication of adversary IADS. ~~Because the results of~~ JOA air defense system suppression ~~can have a significant impact on friendly operations, these operations may~~ operations typically have a higher priority than localized SEAD objectives.

- **Localized Suppression.** 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. Localized suppression operations occur

throughout the JOA for all components and have time and space limitations. Although they protect specific operations or missions their effects may extend beyond the objective time period.

•• ~~Preplanned~~ Planned **Localized Suppression.** The SEAD process is based upon the JFACC's JAOP and the determination of suppression needs, target priorities, and availability of appropriate suppression means. Localized SEAD coordination occurs at all echelons. Localized suppression requests are processed from the lowest echelon of command to the highest using the appropriate air control system. Liaison elements located in the JAOC aid this effort. A requesting echelon or component must first consider what organic SEAD systems are available. When the requirements exceed the capability or availability of their systems, the requesting component passes the requirements through its respective chain of command to the JFACC for resolution. Units requesting air support ~~will~~ are required to identify known or suspected air defense systems that could threaten the mission. SEAD requests will also include these ~~defense~~ defensive systems and identify other supporting targets that likewise cannot be engaged with organic capabilities/forces.

•• **Immediate Missions.** Threat assessment and suppression requirements, usually destructive in nature, must be made quickly when processing a request for SEAD air support. Procedures for requesting immediate localized suppression are the same as those for CAS. If a surface force cannot support the SEAD requirement, the component control center passes the request to the JFACC through the appropriate air control system for immediate SEAD support considerations.

- **Opportune Suppression.** Opportune suppression is unplanned and includes aircrew self-defense and attack against targets of opportunity. The proliferation of highly mobile threat systems to the battlefield will probably lead to an increase of opportune suppression. Any movement by threat systems from pretargeted locations will change localized suppression into opportune suppression. The JFC or higher authority will establish the ROE for opportune suppression. Realizing that the window to engage highly mobile targets may be fleeting, due concern should be given to establishing ROE that will allow the rapid prosecution of threats before they have the opportunity to move or conceal themselves again. Opportune suppression is a continuous operation involving immediate response to acquired ~~air defense~~ targets of opportunity. In cases where air assets are not available or not required, the component commander establishes priorities for opportune suppression. These priorities are forwarded from the designated fire support coordinator at component-level headquarters to the executing commands. The following are the different types of opportune suppression.~~:~~

•• **Aircrew Self-defense.** ~~Unless otherwise dictated by the laws of war, ROE for self-defense should be as liberal as possible, consistent with the safety of friendly forces.~~ An aircraft commander has the inherent authority and is obligated to use all necessary

means available and to take all appropriate actions in self-defense of the unit and other US forces in the vicinity. Nothing in the SROE, theater-specific ROE or special instructions (SPINS) limit this inherent right and obligation. For further guidance, see CJCSI 3121.01A, *Standing Rules of Engagement for US Forces*.

•• **Targets of Opportunity.** SEAD targets of opportunity are those adversary air defense systems detected by surface or airborne sensors or observers within range of available weapons and not yet targeted. Many SEAD efforts by surface forces may be against targets of opportunity. Surface and air weapon systems may suppress air defense targets of opportunity whenever capabilities, mission priorities, and ROE permit. Such suppression operations must be in accordance with established rules and fire support coordination measures. The purpose of SEAD ROE is to enhance effective SEAD while minimizing risks to friendly forces.

•• **Targets Acquired by Observers or Controllers.** 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. Such personnel may include ~~Air Force air liaison officers, enlisted~~ terminal attack controllers, airborne ~~forward air~~ controllers and observers, tactical air control parties, Marine assault support coordinators, ~~and airborne tactical air controllers~~, artillery forward observers, ~~infantry commanders, aerial observers,~~ UAV operators, Army fire support teams and combat observation/lasing teams, ~~and~~ STRIKER platoons. The observers or controllers will forward these requests through their respective fire support channels. Requirements should first be passed to suppression systems that belong to or support the unit acquiring the target because they can respond immediately. If the suppression requirement exceeds the capabilities of the ground forces, the immediate request will be sent via the air request net to the component control centers.

•• **Targets Acquired by Aircrews.** When aircrews have acquired SEAD targets of opportunity but have not engaged them because of mission priorities, system capabilities, or SEAD ROE, they pass the information to the agency controlling their mission. This agency immediately passes the targeting data through the appropriate system or systems to coordinate with the force best suited for targeting.

d. **Surface-to-Surface Suppression Capabilities.** Based on the JFC guidance, the ~~ground and naval~~ land and maritime components' FSEs and fire support coordination centers will determine the weapon systems available to conduct AOR/JOA localized suppression. Examples of these capabilities/forces include field artillery, mortars, naval surface fire, attack helicopters, EW, and ~~surface to surface missiles~~ SSMs. Components need to coordinate employment of these suppression systems to ensure they meet mission requirements and do not interfere with other planned operations. Component liaison elements, such as the BCD located in the JAOC assist localized suppression operations by providing the means to request surface fire

Component commanders will use their organic assets to locate, identify, and attack SEAD targets within their AO whenever possible.

