MCWP 3-23 Offensive Air Support

CSC 1999

Subject Area - Aviaiton

MCWP 3-23

Offensive Air Support

U.S. Marine Corps

PCN 000 000000 00

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
1999		**00-00-1999 to 00-00-1999**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
MCWP 3-23 Offensive Air Support	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **United States Marine Corps,Command and Staff College, Marine Corps University,2076 South Street, Marine Corps Combat Development Command,Quantico,VA,22134-5068**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**84**	

Offensive Air Support

Table of Contents

Chapter 4. Offensive Air Support Operations

Appendices

> Marine Aviation is to be equipped, organized and trained primarily for the support of the Fleet Marine Force in landing operations and in support of troop activities in the field;…
> - Marine aviation's mission, Navy General Board, January 1939

Chapter 1

OFFENSIVE AIR SUPPORT FUNDAMENTALS

In a Marine air ground task force (MAGTF), Offensive Air Support (OAS) is provided by the aviation combat element (ACE). OAS is one of the six functions of Marine aviation. Using accurately delivered weapons delivered from flexible and responsive aircraft, the strength of airpower is integrated into the combined arms team to assist the MAGTF commander in the accomplishment of his mission.

This publication will provide an overview of OAS in the MAGTF. It is the linkage between MCDP 3-2, *Aviation Operations,* and MCWPs 3-23.1 and 3-23.2 entitled *Close Air Support (CAS)* and *Deep Air Support (DAS),* respectively. CAS and DAS are the two categories of OAS.

Summary of Changes

Designation as MCWP 3-23. Conversion of the designation of this publication from FMFM 5-40 to MCWP 3-23 to align with the new family of Joint and Service doctrinal publications.

Introduction of New Concepts as Background for Consideration. Operational Maneuver From the Sea (OMFTS) is a new concept guiding the direction of the Marine Corps. OMFTS is the capstone that encompasses several other supporting concepts such as ship to objective

maneuver (STOM), and sustained operations ashore (SOA). Sea basing is central to the OMFTS concept.

Update of Tactics and Terminology. Close in Fire Support (CIFS) and the term "rotary wing CAS" have been deleted. CAS is the same whether delivered from a helicopter or fixed wing aircraft. With the retiring of the A-6 Intruder, radar beacon usage is no longer a Marine Corps capability. Use of armed reconnaissance areas, also known as kill boxes, for coordination of DAS missions is mentioned. Armed reconnaissance areas are fully explained and developed in MCWP 3-23.2, *Deep Air Support (Draft).* In addition, strike coordination and reconnaissance (SCAR) is included as a DAS mission. Finally, a discussion of fratricide prevention is included.

Definitions

OAS involves those air operations conducted against enemy installations, facilities, and personnel to directly assist in the attainment of MAGTF objectives through the destruction of enemy resources or by the isolation of his military force. OAS includes two categories—CAS and DAS. CAS is air action by fixed- and rotary-wing aircraft against hostile targets in close proximity to friendly forces which requires detailed integration of each air mission with the fire and movement of those forces (Joint Publication 1-02).

DAS is air action against enemy targets at such a distance from friendly forces that detailed integration of each mission with fire and movement of friendly forces is not required. Deep air support missions are flown on either side of the fire support coordination line; the lack of a requirement for close coordination with the fire and maneuver of friendly forces is the qualifying factor (FMFRP 0-14). DAS missions include air interdiction (AI), armed reconnaissance (AR) and strike coordination and reconnaissance (SCAR).

AI operations destroy, neutralize, or delay the enemy's military potential before it can be brought to bear effectively against friendly forces. These missions respond to known targets or target areas that have been briefed in advance.

AR missions find and attack targets of opportunity (i.e., enemy materiel, personnel, and facilities) in assigned areas. AR differs from AI in that AR targets are not known or briefed in advance.

SCAR missions can be flown by any attack aircraft that has been assigned an area to coordinate the attacks of other DAS flights.

> At 1700 these 31 pioneers... of MAG-23, began landing on Henderson Field. Marine aviation was finally on Guadalcanal. "A shout of relief and welcome went up from every Marine on the island,..."
>
> - From *History of Marine Corps Aviation in Word War II*

History of OAS

Although the Marines started using aircraft as early as 1914, technology advances leading to true OAS did not come about until World War II. The ending months of World War I saw the Marine Corps flying combat missions from France. Due to an incredible deployment mix-up, the Marines under Captain Alfred A. Cunningham arrived in theater, but their airplanes were shipped in pieces only as far as England. A shortage of Royal Air Force (RAF) pilots led to a beneficial partnership between the RAF and the Marines. In addition to aerial resupply missions, Marines performed bombing missions and air-to-air combat. In October of 1918, 2nd Lt Ralph Talbot and his gunner Cpl Robert Robinson each earned the Medal of Honor in an attack on a German railroad yard and subsequently shooting down a German fighter in their off target escape.

It was during the interwar years that OAS began to become integral to Marine Corps operations. During combat operations in Central America, Haiti, and the Dominican Republic, Marines were able to utilize the advantages of air support. Marine air performed reconnaissance, supply, medical evacuation and CAS missions in the jungles. CAS was made accurate by dive bombing techniques. Two instances from the Nicaraguan campaign highlighted the advantages of OAS to Marine ground forces. First, the small village of Ocotal where a Marine garrison was located, came under attack by Sandinistas. Marine air was called in to help repel the attack. A group of bombers led by Major Ross Rowell arrived and completely devastated the Sandinistas who fled back into the jungle, never to come into the open again. Second, 1Lt C. F. Shilt earned the Medal of Honor by repeatedly flying into an isolated Nicaraguan town delivering supplies and evacuating all the wounded Marines.

If the Marine Corps experimented with aviation in Central America, they turned OAS into doctrine in the years leading up to World War II. Major Roy Gieger and now Colonel Rowell oversaw aviation operations as the *Tentative Landing Operations Manual* was published. In that historic document, Marine aviation's roles of reconnaissance, fighter escort, protection of the landing forces, artillery spotting, and close air support were formally established as the aviation units' responsibilities. When the U.S. entered World War II, the OAS doctrine developed at Quantico was used during the amphibious landings throughout the Pacific. OAS missions were performed time and again by forward based aircraft of the "Cactus Air Force" on Guadalcanal in support of Marines on the ground.

The wars in Asia brought several more breakthroughs for Marine OAS. Korea saw the maturation of OAS both in the Pusan perimeter and CAS operations in the landing at Inchon. Vietnam saw the use of attack helicopters for CAS. The coalition air campaign during Operation

Desert Storm demonstrated that air can be an effective maneuver element. In addition, the use of precision guided munitions demonstrated the extent to which OAS operations can shape the battlefield minimizing colateral damage.

Even though recent conflicts tend to be supporting Marines in specialized or humanitarian missions, Marine aviation is still used as it was envisioned in 1914, to provide a full spectrum of offensive capability to the MAGTF.

> Maneuver warfare is a warfighting philosophy that seeks to shatter the enemy's cohesion through a variety of rapid, focused, and unexpected actions which create a turbulent and rapidly deteriorating situation with which the enemy cannot cope.
>
> - MCDP-1, *Warfighting*

OAS operations

The MAGTF commander will employ OAS aircraft in keeping with the tenets of maneuver warfare. OAS operations are ideal for achieving maneuver warfare's philosophic goals:

w Maneuver in space to gain a positional advantage.

w Maneuver in time to generate a faster operating tempo than the enemy.

w Bypass an enemy's defenses to *penetrate* the enemy system and tear it apart.

w Concentrate fires and forces on decisive enemy points.

w Focus the effects of fires for maximum surprise and shock effect.

OAS missions are focused on the enemy. Through accurate targeting from the targeting process, and using mission type orders, OAS sorties bring the MAGTFs combat power to bear against the enemy center of gravity and critical vulnerabilities. OAS aircraft have the flexibility to project firepower throughout the battlespace, rear, close, and deep.