support. The component commanders continually update lists of potential SEAD targets in their areas of interest. The list of targets includes target location, desired effects, timing, and sequence of attack. Component commanders will use their organic assets to locate, identify and attack SEAD targets within their AO whenever possible. In many cases however, only the JFACC has assets to specifically find and identify ~~J~~SEAD targets. Therefore a rapid and free exchange of ~~J~~SEAD target information between the JFACC and ~~Service~~ other component~~s~~ commanders is required for effective surface suppression. During the planning and execution of CAS, tactical air control parties, ~~air and naval gunfire liaison companies,~~ and other fire support agencies identify potential local SEAD targets and request SEAD fire support. A preplanned request for ~~J~~SEAD should also identify known or suspected enemy air defense locations to, from, and around the target area. Each echelon handling the request refines and updates threat data if able. The request for air support contains this updated data, along with the type of suppression desired by the requesting component.

e. **Surface Component Suppression Requests.** For those SEAD targets that surface components cannot attack, they may request suppression support from the JFACC. The component commanders continually update and submit lists of potential SEAD targets in their areas of interest for the JFACC to attack. The list of targets includes target location, desired results, timing, and sequence of attack. Component liaison elements are responsible to their respective command for consolidating their component's SEAD target priorities. Surface components should also identify SEAD requirements for all air support that they request. A ~~preplanned~~ request for air support ~~to the air component~~ should identify known or suspected enemy air defense locations to, from, and around the target area. Each echelon handling the request refines and updates threat data if able. The request for air support contains this updated data, along with the type of suppression desired by the requesting component.

6. Command, Control, Communications, Computers, and Intelligence Systems

Effective ~~OCA operations require reliable C2 capability that integrates air, surface, subsurface and space based assets. The hardware and software family of systems that enable integration between components are commonly referred to as~~ C4I~~. These resources~~ systems should be capable of rapidly exchanging information, interfacing with components, and displaying a common operational picture to all components of concern. OCA operations are often conducted deep within adversary territory, relying on integrated C4I systems for deconfliction with other operations. Against fixed targets, OCA operations place great emphasis on detailed planning, accurate and timely intelligence, target selection and time-over-target deconfliction, and ROE. This emphasis enhances mission effectiveness while minimizing fratricide and interference with other operations. A responsive, integrated system is required to assign the optimum weapon system against mobile counterair ~~TSTs~~ targets such as SAMs or ballistic and cruise missile launchers. Because the situation is constantly changing and cannot be accurately predicted, C4I systems constantly monitor the status of offensive weapons, sensors, and other systems to maintain full flexibility to modify preplanned COAs to execute timely attacks. ~~C4I for~~ OCA ~~must be accomplished using~~ relies on existing joint and Service C4I systems and resources efficiently to ensure integration with other operational functions and to optimize the use of resources. The C4I system must provide rapid communication among intelligence assets. The fusion of decision-making facilities, warning systems, and weapon systems provides a capability for rapid coordination between commanders and their forces. C4I capabilities must support the principles of centralized planning and decentralized execution by forces assigned OCA missions.

a. ~~**Resources.** Resources inherent in effective OCA operations must be interoperable. C4I systems, facilities, procedures, and organizations are built on existing systems and integrate applicable joint capabilities. The JFC should be particularly sensitive to the need to exercise C4I interoperability among joint force components during peacetime joint and multinational exercises. However, new C4I functions, equipment, and procedures may be required to accommodate the changing characteristics and signatures associated with the rapidly evolving threat. These new C4I capabilities and procedures should be integrated with existing and planned C4I systems as requirements are developed. C4I systems should be able to determine accurate locations of adversary air and missile threats such as aircraft, missile launchers and supporting infrastructure. They must be able to transmit targeting data to attack systems and facilitate accurate combat assessment.~~ **Requirements.** OCA operations rely on existing joint and Service C4I systems. Supporting C4I systems must provide rapid communication among OCA assets. Fusing decision-making facilities, warning systems, and weapon systems provides a rapid coordination capability. C4I systems must support the centralized planning and decentralized execution. C4I systems supporting OCA operations must be interoperable. C4I systems must transmit targeting data to attack systems and facilitate accurate combat assessment.

OCA THE FIRST 24 HOURS OF DESERT STORM

"DESERT STORM began officially at 0300 local time on the night of 17 January. Actual commitment to hostilities had begun earlier. On the morning of 16 January, at 0630 local time, seven B-52G bombers armed with conventionally armed air-launched cruise missiles (ALCM-Cs) took off from Barksdale AFB, Louisiana, for the Persian Gulf. At 0130 on the 17th, Navy ships in the Gulf launched TOMAHAWK cruise missiles toward their targets in Iraq. Shortly before H-hour, Air Force special operations forces PAVE LOW helicopters led Army APACHE helicopters in attacks against two Iraqi early-warning radars. F-117A STEALTH fighters had already swept undetected past the border into Iraq. The F-117s attacked Iraqi air defense sites, and together these two attacks punched a hole in the Iraqi air-defense network that allowed the attacking armada to sweep into Iraq. F-15C and F-14 air superiority fighters led follow-on waves and established combat air patrols (CAP) to intercept any opposing airborne Iraqi aircraft — of which there were only twenty. Some F-15s had pushed into Iraq early in response to a scramble by the Iraqi air force. Although the Iraqis sent up their best air-defense aircraft the first night — MIG-25s, -29s, and MIRAGE F-1Es — they had limited nighttime capability and inferior weapons, and they were trounced."

SOURCE: *A League of Airmen — U.S. Air Power in the Gulf War*, RAND Project, James A. Winnefeld, Preston Niblack, Dana J. Johnson, pg. 120.

b. **Intelligence Support Requirements.** The intelligence requirements dictate a wide-area surveillance of the AOR/JOA to provide current, integrated, accurate, and timely all-source information of adversary capabilities and activities. OCA intelligence requires interface with existing national and theater sensor and surveillance networks. ~~The system should accommodate a variety of Service, national, and/or allied communications systems.~~ Surveillance capabilities should integrate national level intelligence with theater level capabilities. Space, sea, air and ground based area and point surveillance sensors will also be key to establishing a comprehensive surveillance network. The intelligence system is vital to the decision-making cycle and must support the status, assessment, planning, warning, and IPB functions, as well as target prioritization and engagement decisions. The intelligence function is carried out through a geographically dispersed network in which national, theater, and Service systems are interconnected to form a disciplined and responsive information gathering and dissemination structure. Though the functional systems (sensors, decision support, or fusion centers and firing units) may be dissimilar, interoperable communications and software must be provided.

c. **Execution.** ~~During operations, the C4I system should rapidly disseminate intelligence to the components and support OCA operations with a rapid targeting capability. C4I for counterair should be integrated into the overall theater communications network and designed to avoid duplicative operations and fratricide, while supporting the tenet of centralized control and decentralized execution.~~ Component organizations conducting OCA operations should attempt to maintain interface and central

control authority. The preparation and planning process within the C4I framework focuses sensor, surveillance, and intelligence management to allow target acquisition and tracking of the adversary systems and their supporting operations. Intelligence should be able to provide near real time data on adversary targets; operating bases; missile launch, load, and hide sites; EW systems; command, control, communications, and computers facilities; surveillance and control systems; and logistic and infrastructure support. The C4I systems should be able to detect and disseminate information that indicates adversary air and missile launch preparations and should be able to pass the pre-launch, launch, and post-launch warning to friendly units. Prelaunch and launch warnings provide for the alert and increased readiness of friendly defensive assets and preplanned offensive and passive countermeasures employment. Increasing the readiness posture includes performing the vital operating functions that prepare weapon systems, ISR ~~target acquisition~~ assets, and C2 nodes for the level of adversary activity anticipated. Once adversary air and missile activities are detected, the preparation and planning measures provide a capability for parallel defensive and offensive responses. Adversary air and missile activity observed and identified through sensor and surveillance systems (national, theater, and tactical) keys the C4I process that uses communications interfaces to provide near real time defensive and offensive counterair response. Data is made available in near real time to C4I centers, systems, and forces supporting counterair operations. Simultaneously, while adversary air and missiles are in flight, updated adversary launch locations and target database information are passed to the appropriate ~~command and control~~ C2 and attack systems and launch warnings are provided to all units or commands within the theater. Depending on the capabilities of the sensor and surveillance systems and the source and quality of the intelligence, cueing of additional systems may be necessary to provide more refined adversary air and missile threat data to ensure accurate targeting. National or theater sensor and surveillance assets may be able to detect, footprint, or search areas that will then require more refined ISR activities by theater and tactical assets. Friendly aerial reconnaissance, ground surveillance systems, and other intelligence assets requiring cueing are focused rapidly to achieve the necessary accuracy for IPB targeting objectives.

APPENDIX A
NO-FLY ZONE ENFORCEMENT

Enforcing a no-fly zone (NFZ) is a unique mission that involves preventing an adversary from flying in a certain airspace. The NFZ could be above adversary territory or in a neighboring country. Usually the mission involves a joint and multinational effort working with several types of aircraft from different Services and/or nations. NFZ enforcement can involve friendly, adversary, and neutral fixed- or rotary-wing aircraft. Normally, NFZ enforcement consists of a mix of counterair missions. Depending on the threat, NFZ enforcement involves SEAD, OCA sweep and/or escort, and OCA attack operations. The escort aircraft protect strike aircraft, which are armed and ready to react to violations of the NFZ. Escort aircraft are often tasked to protect high value airborne aircraft flying over adversary airspace. One example of a high value airborne aircraft is the U-2, which is used in a surveillance role in a ~~no fly zone~~ NFZ enforcement operation. Some DCA type missions, such as HVAA protection, fly over friendly as well as adversary territory. These combat air patrol aircraft protect the AWACS, RIVET JOINT, tanker aircraft, and other HVAA.

A JAOC plans and directs the operations for NFZ enforcement. A daily ATO is published along with an ACO and SPINS. The combatant commander establishes ROE for NFZs. Because of the unique nature of NFZ enforcement operations, the ROE is tightly controlled. There are numerous political considerations ~~effecting~~ affecting the ROE. Operations are closely controlled through the ~~airborne~~ controlling agency (AWACS, ~~or~~ E-2, or CRC), which has direct communications with the JAOC director. This allows centralized control of operations.