The ACE is a maneuver element. The ACE's OAS operations may be designated as the main effort, or in support of ground maneuver forces. MAGTF OAS assets can be sea based, or for greater flexibility they can operate from permanent land bases, temporary forward bases, and forward arming and refueling points (FARPs). ACE operations are covered in detail in MCWP 3-2, *Aviation Operations.*

OAS applications

OAS operations are most effective when control of the air is gained and maintained. Achieving air superiority may require an anti-air warfare plan. Efficient targeting maximizes the unique capabilities of OAS firepower. OAS operations, particularly Close Air Support, require a responsive coordination plan to for integration with other maneuver elements and other fires in the battlespace. Accurate targeting information provided by intelligence sources is becoming more important in OAS due to the use of precision guided munitions. The effects of weather, time of day, distance and fuel management must be considered to employ OAS effectively. Administrative factors such as flight deck cycle times, aircrew rest, and aircraft maintenance requirements must be identified to the MAGTF commander early in the planning process. MAGTF aviation planning considerations are found in the following publications:

w FMFM 5-70, *MAGTF Aviation Planning*

w FMFM 2-7, *Fire Support in Marine Air-Ground Task Force Operations*

OAS applications in OMFTS concepts should be considered when planning. If the MAGTF is to achieve its assigned tasks without a build up ashore, the Marine Corps concept is to have the ACE based at sea. From that sea-base, maintenance, rearming, refueling, command and control, and planning are accomplished. The effect is to reduce the footprint ashore and thereby achieve greater force protection. The implications of this concept on OAS is massive. OAS aircraft will

compete for deck space with assault support aircraft on amphibious shipping. Marine aviation may participate as part of a naval expeditionary force coordinating its operations with the carrier battle group. The carrier air wing may provide the needed air refueling, electronic warfare, as well as additional OAS aircraft. Without using an airfield ashore, the aircraft carrier will most likely be the primary vehicle for deploying naval aircraft into the theater. The MAGTF commander possesses no command authority over those Marine aircraft embarked on an aircraft carrier. If total sea basing of OAS aircraft cannot be achieved, use of a FARP of sufficient size to accommodate a variety of equipment may be used. FARPs are commonly used with assault support helicopters. If the FARP's runway is long enough to allow rearming and refueling of fixed wing aircraft, OAS sortie rates can increase. Aircraft can cycle through the FARP, eventually returning to a sea based platform for maintenance and crew rest. The FARP might also be used for rearming and refueling of other MAGTF assets, specifically armored vehicles and other vehicles.

OAS functions

There are six warfighting functions, they are command and control, fires, movement and maneuver, logistics, intelligence, and force protection. OAS aircraft participate in the fires function. OAS operations deliver firepower against selected enemy targets and capabilities. The MAGTF commander uses OAS to prevent the enemy from successfully applying the principles of war. Neutralization, destruction, interdiction, harassment, and suppression are the effects achieved by fires from OAS aircraft.

Neutralization Fire. Neutralization fires are delivered to render the target ineffective or unusable (Joint Publication 1-02). The fires are used to temporarily hamper the movement and/or the firing of a weapon or installation. For example, bombing a surface to air missile

battery's target acquisition radar renders that battery ineffective for the time it takes, to either repair the radar, or receive target acquisition information from an alternate source. During that time, the battery is neutralized. Like destruction, the effects required to render a target neutralized are situationally dependent.

Destruction Fire. Destruction fire is fire delivered for the sole purpose of destroying material objects (Joint Publication 1-02). Defining the word destruction is easy, defining what it is and determining when it has been achieved is difficult, particularly for an area target. To achieve destructive effects on a target it is not necessary to completely destroy (e.g., demolish) the target. A target may be considered destroyed if it cannot perform its primary mission, such as a tank or artillery piece that cannot shoot or a radar site that cannot acquire. The determination of when a target has been destroyed is situationally dependent. Some units and positions can sustain casualties and damage and still accomplish their mission. Often, to achieve destructive fire requires considerable time, a heavy expenditure of ammunition, or use of expensive precision guided munitions.

Harassing Fire. Harassing fire is fire designed to disturb the rest of the enemy troops, to curtail movement and, by threat of losses, to lower morale (Joint Publication 1-02). These fires are delivered occasionally, usually at night or during periods of reduced visibility. Harassing fires can be delivered intermittently to deceive the enemy as to what friendly maneuver is doing or preparing to do. Ammunition constraints and the threat may limit or make unfeasible the use of harassing fires.

Interdiction Fire. Interdiction fire is fire placed on an area or point to prevent the enemy from using the area or point (Joint Publication 1-02). Interdiction can divert enemy forces away from areas where the enemy has immediate or critical requirements, or it can divert enemy forces to a

location more favorable to friendly forces. Interdiction can disrupt enemy operations, including the movement and routing of the enemy's information, materiel, and forces, through such means as: attacks on telecommunications; command, control, communications, computers, and intelligence (C4I) nodes; and other lines of communications (LOCs). Interdiction can delay enemy forces on such occasions as when they are forced to halt their advance behind a damaged route segment or are forced to make lengthy detours. Delay can result in more concentrated forces and longer periods of exposure, making the enemy easier to destroy or render ineffective. Interdiction can destroy enemy forces and materiel, tipping the correlation of forces in favor of the friendly force. Destruction is the most direct of the four interdiction actions. The enemy's perception of our ability to destroy them can be nearly as effective in achieving interdiction objectives as physically destroying target systems, if it causes the enemy to react in a way upon which friendly forces can capitalize.

Suppressive Fire. Suppressive fires are fires on or about a weapons system to degrade its performance below the level needed to fulfill its mission objectives during the conduct of a fire mission (Joint Publication 1-02). The effects are only temporary. Once the aircraft stop firing, the enemy may resume it's activity. Suppressive fires facilitate maneuver by stunning the enemy and keeping his head down. To be effective, the supported unit must accomplish something while the suppressive fires are being delivered-bypass, maneuver to assault the target or attack it with direct- or indirect-fire weapons for neutralization or destructive effects.

OAS Categories

There are two categories of OAS, CAS and DAS. CAS is conducted when and where friendly combat forces are in close proximity to enemy forces. CAS usually occurs in the close battlespace. The word "close" does not imply a specific distance; rather, it is situational. The

requirement for detailed integration because of proximity, fires, or movement is the determining factor. CAS provides firepower in offensive and defensive operations to neutralize, destroy, or delay enemy forces.

DAS missions usually are planned in the deep battle, beyond the fire support coordination line (FSCL). DAS is implemented as air interdiction (AI), armed reconnaissance (AR), and/or strike coordination and reconnaissance (SCAR). DAS missions are employed in conjunction with the MAGTF commander's intent. However, these missions, when occurring in the deep battle, do not require detailed integration with the fire support coordination center (FSCC) for the delivery of ordnance.

The following publications provide additional information on CAS and DAS:

w Joint Publication 3-03.9, *Joint Tactics, Techniques, and Procedures for Close Air Support (CAS)*

w Joint Publication 3-03, *Doctrine for Joint Interdiction Operations*

w MCWP 3-23.1, *Close Air Support*

w MCWP 3-23.2, *Deep Air Support*

OAS Classifications

The ACE executes OAS missions as either preplanned or immediate air support. The ACE executes both types of support in response to specific requests. To request OAS, units use the joint tactical air strike request (JTAR). A sample JTAR is in Appendix D. The type of request determines the type of support.

Preplanned Missions. Preplanned missions are performed according to a greater concept of operations. Commanders must plan far enough in advance to permit detailed mission coordination.

Preplanned missions allow the ACE to manage scarce air assets more effectively. Preplanned missions are either scheduled or on-call.

Scheduled missions are executed at a specific time. Aircrews are assigned a time-on-target. Scheduled missions require approval from each intermediate level of command. On-call missions are usually filled by placing OAS aircraft on some type of alert, either airborne in a CAS stack or on a ground "strip" alert. Detailed mission planning and briefing is not generally available to aircrews for on-call missions. On-call missions are preloaded with general ordnance and prebriefed with the friendly situation for a particular target or target area and placed in an appropriate ground or air alert readiness condition. The supported unit specifies the time period of required support.

On-call air support is preferred in a high threat environment. Scheduled air support requires that the requesting commander identify a specific target, or type of target, and set a specific time-on-target for the attack well in advance. This is often not possible on a fluid, battlefield. Scheduled air support is preferred for battlespace shaping missions. They allow for detailed planning to orchestrate the optimum composition of ordnance, tactics, and assets to have the greatest effect on a target.