In addition to prohibiting the adversary ~~to~~ from flying aircraft in a certain airspace, NFZ enforcement can also limit the deployment, employment, and

Usually NFZ missions involve a joint and multinational effort working with several types of aircraft from ~~difference~~ different Services and nations.

reconstitution of ~~surface to air missiles~~ SAMs. This is done to reduce the threat to coalition aircraft flying in the NFZ operation. Since Operation DESERT STORM, NFZ enforcement has been ongoing in Iraq with Operations SOUTHERN WATCH and NORTHERN WATCH.

OPERATIONS SOUTHERN WATCH AND NORTHERN WATCH

The Joint Task Force — Southwest Asia (JTF — SWA) is a multi-Service, multinational coalition. The coalition conducts Operation SOUTHERN WATCH (OSW) to ensure Iraqi compliance with United Nations resolutions. Operation NORTHERN WATCH (ONW) is a combined task force (CTF) charged with enforcing the no-fly zone north of the 36th parallel in Iraq. After the Gulf War in 1991, the UN Security Council resolutions resulted in the establishment of no-fly zones banning Iraqi flights over northern and southern Iraq after Hussein's forces attacked Kurds in the north and Shiite Muslims in the south. ONW began in January 1997 on the heels of Operation PROVIDE COMFORT, the five-year-long relief effort that delivered food and supplies to Iraq's Kurdish refugees. ONW is charged with monitoring Iraqi compliance with UN Security Council resolutions 678, 687, and 688. ~~The northern no-fly zone is not an aggression against Iraq or a violation of its sovereignty, it is a necessary and legitimate measure to limit Iraq's aggressive air activities.~~ OSW began at the conclusion of Operation DESERT STORM.

~~SOURCE:~~ Multiple Sources

APPENDIX B
REFERENCES

The development of JP 3-01.2 is based upon the following primary references.

1. JP 1, *Joint Warfare of the Armed Forces of the United States*.

2. JP 0-2, *Unified Action Armed Forces (UNAAF)*.

3. JP 1-01, ~~*Joint Publication System, Joint Doctrine and Joint Tactics, Techniques, and Procedures Development Program*~~ *Joint Doctrine Development System*.

4. JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*.

5. JP 2-0, *Doctrine for Intelligence Support to Joint Operations*.

6. JP 2-01, *Joint Intelligence Support to Military Operations*.

7. JP 2-01.3, *Joint Tactics, Techniques, and Procedures for Joint Intelligence Preparation of the Battlespace*.

8. JP 3-0, *Doctrine for Joint Operations*.

9. JP 3-01, *Joint Doctrine for Countering Air and Missile Threats*.

10. JP 3-01.1, *Aerospace Defense of North America*.

11. JP 3-01.4, *Joint Tactics, Techniques, and Procedures for Joint Suppression of Enemy Air Defenses (J-SEAD)*.

12. JP 3-01.5, *Doctrine for Joint Theater Missile Defense*.

13. JP 3-05, *Doctrine for Joint Special Operations*.

14. JP 3-09, *Doctrine for Joint Fire Support*.

15. JP 3-09.3, *Joint Tactics, Techniques, and Procedures for Close Air Support (CAS).*

16. JP 3-13, *Joint Doctrine for Information Operations.*

17. JP 3-16, *Joint Doctrine for Multinational Operations*.

18. JP 3-51, *Joint Doctrine for Electronic Warfare* ~~*in Joint Military Operations*~~.

19. JP 3-52, *Doctrine for Joint Airspace Control in the Combat Zone*.

20. JP 3-56.1, *Command and Control for Joint Air Operations*.

21. JP 3-60, *Joint Doctrine for Targeting.*

22. CJCSI 3121.01A, *Standing Rules of Engagement for US Forces.*

23. Air Force Doctrine Document 2-1.1, *Counterair Operations*.

24. Field Manual ~~100-5~~ 3-0, *Operations*.

25. Field Manual 44-100, *US Army Air and Missile Defense Operations*.

APPENDIX C
ADMINISTRATIVE INSTRUCTIONS

1. User Comments

Users in the field are highly encouraged to submit comments on this publication to: Commander, United States Joint Forces Command, Joint Warfighting Center Code JW100, 116 Lake View Parkway, Suffolk, VA 23435-2697. These comments should address content (accuracy, usefulness, consistency, and organization), writing, and appearance.

2. Authorship

The lead agent for this publication is the US Air Force. The Joint Staff doctrine sponsor for this publication is the Director for Operational Plans and Joint Force Development (J-7).

3. Supersession

This publication supercedes JP 3-01.4, 25 July 1995, *Joint Tactics, Techniques, and Procedures for Joint Suppression of Enemy Air Defenses (J-SEAD)*.