Immediate Missions. Immediate missions meet requests that arise during a battle. Immediate missions cannot be identified far enough in advance to permit detailed mission coordination and planning. Response time is a prime consideration. Urgency may require diverting aircraft on a preplanned mission to fulfill an immediate OAS request. While diverted aircraft may not carry the proper ordnance, a swift attack can exploit an enemy weakness or influence the momentum of the attack. The Marine air command and control system (MACCS) handles immediate mission requests. See MCWP 3-25.3, *Marine Air Command and Control System Handbook* for a

detailed description of diverting aircraft for immediate misssions. Appropriate command and control agencies monitor and approve the request. Mission details are coordinated and issued while aircraft are assigned and moving toward the target. Immediate air support requires extensive use of electronic communications for coordination. This communication may be difficult in a jamming environment.

Preventing Fratricide

The risk of fratricide must be carefully managed with the goal of prevention. The procedures outlined in this paragraph are intended to avoid fratricide. Though occasionally the result of malfunctioning weapons, fratricide has often been the result of confusion on the battlefield. Causes include misidentification of targets, target location errors, target locations and friendly locations incorrectly transmitted or received, and loss of situational awareness by either terminal controllers, aircrews, or requesters. In the high stress environment of the battlespace, combatants often feel rushed and unwilling to check out or confirm an otherwise questionable situation. While slavish adherence to established techniques and procedures is not always possible or desirable, abandoning any part of an established control procedure can greatly increase the opportunity for fratricide. It is critical for all participants in the CAS process to realize that they can contribute to unintentional or inadvertent friendly fire incidents. See Joint Publication 3-09.3,

Joint Tactics, Techniques, and Procedures for Close Air Support (CAS) for additional information.

> "Finally, we must come to grips with the aviation portion of the [urban warfare] equation. We can't fight and win in the urban environment without air support, but it's very easy to hide a man-portable, anti-air missile in the city, and that is a formidable threat to our air."
> - Gen Charles C. Krulak

Future considerations

Sea basing of OAS aircraft will require detailed advance planning. Due to limited deck space, the planning staff will need to determine the number and type of aircraft required to accomplish a mission prior to assembling the time phased force deployment database (TPFDD). OAS assets may compete with assault support assets for deck space in a sea based scenario. Using the operational maneuver from the sea concept, OAS aircraft may operate exclusively off an aircraft carrier or other amphibious platform.

Future developments concerning fighting in built up or urban areas will change OAS tactics. New equipment may be developed to minimize collateral damage of both infrastructure and people. New weapons may be introduced to solve this problem, or precision guided munitions may be employed. Advances in unmanned air vehicles may evolve to the point where Marines fighting in urban areas will direct fires from an uninhabited combat air vehicle circling in an overhead station instead of calling for manned aircraft.

Experiences in Mogadishu and Chechnya have shown that the urban environment is especially dangerous to rotary wing aircraft. The lethality of enemy fires employed from concealed locations may prevent rotary wing assets from prosecuting urban targets with a reasonable margin of safety. Fixed wing OAS aircraft may be more difficult to target in an urban

environment due to their greater speed and altitude capability, but that capability must be balanced against the greater difficulty that fixed wing aircraft have identifying targets when flying high and fast.

- The Marines on our left were a sight to behold. Not only was their equipment superior or equal to ours, but they had squadrons of air in direct support. It was "Hey, Joe, this is Smitty, Knock the left off that ridge in front of Item Company.' They had it day and night. It came off nearby carriers and not from Japan with only 15 minutes of fuel to accomplish the mission:

- Army infantry regiment in the Pusan Perimeter

- **Chapter 2**

- **Offensive Air Support Categories**

- There are two categories of OAS, CAS and DAS. Both CAS and DAS are the subjects of their own doctrinal publications. This chapter will focus on an overview of each as it applies to the MAGTF. For detailed reading, refer to the following publications:

  - Joint publication 3-03, *Doctrine for Joint Interdiction Operations*
  - Joint publication 3-09.3, *Joint Tactics Techniques and Procedures for Close Air Support (CAS)*
  - MCWP 3-23.1, *Close Air Support*
  - MCWP 3-23.2, *Deep Air Support*

CLOSE AIR SUPPORT

- CAS takes the place of long range artillery in the MAGTF, especially early in amphibious operations. CAS is unique in that it takes place in close proximity to friendly troops. Therefore it requires detailed planning, coordination and training with the ground combat element (GCE) and combat service support element (CSSE). CAS can be used in both the offense and the defense. Although normally planned for the close battle, CAS missions can occur in the deep and rear battlespace when they take place in close proximity to friendly troops. CAS is performed by

- both fixed wing and rotary wing aircraft. Although the tactics may be different between fixed wing and rotary wing aircraft, the missions and request procedures are the same.

> - ...the primary mission of combat aviation in a small war is the direct support of the ground forces.
>
> - - 1940 edition of the *USMC Small Wars Manual*

Types of CAS

- CAS is either preplanned or immediate. Commanders normally request CAS to augment organic supporting fires, those CAS requirements foreseeable early enough to be included in the air tasking order (ATO) or mission order are forwarded as preplanned requests. Immediate requests arise from situations that develop once the battle is joined with the enemy. Preplanned CAS can be either scheduled, or on-call.

- **Preplanned Scheduled CAS.** CAS will normally receive the greatest emphasis when ground forces are planned to engage the enemy. When developing an attack plan, the plan for air support should be considered early enough to request preplanned scheduled CAS. Preplanned CAS requests allow the ACE to determine the optimum mix of aircraft and ordnance and conduct the detailed planning necessary to ensure the maximum opportunity for mission success with the minimum communications. Preplanned requests need not include detailed target or timing information because of the lead time involved. However, information such as timing, potential targets, desired effects, and priority are needed to prepare the ATO. Thus, to ensure timely, responsive preplanned CAS, requesting units should forward their requests early on—as soon as they anticipate the need for CAS—and then regularly update and refine their requests as the time approaches.

- **Preplanned On-Call CAS.** On-call requests identify an anticipated requirement for CAS to be available during a period of time, with the exact time and place to be coordinated as the battle develops. On-call CAS allows the requesting commander to indicate a time frame, probable target type, and place where the need for CAS will be most likely. On-call CAS aircraft are configured with the proper ordnance for anticipated targets (e.g., anti-armor) and can maintain an airborne or ground alert status for a specified period of time (e.g, 10 minute or 30 minute alert on the runway). On-call requests can specify either ground or airborne alert. Fixed wing CAS aircraft on airborne alert usually hold in a CAS stack located in close proximity to an airborne refueling aircraft and within radio range of the

direct air support center (DASC). If preplanned on-call CAS aircraft are not requested by a user during their time on station, often they will execute a DAS mission they have been assigned as an alternative mission.

- **Immediate CAS Requests.** Requesting commanders employ immediate CAS to exploit oppor- tunities or protect their forces. Because immediate requests respond to developments on a dynamic battlefield, they cannot be identified early enough to allow the same degree of coordin- ation and planning as preplanned CAS, thus precluding tailored ordnance loads. If on-call CAS is unavailable, preplanned CAS missions may be diverted by the direct air support center (DASC) or, if assets are not available, the request may be forwarded to the tactical air command center (TACC) for action. The TACC may be able to divert aircraft that are presently assigned a lower priority OAS mission. For example, the TACC may divert joint sorties assigned in support of the MAGTF, available DAS sorties, or air defense aircraft that may have air-to-ground ordnance (such as a gun). Diverting aircraft from preplanned scheduled CAS missions is a zero-sum game because preplanned requesters lose the same amount of firepower gained by the immediate requester. See Joint Pub 3-56.1, *Command and Control for Joint Air Operations*, for additional information. Diverting OAS aircraft to fill immediate CAS requests will require a comparatively large amount of communications to raise the aircrew's situational awareness of the tactical situation to which they have been diverted.

- The use of the air-bomb and machine gun in close support of troops on the ground has proved of the utmost value in police operations on the Indian frontier and elsewhere. It was brought to a very high state of perfection in the recent operations in Palestine where small bodies of troops were often held up by the fire of armed bands occupying strong positions. When this occurred, a W/T message was sent by the troops and so good was the organization that at almost any point in Palestine a formation of bombers would arrive within fifteen minutes of the origination of the message.
  - -Air Commodore C.F.A. Portal, 1937
- We can't get the stuff when it's needed and we're catching hell for it. By the time our request for air support goes through channels the target's gone or the Stukas have come instead.
  - - Gen Omar Bradley on air support in North Africa.

CAS IN THE Offense and Defense

- Traditionally, CAS is a supporting mission. The supported unit may be operating in the deep, close, or rear battle areas. While CAS is generally planned to support a unit in the offense, CAS may be called on to support a unit in the defense.

• *Battlespace*	• *Example*	• *Considerations*
• **DEEP**	• Fire support for a recon-naissance unit	• Coordinate with other deep missions: AI, AR, SCAR
• **CLOSE**	• Support the main effort	• Coordinate with other supporting fires: NSF, Artillery
• **REAR**	• Defense of rear area against counter-attack	• High potential for fratricide

Figure 2 - 1. CAS in the battlespace

- **Offensive employment.** In offensive operations CAS can provide the ground commander with additional firepower to reinforce or exploit success. CAS assists offensive operations with preplanned or immediate missions to neutralize, destroy, and suppress the enemy. CAS can support the following types of offensive operations by combining the flexibility and volume of air delivered ordnance with other MAGTF supporting fires.

- Movement to contact
- Attack
- Exploitation
- Pursuit

- **Defensive Employment.** In defensive operations, CAS can be used to cause the enemy to deploy prematurely, or to slow or stop the enemy's attack. Close air support can be assigned to support specific forces in the security, main battle, or rear areas depending on the type of defense (mobile or position). Commanders may plan the use of CAS to:

- Support maneuver
- Support movement
- Attack penetrations
- Be the reserve

- **TACTICAL CAS Mission Assignments**

- There are two mission assignments for CAS, general support or direct support. General support CAS are preferred over direct support because general support missions allow for the most efficient use of ACE assets.

General support CAS aircraft are not tied to one unit, but free to assist any MAGTF unit. Although there are some advantages to assigning rotary wing CAS aircraft in direct support of a unit for specialized operations, those advantages are usually not great enough to warrant denying the rest of the MAGTF the support of those aircraft.

- **CAS General Support Requirements**

- A flexible and responsive command and control (C2) system is imperative to optimize the employment of CAS assets. Intelligence updates are crucial to providing the aircrew with situational awareness of the battlespace prior to takeoff. A timely intelligence update of the friendly and enemy situation can cut down on the time aircrew may need on station to build awareness of the battlespace prior to execution of a CAS mission. In addition, an adequate mix of ordnance on hand must be arranged well in advance. The administrative requirements involved with requesting, moving and storing ordnance are responsible for the long lead time. Joint publication 3-01.3, *TTTP for CAS* set the conditions FOR EFFECTIVE CLOSE AIR SUPPORT as follows:

- Air superiority
- Suppression of enemy air defenses
- Target marking
- Favorable weather
- Prompt response
- Aircrews and terminal controller skill
- Appropriate ordnance
- Communications
- Command and control

- **CAS Mission Requests**

- All requests for CAS will be either preplanned or immediate. Requests for CAS can be made in written form on a JTAR, in messages form using the joint message text format (JMTF), or verbally on the tactical air request/helicopter request (TAR/HR) net.

- **Preplanned CAS.** Units requesting preplanned CAS submit JTARs to normal fire support coordination agencies, usually the FSCC or rear area operation centers (RAOC). The commanders, air officers (AO), and fire support coordinators (FSC) at each echelon evaluate requests, coordinate requirements (such as airspace, fires, and intelligence), consolidate them; and if they approve the request, assign it a priority and precedence. The FSC then forwards approved requests through communications nets to the next higher echelon. If a request is disapproved at some level, the request is returned to the originator with an explanation, or a substituted fire support asset. The FSCC of the highest maneuver echelon in the force approves requests and prioritizes them. After approval, these consolidated requests become the commander's request for CAS. The senior FSCC sends the requests to the tactical air command center (TACC) for planning and execution. The TACC publishes the daily ATO which includes approved CAS missions. The TACC distributes the ATO to the MACCS agencies and the MAGTF (See Figure 2-2).

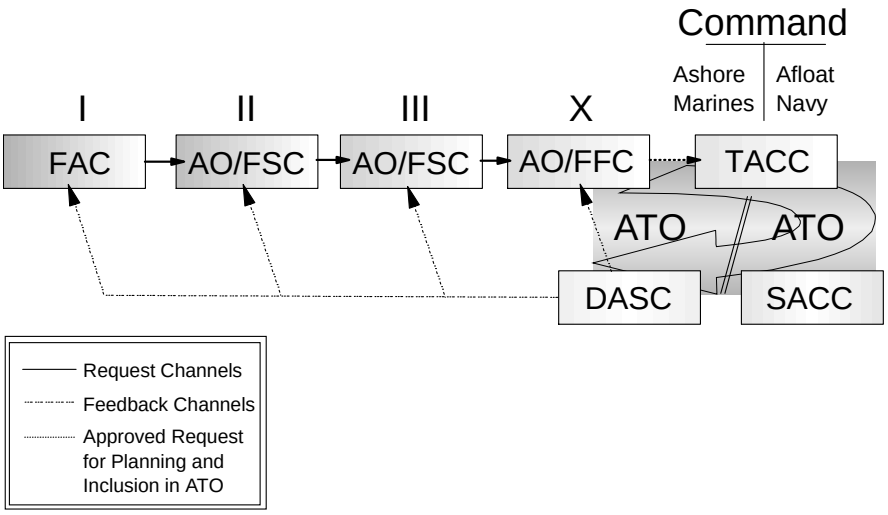

Figure 2-2. Preplanned CAS Requests

- **Immediate CAS requests.** Requests are broadcast directly from the tactical air control party (TACP) to the DASC using the TAR/HR net. The AOs in each FSCC monitor the TAR net. The DASC processes requests for immediate missions and coordinates with the senior FSCC. Each FSCC will either approve or deny the request based on the commander's intent, and after considering whether organic assets are available, appropriate, or sufficient to fulfill the request. If subordinate FSCCs agree with the request they remain silent (silence is consent). If coordination is required for approval, the FSCCs will coordinate at the lowest possible level. If a request is

disapproved at some level, the request is returned to the originator with an explanation, or a substituted fire support asset. The DASC assigns aircraft according to the type of mission and the terminal control agency's capabilities. For ground alert aircraft, the TACC may retain launch authority or delegate it to the DASC. If the DASC has launch authority, it launches the aircraft and directs aircrew until they contact the terminal control agency. If the DASC does not have launch authority, it contacts the TACC to launch the aircraft (See Figure 2 - 3).

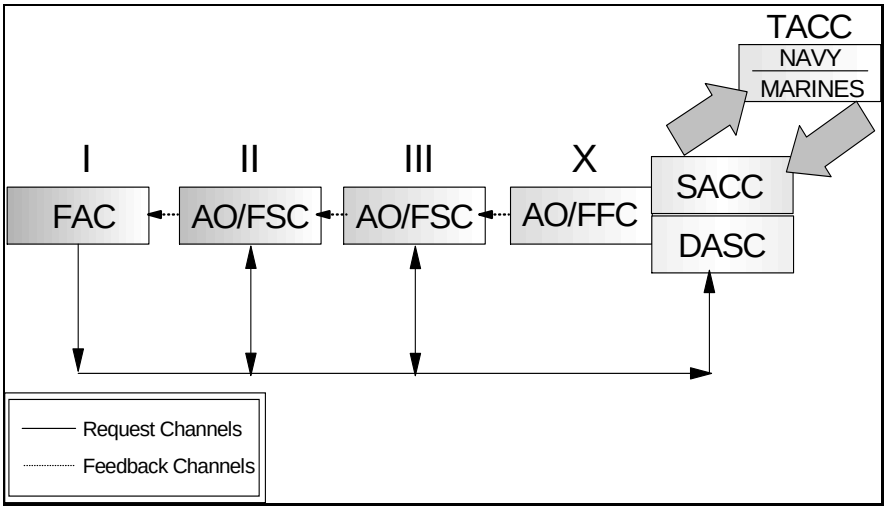

Figure 2-3. Immediate CAS Requests

- **CAS Requests Afloat.** When the Navy tactical air control center (Navy TACC) has control, CAS requests are slightly different. The supporting arms coordination center (SACC) has responsibility for coordination while the Navy TACC controls all air support in the amphibious objective area (AOA). Immediate CAS request are processed by the air support control section of the Navy TACC. See Joint Pub 3-02.1, *Joint Doctrine for Landing Force Operations* for a detailed discussion.