4. Change Recommendations

a. Recommendations for urgent changes to this publication should be submitted:

TO: HQ AFDC DET 1 LANGLEY AFB VA//CC//
INFO: JOINT STAFF WASHINGTON DC//J7-JDETD//

Routine changes should be submitted to the Director for Operational Plans and Joint Force Development (J-7), JDETD, 7000 Joint Staff, Pentagon, Washington, DC 20318-7000, with info copies to the USJFCOM JWFC.

b. When a Joint Staff directorate submits a proposal to the Chairman of the Joint Chiefs of Staff that would change source document information reflected in this publication, that directorate will include a proposed change to this publication as an enclosure to its proposal. The Military Services and other organizations are requested to notify the Director, J-7, Joint Staff, when changes to source documents reflected in this publication are initiated.

c. Record of Changes:

CHANGE NUMBER	COPY NUMBER	DATE OF CHANGE	DATE ENTERED	POSTED BY	REMARKS

5. Distribution

a. Additional copies of this publication can be obtained through Service publication centers listed below (initial contact) or the USJFCOM JWFC in the event that the joint publication is not available from the Service.

b. Only approved joint publications and joint test publications are releasable outside the combatant commands, Services, and Joint Staff. Release of any classified joint publication to foreign governments or foreign nationals must be requested through the local embassy (Defense Attaché Office) to DIA Foreign Liaison Office, PSS, PO-FL, Room 1A674, Pentagon, Washington, DC 20301-7400.

c. Additional copies should be obtained from the Military Service assigned administrative support responsibility by DOD Directive 5100.3, 15 November 1999, *Support of the Headquarters of Unified, Specified, and Subordinate Joint Commands*.

Army: US Army AG Publication Center SL
1655 Woodson Road
Attn: Joint Publications
St. Louis, MO 63114-6181

Air Force: Air Force Publications Distribution Center
2800 Eastern Boulevard
Baltimore, MD 21220-2896

Navy: CO, Naval Inventory Control Point
700 Robbins Avenue
Bldg 1, Customer Service
Philadelphia, PA 19111-5099

Marine Corps: Commander (Attn: Publications)
814 Radford Blvd, Suite 20321
Albany, GA 31704-0321

Coast Guard: Commandant Coast Guard (G-OPD), US Coast Guard
2100 2nd Street, SW
Washington, DC 20593-0001

Commander
USJFCOM JWFC Code JW2102
Doctrine Division (Publication Distribution)
116 Lake View Parkway
Suffolk, VA 23435-2697

d. Local reproduction is authorized and access to unclassified publications is unrestricted. However, access to and reproduction authorization for classified joint publications must be in accordance with DOD Regulation 5200.1-R, *Information Security Program*.

GLOSSARY
PART I — ABBREVIATIONS AND ACRONYMS

AAA	antiaircraft artillery
AADC	area air defense commander
AAMDC	Army air and missile defense command
ACA	airspace control authority
ACE	aviation combat element
ACO	airspace control order
ACP	airspace control plan
AO	area of operations
AOR	area of responsibility
ARFOR	Army forces
ARM	antiradiation missile
ATO	air tasking order
AWACS	Airborne Warning and Control System
BCD	battlefield coordination detachment
C2	command and control
C4I	command, control, communications, computers, and intelligence
CA	counterair
CAS	close air support
CID	combat identification
CJCSI	Chairman of the Joint Chiefs of Staff Instruction
CJFACC	combined joint force air component commander
COA	course of action
CONOPS	concept of operations
CRC	control and reporting center
DCA	defensive counterair
DOCC	deep operations coordination cell
EW	electronic warfare
FSE	fire support element
GCCS	Global Command and Control System
GCI	ground control intercept
HVAA	high value airborne asset
IADS	Integrated Air Defense System
ID	identification
IFF	identification, friend or foe
IO	information operations
IPB	intelligence preparation of the battlespace
IR	infra-red

ISR	intelligence, surveillance, and reconnaissance
IW	information warfare
JAOC	joint air operations center
JAOP	joint air operations plan
JCS	Joint Chiefs of Staff
JFACC	joint force air component commander
JFC	joint force commander
JFSOCC	joint force special operations component commander
JIPB	joint intelligence preparation of the battlespace
JOA	joint operations area
JP	joint publication
JSTARS	Joint Surveillance, Target Attack Radar System
JTCB	joint targeting coordination board
JTMD	joint theater missile defense
MAAP	~~M~~master ~~A~~air ~~A~~attack ~~P~~plan
MACCS	Marine ~~A~~air ~~C~~command and ~~C~~control ~~S~~system
MAGTF	Marine air-ground task force
MANPADS	~~Man Portable~~ man-portable ~~A~~air ~~D~~defense~~s~~ system ~~(upon approval to be included in JP 1-02)~~
NALE	naval and amphibious liaison element
NFZ	no-fly zone (upon approval to be included in JP 1-02)
NTACS	Navy tactical air control system
OCA	offensive counterair
PSYOP	psychological operations
ROE	rules of engagement
SAM	surface-to-air missile
SEAD	suppression of enemy air defenses
SHORD	short-range air defense
SO	special operations
SOF	special operations forces
SOLE	special operations liaison element
SPINS	special instructions
SROE	standing rules of engagement
SSM	surface-to-surface missile
TACC	tactical air control center (USN)
TACS	theater air control system
TAOC	tactical air operations center (USMC)
TBM	theater ballistic missile
TM	theater missile
TST	~~time sensitive~~ time-sensitive target

PART II — TERMS AND DEFINITIONS

airspace control authority. The commander designated to assume overall responsibility for the operation of the airspace control system in the airspace control area. Also called ACA. (JP 1-02)

airspace control order. An order implementing the airspace control plan that provides the details of the approved requests for airspace control measures. It is published either as part of the air tasking order or as a separate document. Also called ACO. (JP 1-02)

airspace control plan. The document approved by the joint force commander that provides specific planning guidance and procedures for the airspace control system for the joint force area of responsibility and/or joint operations area. Also called ACP. (JP 1-02)

air superiority. That degree of dominance in the air battle of one force over another which permits the conduct of operations by the former and its related land, sea and air forces at a given time and place without prohibitive interference by the opposing force. (JP 1-02)

air supremacy. That degree of air superiority wherein the opposing air force is incapable of effective interference. (JP 1-02)

area air defense commander. Within a unified command, subordinate unified command, or joint task force, the commander will assign overall responsibility for air defense to a single commander. Normally, this will be the component commander with the preponderance of air defense capability and the command, control, and communications capability to plan and execute integrated air defense operations. Representation from the other components involved will be provided, as appropriate, to the area air defense commander's headquarters. Also called AADC. (JP 1-02)

centers of gravity. Those characteristics, capabilities, or ~~localities~~ sources of power from which a military force derives its freedom of action, physical strength, or will to fight. Also called COGs. (JP1-02)

combat air patrol. An aircraft patrol provided over an objective area, the force protected, the critical area of a combat zone, or in an air defense area, for the purpose of intercepting and destroying hostile aircraft before they reach their targets. Also called CAP. (JP 1-02)

counterair. A mission ~~which~~ that integrates offensive and defensive operations to attain and maintain a desired degree of air superiority. Counterair missions are designed to destroy or negate enemy aircraft and missiles, both before and after launch. (JP 1-02)

defensive counterair. All defensive measures designed to detect, identify, intercept, and destroy or negate enemy forces attempting to attack or penetrate the friendly air environment. Also called DCA. (JP 1-02)

direct support. A mission requiring a force to support another specific force and authorizing it to answer directly to the supported force's request for assistance. Also called DS. (JP 1-02)

electronic warfare. Any military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy. Also called EW. The three major subdivisions within electronic warfare are: electronic attack, electronic protection, and electronic warfare support. a. electronic attack. That division of electronic warfare involving the use of electromagnetic, directed energy, or antiradiation weapons to attack personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying enemy combat capability. Also called EA. EA includes: 1) actions taken to prevent or reduce an enemy's effective use of the electromagnetic spectrum, such as jamming and electromagnetic deception, and 2) employment of weapons that use either electromagnetic or directed energy as their primary destructive mechanism (lasers, radio frequency weapons, particle beams). b. electronic protection. That division of electronic warfare involving actions taken to protect personnel, facilities, and equipment from any effects of friendly or enemy employment of electronic warfare that degrade, neutralize, or destroy friendly combat capability. Also called EP. c. electronic warfare support. That division of electronic warfare involving actions tasked by, or under direct control of, an operational commander to search for, intercept, identify, and locate sources of intentional and unintentional radiated electromagnetic energy for the purpose of immediate threat recognition. Thus, electronic warfare support provides information required for immediate decisions involving electronic warfare operations and other tactical actions such as threat avoidance, targeting, and homing. Also called ES. Electronic warfare support data can be used to produce signals intelligence, both communications intelligence, and electronics intelligence. (JP 1-02)

fires. The effects of lethal or nonlethal weapons. (JP 1-02)

~~**fighter escort.** fighter aircraft that are assigned to protect other aircraft during a mission. (Upon approval of this publication, this term and its definition will be included in JP 1-02.)~~

fighter sweep. An offensive mission by fighter aircraft to seek out and destroy ~~enemy~~ adversary aircraft or airborne targets of opportunity in an allotted ~~area of operations~~ sector. (Upon approval of this revision, this term and its definition will modify the existing term and its definition and will be included in JP 1-02.)

information operations. Actions taken to affect adversary information and information systems while defending one's own information and information systems. Also called IO. (JP 1-02)

intelligence preparation of the battlespace. An analytical methodology employed to reduce uncertainties concerning the ~~adversary~~ enemy, environment, and terrain for all types of operations. Intelligence preparation of the battlespace builds an extensive ~~data base~~ database for each potential area in which a unit may be required to operate. The ~~data base~~ database is then analyzed in detail to determine the impact of the ~~adversary~~ enemy, environment, and terrain on operations and presents it in graphic form. Intelligence preparation of the battlespace is a continuing process. Also called IPB. (~~Upon approval of this publication, this term and its definition~~