- **Joint CAS Requests**. Units requesting preplanned CAS submit JTARs to the normal fire support coordination agencies. If CAS requests exceed the component's organic capability, the requests are forwarded to the joint air operations center (JAOC) via the air support request message (AIRSUPREQ) message. At the JAOC, the joint force air component commander (JFACC), if designated, or the joint force commander (JFC) reviews the requests, matches them in priority order against the JFC's air apportionment decision, and fills those requests with the sorties available from the air apportionment guidance. Requesting units are then notified of approval/disapproval via the allotment /request message (ALLOREQ) message. If requests exceed the air apportionment for CAS, the JFACC/JFC staff must ask the JFC to modify the CAS air apportionment, direct components to produce more joint CAS sorties, or

deny the requests exceeding the air apportionment for CAS. During the execution phase of the joint ATO, the JFACC/JFC staff may need to redirect joint air missions to meet immediate requests for high priority CAS. The JFACC/JFC staff may also seek additional support from another component to meet the immediate request. Immediate requests are forwarded to the appropriate command post by the most rapid means available. Requests are broadcast directly from the TACP to the air support operations center using the applicable component communications nets. The AO at each intermediate headquarters monitors the request and informs the operations officer, and FSC. Based on the commander's intent, and after considering whether organic assets are available, appropriate, or sufficient to fulfill the request, they approve or deny the request. Silence by inter- mediate headquarters indicates approval.[1] See Joint Pub 3-56.1, *Command and Control for Joint Air Operations*, and Joint Pub 3-09.3, *Joint Tactics, Techniques, and Procedures for Close Air Support (CAS)* for an expanded discussion.

[1]Joint Pub 3-09.3, Pg III-3 - III-4.

- "[An attacking air power] can either bomb military objectives in populated areas from the beginning of the war, with the objective of obtaining a decision by moral[e] effect which such attacks will produce, and by the dislocation of the country, or, alternatively, they can be used in the first instance to attack enemy aerodromes with a view to gaining some measure of air superiority, and when this has been gained, can be changed over to the direct attack on the nation."
-
- -Royal Air Force Memorandum No. 11A, March, 1924

DEEP AIR SUPPORT

- DAS missions planned against enemy targets at such a distance from friendly forces that detailed integration of each mission with fire and movement of friendly forces is not required. Although normally occurring beyond the FSCL, DAS missions may occur within the FSCL if the air action remains at such a distance from friendly forces that detailed integration of the mission is not required. **The lack of a requirement for close coordination with the fire and maneuver of friendly forces is the qualifying factor.** The MAGTF uses DAS missions primarily to shape the battlespace. For that reason, the MAGTF commander's intent is all important in choosing DAS targets. Normally, targets and target sets selected for DAS missions are chosen to impact the enemy's center of gravity and critical vulnerability. The single battle concept reminds us that DAS shaping missions should align with the other elements of force employed throughout the battlespace. Although the battlespace may be conceptually divided into deep, close, and rear areas to facilitate planning and decentralized execution, the commander's intent must provide for unity of effort in operations throughout the battlespace. The ACE operates throughout that battlespace and performs functions that can affect every aspect of the battle. The key to the single battle concept is the combined-arms approach, wherein there is no separate "air war" being performed by the ACE using DAS missions, but only a single overarching MAGTF mission and a single, unifying commander's intent.

- **Types of DAS**

- DAS missions are normally used as part of the MAGTF's battlespace shaping efforts. Shaping activities aim to render the enemy vulnerable to attack or facilitate maneuver of friendly forces. The ACE, with its range and versatility, can contribute to battlespace shaping in many ways—from long-range attack that reduces the combat power of the enemy to the conduct of deception operations to mislead the enemy as to our intentions. Through shaping the battlespace, the MAGTF creates conditions favorable to battle, gains the initiative, preserves

momentum, and controls the tempo of operations. DAS can be employed to determine enemy operational intentions, delay enemy resupply and reinforcements, degrade critical enemy functions or capabilities (e.g., command and control, air support, logistics), and manipulate enemy perceptions. MCWP 3-23.2, *Deep Air Support (Draft)* identifies the following uses for DAS:

- Disrupting enemy operations.
- Determining enemy operational intentions.
- Delaying enemy reinforcements.
- Degrading critical enemy functions or capabilities (e.g., command and control, air support, logistics).
- Manipulating enemy perceptions.
- **DAS tasks**

- There are two DAS missions, and one DAS coordination mission performed by the ACE. The DAS missions are AI and AR. SCAR missions coordinate AI and AR. Battlespace shaping is the focus of each of these missions.

- **Air Interdiction.** AI is executed when target locations are known and are attacked in accordance with the MAGTF commander's intent and targeting desires. AI missions are planned in accordance with the MAGTF's targeting plan and lead by a mission commander designated by the aviation combat element (ACE) commander.

- **Armed Reconnaissance.** AR is utilized when the target location is unknown, and requires aircrew to locate and engage potential targets to achieve the MAGTF commander's intent. AR missions are tasked by the ACE as well, however, they are normally lead by individual element (four aircraft or less) leaders.

- **Strike Coordination and Reconnaissance.** SCAR is a mission flown for the purpose of acquiring and reporting DAS targets. SCAR missions coordinate and may mark a target for AR missions and precisely locate targets for AI missions. SCAR is especially useful in target rich environments to prevent redundant attacks by AR aircraft. The SCAR aircraft can be used to verify preplanned target locations and discriminate between actual and deceptive targets. Additionally SCAR missions can assess the target environment in terms of weather, threat locations, movement or trends seen on the battlefield for incoming DAS missions. Unlike AI or AR missions, ordnance load does not determine mission duration for a SCAR aircraft. Even though a SCAR aircraft may be out of ordnance, it can still accomplish its mission, thus enabling a longer time on station to coordinate for other DAS aircraft. A single SCAR aircraft may be able to coordinate the weapons load of several other DAS aircraft.

- **DAS General Support Requirements**

- General support requirements for DAS are similar to CAS. MCWP 3-23.2, *Deep Air Support (Draft)* identifies the following items for DAS**:**

- Timely and accurate intelligence.
- Local air superiority.
- Suppression of enemy air defenses (SEAD).
- Effective communications and early warning.
- Favorable weather.
- Appropriate ordnance.

- Aircrew skill.

- In addition to the general support requirements listed above, consideration to some factors affecting planing should be mentioned. Time distance factors will determine if refueling at a FARP, or airborne is required. The rules of engagement, especially in military operations other than war (MOOTW), are critical for SCAR and AR missions when aircrew are prosecuting target sets at imprecise locations.

- **DAS Mission Requests**

- Like CAS, DAS missions are either preplanned or immediate. Preplanned missions are either scheduled or on-call. Immediate DAS missions are rare, the overwhelming majority of DAS missions will be preplanned scheduled conforming with the force application cycle shown in figure 2-4. DAS missions are largely the result of the targeting process. The targeting process uses the commander's intent to identify, prioritize, and allocate combined arms assets to targets. DAS missions are managed by the deep air coordinator in the TACC's deep battle cell. Although DAS targets are usually the result of higher headquarters planning, subordinate unit

-

- commanders may request DAS missions through submission of a JTAR. Chapter four of this publication covers more information on OAS planning and targeting. Detailed information on the targeting process can be found in the following publications:

- Joint Publication 3-56., *Command and Control for Joint Air Operations*
- Joint Publication 3-09, *Doctrine for Joint Fire Support*
- MCWP 3-25.4, *Marine Tactical Command Center Handbook*

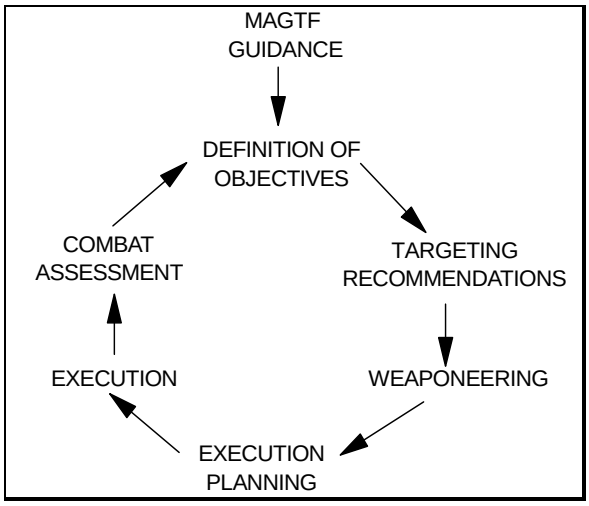

Figure 2-4. Force application cycle.