~~will modify the existing term and its definition and will be included in~~ JP 1-02~~.~~)

joint force air component commander. The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of assigned, attached, and/or made available for tasking air forces; planning and coordinating air operations; or accomplishing such operational missions as may be assigned. The joint force air component commander is given the authority necessary to accomplish missions and tasks assigned by the establishing commander. Also called JFACC. (~~This term and its definition are provided for information and are proposed for inclusion in the next edition of~~ JP 1-02 ~~by JP 3-0.~~)

joint force commander. A general term applied to a combatant commander, subunified commander, or joint task force commander authorized to exercise combatant command (command authority) or operational control over a joint force. Also called JFC. (JP 1-02)

joint intelligence preparation of the battlespace. The analytical process used by joint intelligence organizations to produce intelligence assessments, estimates, and other intelligence products in support of the joint force commander's decision making process. It is a continuous process that includes defining the total battlespace environment; describing the battlespace's effects; evaluating the adversary; and determining and describing adversary potential courses of action. The process is used to analyze the air, land, sea, space, electromagnetic, cyberspace, and human dimensions of the environment and to determine an opponent's capabilities to operate in each. Joint intelligence preparation of the battlespace products are used by the joint force and component staff in preparing their estimates and are also applied during the analysis and election of friendly courses of action. Also called JIPB. (JP 1-02)

joint suppression of ~~adversary~~ enemy air defenses. A broad term that includes all suppression of ~~adversary~~ enemy air defense activities provided by one component of the joint force in support of another. Also called J-SEAD. (~~Upon approval of this publication, this term and its definition will modify the existing term and its definition and will be included in~~ JP 1-02~~.~~)

joint targeting coordination board. A group formed by the joint force commander to accomplish broad targeting oversight functions that may include but are not limited to coordinating targeting information, providing targeting guidance and priorities, and preparing and/or refining the joint integrated prioritized target list. The board is normally comprised of representatives from the joint force staff, all components, and if required, component subordinate units. Also called JTCB. (JP 1-02)

offensive counterair. Offensive operations to destroy, disrupt, or neutralize ~~adversary~~ enemy aircraft, missiles, launch platforms, and their supporting structures and systems both before and after launch, but as close to their source as possible. Offensive counterair operations range throughout ~~adversary~~ enemy territory and are generally conducted at the initiative of

friendly forces. These operations include attack operations, fighter sweep, escort, and suppression of ~~adversary~~ enemy air defenses. Also called OCA. (~~Upon approval of this publication, this term and its definition will modify the existing term and its definition and will be included in~~ JP 1-02~~.~~)

offensive counterair attack operations. Offensive action in support of the offensive counterair mission against surface targets which contribute to the ~~adversary's~~ enemy's air power capabilities. The objective of attack operations is to prevent the hostile use of aircraft and missile forces by attacking targets such as missile launch sites, airfields, naval vessels, command and control nodes, munitions stockpiles, and supporting infrastructure. Attack operations may be performed by fixed- or ~~rotary wing~~ rotary-wing aircraft, surface-to-surface weapons, special operations forces, or ground forces. Also called OCA attack ops. (~~Upon approval of this publication, this term and its definition will modify the existing term and its definition and will be included in~~ JP 1-02~~.~~)

operational control. Command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority) and may be delegated within the command. When forces are transferred between combatant commands, the command relationship the gaining commander will exercise (and the losing commander will relinquish) over these forces must be specified by the Secretary of Defense. Operational control is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Operational control normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions; it does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training. Also called OPCON. (JP 1-02)

positive control. A method of airspace control which relies on positive identification, tracking, and direction of aircraft within an airspace, conducted with electronic means by an agency having the authority and responsibility therein. (JP 1-02)

procedural control. A method of airspace control which relies on a combination of previously agreed and promulgated orders and procedures. (JP 1-02)

rules of engagement. Directives issued by competent military authority ~~which~~ that delineate the circumstances and limitations under which United States forces will initiate and/or continue combat engagement with other forces encountered. Also called ROE. (JP 1-02)

supported commander. 1. The commander having primary responsibility for all aspects of a task assigned by the Joint Strategic Capabilities Plan or other joint operation planning authority. In the context of joint operation planning, this term refers to the commander who prepares operation plans, or operation orders in response to requirements of the Chairman of the Joint Chiefs of Staff. 2. In the context of a support command relationship, the commander who receives assistance from another commander's force or capabilities, and who is responsible for ensuring that the supporting commander understands the assistance required. (JP 1-02)

supporting commander. 1. A commander who provides augmentation forces or other support to a supported commander or who develops a supporting plan. Includes the designated combatant commands and Defense agencies as appropriate. 2. In the context of a support command relationship, the commander who aids, protects, complements, or sustains another commander's force, and who is responsible for providing the assistance required by the supported commander. (JP 1-02)

suppression of ~~adversary~~ enemy air defenses. That activity which neutralizes, destroys, or temporarily degrades surface-based ~~adversary~~ enemy air defenses by destructive and/or disruptive means. Also called SEAD. (~~Upon approval of this publication, this term and its definition will modify the existing term and its definition and will be included in~~ JP 1-02~~.~~)

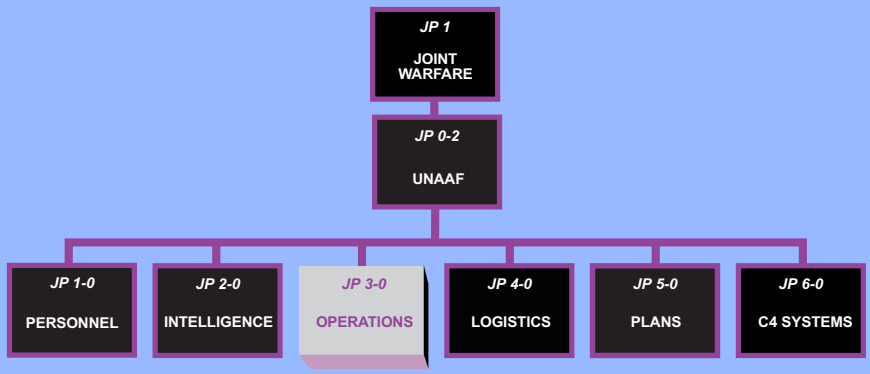
tactical control. Command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed direction and control of movements or maneuvers within the operational area necessary to accomplish missions or tasks assigned. Tactical control is inherent in operational control. Tactical control may be delegated to, and exercised at any level at or below the level of combatant command. When forces are transferred between combatant commands, the command relationship the gaining commander will exercise (and the losing commander will relinquish) over these forces must be specified by the Secretary of Defense. Tactical control provides sufficient authority for controlling and directing the application of force or tactical use of combat support assets within the assigned mission or task. Also called TACON. (JP 1-02)

theater missile. A missile, which may be a ballistic missile, a cruise missile, or an air-to-surface missile (not including short-range, non-nuclear, direct fire missiles, bombs, or rockets such as Maverick or wire-guided missiles), whose target is within a given theater of operation. Also called TM. (JP 1-02)

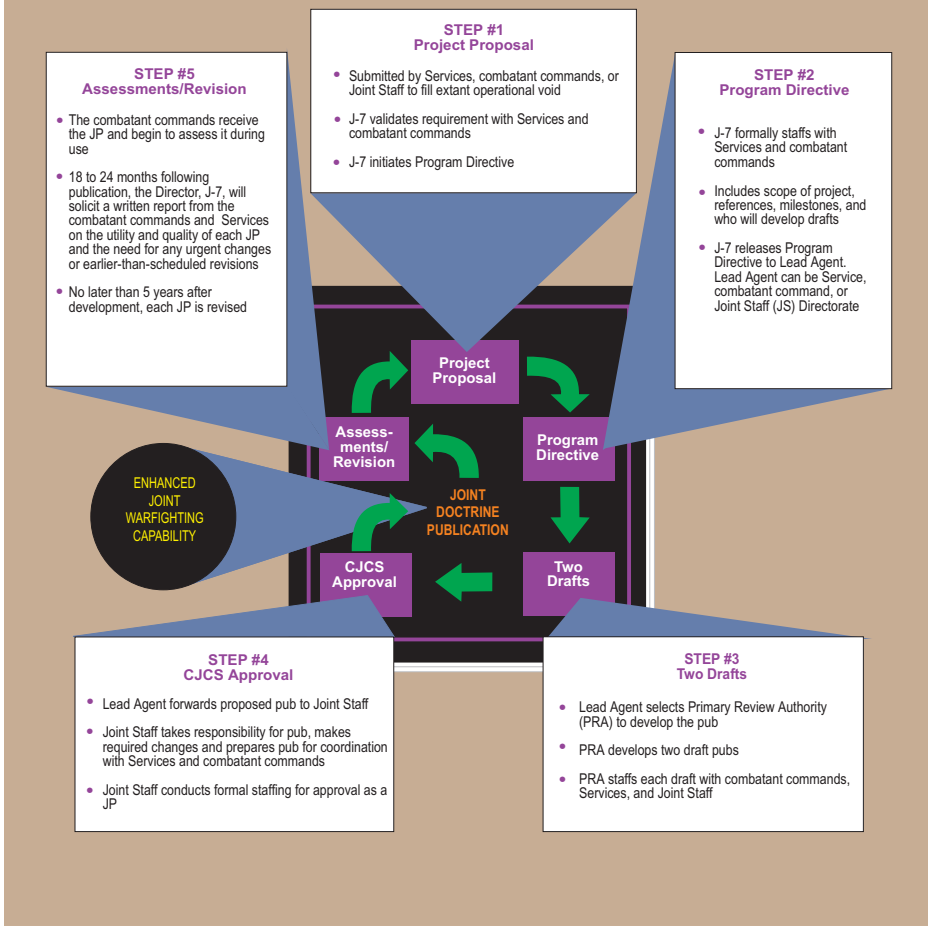
time-sensitive targets. Those targets requiring immediate response because they pose (or will soon pose) a danger to friendly forces or are highly lucrative, fleeting targets of opportunity. Also called TSTs. ~~The JFC normally provides specific guidance and prioritization for TSTs within his or her joint operational area.~~ Also called TSTs. (~~Upon approval of this~~

Intentionally Blank

JOINT DOCTRINE PUBLICATIONS HIERARCHY



All joint doctrine and tactics, techniques, and procedures are organized into a comprehensive hierarchy as shown in the chart above. **Joint Publication (JP) 3-01.2** is in the **Operations** series of joint doctrine publications. The diagram below illustrates an overview of the development process:




JOINT
CHIEFS OF STAFF