Aviation is fundamental to the future of the Marine Corps-without the "A" there is no MAGTF."

- General C.C. Krulack

Using Attack helicopters to fight enemy tanks and close air support against enemy infantry are examples of fighting asymmetrically. In these examples, we gain the advantage of the greater speed and mobility of the aircraft relative to the enemy. Ambushing tanks with attack helicopters in terrain which hampers tank maneuver provides even more effect and generates even more advantage.

-MCDP 1-3, Tactics

Chapter 3

OFFENSIVE AIR SUPPORT IN THE MAGTF

Employment

Considerations

OAS aircraft project firepower to shape events in time and space. OAS operations assist the MAGTF commander in operationally influencing the future battle and projecting his will on the enemy. The MAGTF commander uses OAS to create a dilemma for the enemy. If the enemy moves its forces to confront friendly forces, it may expose itself to aviation assets. If it cannot move or employ its forces or is unable or unwilling to sustain losses, initiative and tempo are lost.

To maximize the destructive power of aviation, the mind set of centralized command with decen- tralized control must be exploited. OAS missions should be free to prosecute targets in the fluid battlespace guided by the commander's intent. The goal is not to be tied to a measured target location from an ATO, but to have the freedom of maneuver to shift emphasis onto a target, if

discovered, that may be more appropriate according to the commander's intent. FMFM 2-7, *Fire Support in Marine Air Ground Task Force Operations*, states that ACE assets are best employed when available assets are brought together in a coordinated manner to weight the main effort. OAS operations must always be planned with this combined arms emphasis in mind. Different ACE aircraft used in OAS operations have capabilities that may make them appropriate for a particular mission. These capabilities are outlined in Appendix A.

The mission will always dictate planning factors. To facilitate planning, the environment can be divided up into three threat levels: low, medium, and high. When determining threat levels, planners must remember that a low threat to one ACE aircraft may be a high threat to another. Likewise, a high threat during daylight hours may be a low threat during darkness or overcast conditions. A low threat level allows MAGTF operations to proceed without any prohibitive interference. A low threat environment consists of: small arms and medium antiaircraft weapons, limited optical acquisition AAA with no integrated fire control systems. A medium threat allows acceptable exposure time of friendly aircraft to enemy air defenses or acceptable interference by enemy aircraft to MAGTF operations. This threat level can restrict the flexibility of the MAGTF commander and would be characterized by: limited radar or electro-optic acquisition capability not supported by fully integrated fire control systems, fully integrated fire control system that has been degraded due to terrain, weather, or other factors. A high threat level exists when the enemy has an air defense system that includes integrated fire control systems and electronic warfare (EW) capabilities. High threat environments severely affects the MAGTF's ability to conduct operations and includes: integrated air defenses, mobile or strategic surface to air missiles (SAMs), early warning radars, EW capabilities, integrated AAA fire control systems, and interceptor aircraft.

Both aircraft capabilities and mission requirements will drive the mix of aircraft required to accomplish certain OAS missions. Some examples are:

- Air refueling, KC-130 / KC-10 / KS-3
- Electronic warfare, EA-6B / JSTARS
- Communications and control, DASC(A) / AWACS
- Anti-Air warfare escort, FA-18 / F-15 / F-14
- SEAD, F-16CJ

Capabilities

Marine aviation possesses unique capabilities to enhance MAGTF maneuver warfare concepts. Maneuver warfare strives to gain the advantage in tempo and focus. Aviation's ability to shift its focus rapidly over large distances presents a dilemma for the enemy. OAS aircraft unique capabilities from FMFM 2-7 are discussed below.

Aircraft and Ordnance. Marine aviation units are equipped with a variety of aircraft weapons and associated systems. A variety of ordnance can be delivered, including guns firing an assortment of projectiles, rockets, and guided missiles with diverse warheads and fuzing, laser-guided bombs of different weights, incendiary mixtures, conventional bombs in various yields and weights. This multiplicity of ordnance, coupled with a myriad of attack tactics, allows for selection of attack means to achieve the maximum effect on the target.

Accuracy. Although capable of precision delivery of ordnance, the accuracy of attack aircraft is variable. Each newer generation of aircraft introduce a higher degree of accuracy inherent in the

basic aircraft. However, certain factors may degrade that inherent accuracy. Those factors are, delivery parameters, aiming system used, weather, and the weapon itself. Figure 3-1 is a detail of the factors affecting accuracy. Accuracy is of primary concern when engaging targets in the proximity of friendly troops. Timely and accurate air support produces a positive effect on the morale of supported troops and a detrimental effect on the enemy.

	Higher Accuracy	⟷	**Lower Accuracy**
Delivery Parameters	High Angle Dive	Level delivery	High angle loft
Aiming System	Laser	Radar	Manually computed delivery
Weather	Daylight, clear	Night	Thunderstorm
Weapon	Precision Guided Munitions	General Purpose Bomb	Incendiary Bomb (NAPALM)

Figure 3-1. Factors affecting accuracy.

Mobility. The outstanding characteristics of aircraft are mobility and range. Aircraft can attack targets at greater range than other supporting arms and can overcome target disposition or environment restrictions. The speed of aircraft enables commanders to concentrate overwhelming firepower in the objective area from distant and dispersed sources and to deliver surprise attacks. The speed and maneuverability of aircraft also provide a measure of protection from enemy fire. The ability to exploit the mobility of aircraft may be dependent on the commander's emphasis on degrading enemy air defenses. Increased dependence is normally placed on air support during periods when;

- Artillery is embarked on amphibious shipping.
- Operations have extended beyond the range of naval gunfire.

Artillery capability has diminished due to enemy counterfire, extended range of an oncoming threat, or difficulties in ammunition resupply.

Responsiveness. The responsiveness of air support is a function of many factors, but the primary factor is the distance the aircraft must fly (from the sea base, airbase, or holding point/area) to the target. Forward based attack helicopters and short takeoff/vertical landing aircraft can reduce response times considerably. Aircraft can respond more rapidly when they are positioned on station with proper ordnance and when pilots are familiar with the battle situation. Aircraft can be maintained in an air alert status over designated points, or strip alert when sea or land based during a critical phases of a battle. This requires the forecasting of air support requirements and continuous liaison between ground and air commanders. The degree of control and coordination required for the delivery of airstrikes is reflected in response times.

Limitations

Aircraft impart a significant footprint on the MAGTF. Not just in terms of the takeoff and landing surfaces, apron, and maintenance spaces, but also the support and resupply requirements. Sea-basing removes the need to embark and assemble a forward operating base and it reduces the assets that may have been required to provide force protection. Sea basing limits the acreage available from which the MAGTF may operate. Resupply tonnage in terms of bulk fuel, ordnance, and parts will not be reduced. Air operations may also be limited by enemy offensive and defensive capabilities. Poor weather will impart a further burden on air operations. The time on station for an aircraft can be extended by forward basing and air refueling. Once the aircraft has delivered its ordnance, time on station ceases to be a factor and aircraft response time becomes a factor. Finally, radio communications are of great importance to air support

operations. Most OAS aircraft carry two radios. Jamming will degrade radio communications range and may cause coordination difficulties.

Enemy Defenses. Enemy forces may employ air defense systems that can form a significant threat to friendly aircraft. The availability of friendly aircraft and the tactics that pilots use are contingent upon the air threat. Aircraft should be selectively employed against high payoff targets to reduce their exposure. The enemy's air defense capability can be curtailed through proper attack tactics and SEAD. SEAD is that activity which neutralizes, destroys or temporarily degrades enemy air defenses in a specific area by physical attack and/or electronic warfare. (Joint publication 1-02) SEAD is conducted using multiple means, including:

- Destructive means delivered by direct- and indirect-fire weapons, precision munitions, aviation ordnance, attack helicopters, and raids.
- Disruptive means such as Electronic Warfare, chaff, and flares.
- Combination of destructive and disruptive means.

See Joint publication 3-01.4 *JTTP for Joint Suppression of Enemy Air Defenses* for an expanded discussion of SEAD.

Effects of Weather. Air support is available 24 hours a day even though heavy precipitation may limit air support to radar equipped aircraft, . Even though a significant night and poor weather capability exists in the ACE, periods of reduced visibility cause restrictions in providing air support. At least, periods of reduced visibility may reduce the volume of air support. At most, the effects of weather may prohibit air support. The weather at the target is the primary concern. Poor weather at the target area creates difficulty in locating the target and limits the

types of attack which can be made. In an antiair, threat-rich environment, the only CAS missions which may be worthy are those of an emergency nature.

MAGTF General Employment Methods.

OAS aircraft can be either the main effort, or support the main effort. OAS operations can support rear area operations and support the reserve, but can not be the reserve. OAS aircraft may be held in reserve to exploit success. OAS is requested by subordinate units by submission of a JTAR. OAS is then tasked by the MAGTF commander through the ACE. In a non-linear battlefield, OAS may be the optimum maneuver element to attack non-linear objectives as depicted in figure 3-2.

Each circle represents an objective, The area outside the circle is not pursued in a non-linear battlespace. In effect, the close battle is inside the circle, and the area outside the circles are the deep battlespace.

Due to its speed and flexibility, OAS can influence each objective equally.

Figure 3-2. Non-linear battlefield

In the urban environment, OAS may project power by presence and by employing precision strikes. Details on employing OAS aircraft in the urban environment can be found in the *Aviation Combat Element Military Operations in Urban Terrain Manual* published by MAWTS-1. MCWP 3-35.3, *Military Operations in Urban Terrain* is also a useful source of information for employment of aviation in urban operations. Chapter four covers OAS planning details.

Armed Reconnaissance Areas (ARA). One way of coordinating both SCAR and AR missions is by the use of ARAs, also known as kill boxes. Kill boxes were used extensively during Operation Desert Storm as an airspace deconfliction measure and are included in some current operations plans. An ARA is a grid of sufficient size to allow a DAS aircraft freedom of maneuver to hunt for targets, typically 15 nm. by 15 nm. The ARA boxes do not need to be linear, and may be sized exactly to overlay the named areas of interest identified in the Marine Corps

planning process. SCAR and AR missions are assigned an ARA as their "hunting ground" for a specific time. Thus, these aircraft who do not have a precisely predetermined target location, can maneuver in the beyond the FSCL without fear of conflicting with another SCAR or AR mission. An example of ARAs is shown in figure 3-3.

Figure 3-3. Armed reconnaissance areas

> Our combat aircraft must be capable of operating from a variety of ships and austere bases ashore, perform a variety of missions, and land on a wide variety of surfaces. Our aviation units must be organized, trained, and employed as integral parts of a naval expeditionary force.
>
> -Operational Maneuver from the Sea

DEPLOYMENT

Deployment methods

Marine aviation is naval in character and can be embarked or deployed on amphibious ships and aircraft carriers. Aircraft capable of air refueling may self deploy in a cell with the assistance of an airborne refueling aircraft. Finally, attack helicopters are capable of being partially disassembled, and deployed inside of strategic lift aircraft. Of notable importance is that deploying aircraft is only half of the requirement. Support must be deployed or made available at the destination for OAS operations to commence. The TPFDD is the primary input used by USTRANSCOM to arrange for deployment using US strategic assets. Joint publication 3-02.2, *Joint Doctrine for Amphibious Embarkation* discusses procedures for embarkation of fixed and rotary wing vertical take off or landing aircraft.

Security

Force protection is an aspect of all operations whether offensive or defensive and is the responsibility of each unit. Security operations are the measures taken by a unit to protect itself against all acts that might impair its effectiveness. Security in this section is limited to that required for deployment of OAS aircraft. Protection from enemy aircraft and missiles will normally be arranged by the ACE. A typical theater air defense organization includes an area air defense coordinator (AADC) whose duties include: coordinating the employment of theater air defense capabilities; building a seamless air defense architecture; recommending rules of engagement

(ROE) to the commander; and developing the air defense plan. If air defense regions are established, the AADC may designate regional air defense commanders (RADCs) to oversee the implementation and supervise execution of the air defense plan. In turn the regions may be further subdivided into sectors, with each sector under the supervision of a sector air defense commander (SADC) responsible to RADC. Like the AADC, RADC and SADC functions are supervisory in nature. These individuals exercise oversight and direction of all air defense operations within their assigned region/sector and coordinate air defense operations between regions and sectors to ensure seamless air defense operations throughout the battlespace.

Planning is a primary means by which we give advantageous shape to the course of events over time. Shaping the course of events means exploiting and cultivating opportunities that arise naturally as well as actively creating and developing advantages. Ideally, when the decisive moment arrives, the issue has already been resolved.

- MCDP 5 *Planning*

Chapter 4

OFFENSIVE AIR SUPPORT OPERATIONS

PLANNING

The Marine Corps planning process (MCPP) comprises the core of the commander's planning, decision, execution, and assessment cycle. The process is threat focused, is based on the principle of unity of effort, and emphasizes establishing and maintaining operational tempo. Planning is always accomplished being mindful of the standard mission, enemy, terrain and weather, troops and support available, time available (METT-T) framework, keeping constantly focused on the threat and the mission. The tenets of the MCPP are derived from the tenets of maneuver warfare. They are:

- Top-down guidance.
- The single battle concept.
- Integrated planning.

The MCPP complements deliberate planning or crisis action planning as outlined in the Joint Operation Planning and Execution System (JOPES). The following publications give additional information on planning:

- Joint publication 5-3.1, Joint Operation Planning and Execution System, Volume I, *(Planning Policies and Procedures).*
- MCDP 5, Planning.
- MCWP 5-1, Marine Corps Planning (Draft).

w MCWP 5-1.1, Aviation Planning (Draft).

w FM FM 5-70, MAGTF Aviation Planning.

w FM FRP 5-71, MAGTF Aviation Planning Documents.

Planning Cycle

The JOPES process identifies three types of planning: campaign, deliberate, and crisis action planning. Deliberate planning and crisis action planning both have sequential steps identified with them. Figure 4-1 shows the integration of the JOPES deliberate planning process, the amphibious operation command and staff steps, and the MCPP. The plan resulting from the JOPES process will direct the Marine component commander's plan. Among other things, the Marine component commander's plan will include a mission statement, and provide a force list. From that plan, the Marine Corps planning team will use the MCPP to develop a course of action (COA), and execute the plan.

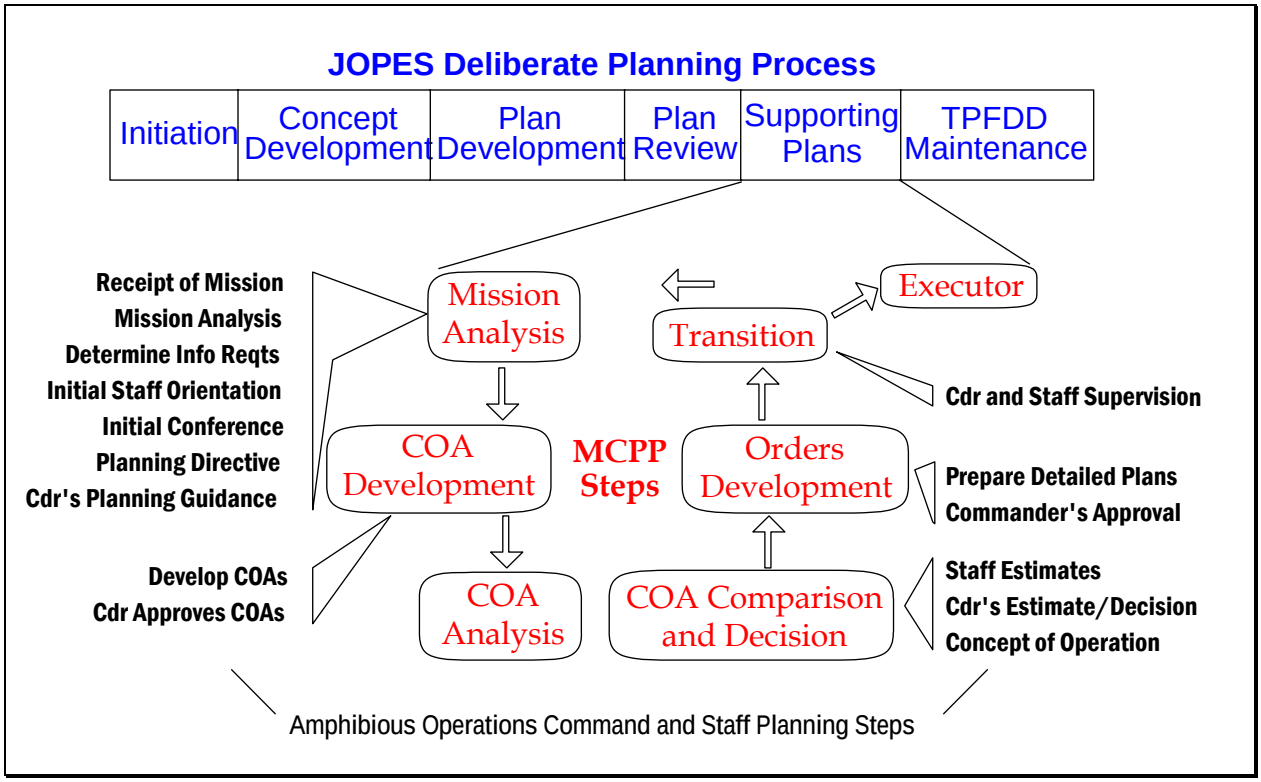

Figure 4-1. Integration of deliberate planning processes.

Deliberate Planning. Deliberate planning at the joint level may produce four types of deliberate plans; operation plans (OPLAN), concept plans (CONPLAN), CONPLANs with (TPFDD), and functional plans. At the MAGTF level, deliberate planning will interact with these joint plans, but is focused on producing an OPLAN or operation order (OPORD). Both joint and MAGTF deliberate planning processes emphasize speed and integration. To ensure speed and integration, MAGTF deliberate planning employs three methods of planning: concurrent planning, parallel planning, and detailed planning. Concurrent planning is planning that is accomplished simulta-neously by two or more echelons of the same command or by corresponding echelons of differ-ent commands. Parallel planning takes place between corresponding units. Using mission-type orders and commander's intent, parallel planning integrates support requirements, and common assigned tasks between corresponding units. Detailed planning is accomplished at all levels to promote, rather than inhibit flexibility. The extent to which a unit accomplishes detailed planning is situationally dependent.

Crisis Action Planning. Joint doctrine describes crisis action planning (CAP) as being conducted for the actual commitment of allocated forces, based on an existing situation.[2] CAP results in the time-sensitive development of campaign plans and OPORDs for execution. CAP follows a JOPES prescribed six-phased development process. In order, they are:

- Situation development.
- Crisis assessment.
- Course of action development.
- Course of action selection.
- Execution planning.
- Execution.

Rapid Response Planning Process (R2P2). The MAGTF may utilize the R2P2 process to construct a plan in a short period of time, usually six hours. R2P2 is practiced by Marine expeditionary units (MEU), and saves time by concentrating on a single COA that is directed by the commander, and relies on unit SOPs instead of a unique OPORD.

Estimates of Supportability

In each of the first four stages of the MCPP, the aviation staff refines the aviation estimate of supportablity. The completed aviation estimate of supportability is presented in the tenth step of the MAGTF amphibious operations 15 step command and staff planning steps described in Joint publication 3-02, *Joint Doctrine for Amphibious Operations*. It is one of the five aviation planning actions required in the 15 step amphibious planning process. The aviation estimate of supportablility is presented as part of the COA comparison/decision step in the MCPP. The estimate may be framed within the five categories of:

- Mission.
- Situation and consideration.
- Analysis.
- Evaluation.

---

[2]Users Guide for JOPES, 1 May 1995. JEL pg9

w Conclusions.

Intelligence Requirements and Sources

Planning for OAS missions requires intensive, timely intelligence information. The more common intelligence products needed for mission success include:

w Friendly and enemy situation

w Enemy order of battle

w Target photographs

w Parametric data on enemy radar emissions

w Weather predictions

The ACE air combat intelligence (ACI) staff is responsible to the ACE G-2 for producing and disseminating aviation-tailored all-source intelligence required for decision making during the planning and execution of MAGTF air operations.[3] The ACI compliments, but does not duplicate the MAGTF G-2 All-Source Fusion Center. The requirements and dissemination section has the specific responsibility for processing all requests for intelligence (RFI), imagery products, target materials and mapping, charting, and geodesy materials from subordinate units. Typically, the ACE will set up a combined planning/briefing area tailored to the situation, assets and personnel available. In this one area weather, target folders, signals intelligence (SIGINT), and other pertinent planning information is made available. It is imperative that OAS planners remember that any RFI **must be identified and requested at the earliest possible opportunity.** Additional information on the organization and function of the ACI can be found in MCWP 3-25.4 (Draft), *Marine TACC Handbook.*

Planning Factors

Planning factors the MAGTF commander may need to consider for OAS operations change with each situation. All factors the MAGTF commander may possibly need to plan for are too numerous to list. In general, planning factors cross the boundaries of each staff section, with emphasis on the G-2 through G-4.

[3]MCWP 3-25.4 (Draft) page 1-84.

Intelligence. In addition to the items discussed under intelligence requirements above, a responsive system for evaluating the effectiveness of the ATO must be planned. This is usually done by post flight mission debriefs, and other intelligence products to measure bomb damage assessment.

Operations. Sortie rates required and aircraft mix must be evaluated for each mission in advance. Sea-based OAS aircraft seldom generate the same sortie rate and time on station that aircraft at forward operating bases ashore can achieve. The mix of aircraft and missions will vary for each theater of operations and mission. If needed, the MAGTF commander will arrange for aircraft to provide SEAD, air refueling, air reconnaissance, and anti-air warfare in support of OAS operations.

Logistics. Equally essential as the determination of sortie rates, is the planning for ordnance. The amount of aircraft ordnance, including expendables such as decoy chaff and flares, and the desired mix of precision weapons to general purpose weapons must be identified early. In addition, aviation fuel and maintenance items such as spare parts must be arranged. In the case of the AV-8B, distilled water must be supplied for each sortie.

Communications. Depending on the situation, the MAGTF command may be required to provide communications sufficient to operate a JAOC, the command post for the JFACC. Although the Marine TACC and the Marine air control group (MACG) are outfitted with the resources to provide communications for the ACE commander, special planning is required if the ACE is designated as the JFACC. Also, when using ship to objective maneuver tactics, communications requirements can stretch from the sea base, several hundred miles inland to multiple objectives. MCWP 3-25, *Control of Aircraft and Missiles* contains more information concerning ACE communications and airspace control.

Planning responsibilities

The single battle concept is the key concept for the ACE to promote in MAGTF planning. The ACE staff is organized to promote the seamless execution of the MAGTF commander's intent through exploitation of the MAGTF's combined arms nature. Simultaneous engagement, synchronized throughout the battlespace, is intended to present the threat with a dilemma: movement of forces to counter MAGTF maneuver will expose them to MAGTF fires; and failure to move forces for fear of losses to MAGTF fires will prevent them from countering MAGTF maneuver. FMFM 5-70, *MAGTF Aviation Planning*, describes the roles and responsibilities for key members of the MAGTF. MCWP 3-25.4, *Marine TACC Handbook (Draft)*, details the working of the ACE battlestaff within the Marine TACC.

MAGTF Commander. The MAGTF commander outlines proactive plans for the use of aviation and identifies his intent to the elements of the MAGTF, including the ACE. The MAGTF commander must understand his aviation capabilities and think of his aviation assets as a maneuver force in his application of combined arms. He must know how to effectively apply his aviation assets in support of the MAGTF. He must use aviation to influence deep operations, support close operations, and protect rear areas. Aviation does not merely support the ground commander's ground operations. Aviation is part of the MAGTF commander's air-ground team. The ACE can be the MAGTF's main effort, the decisive force in the MAGTF's battlespace.

MEF G-3 Air Officer. The MEF G-3 air officer and his staff provide the interface between the MEF commander and the ACE. The MEF G-3 air officer accomplishes the interface by enabling coordination between: the MEF commander's staff in the MEF combat operations center (COC); the force fires coordination center (FFCC), the ACE commander's battlestaff in the TACC; and ACE headquarters staff. The MEF G-3 air officer provides personnel to MEF current and future operations sections, the MEF FSCC, and the RAOC. The staff functions of the MEF G-3 air officer and his staff do not circumvent the command relationship between the MEF commander and the ACE commander. The MEF G-3 air officer's staff does not replace or duplicate the functions of the Marine TACC. Figure 4-2 shows the command and coordination relationships pertinent to MEF-level aviation planners.

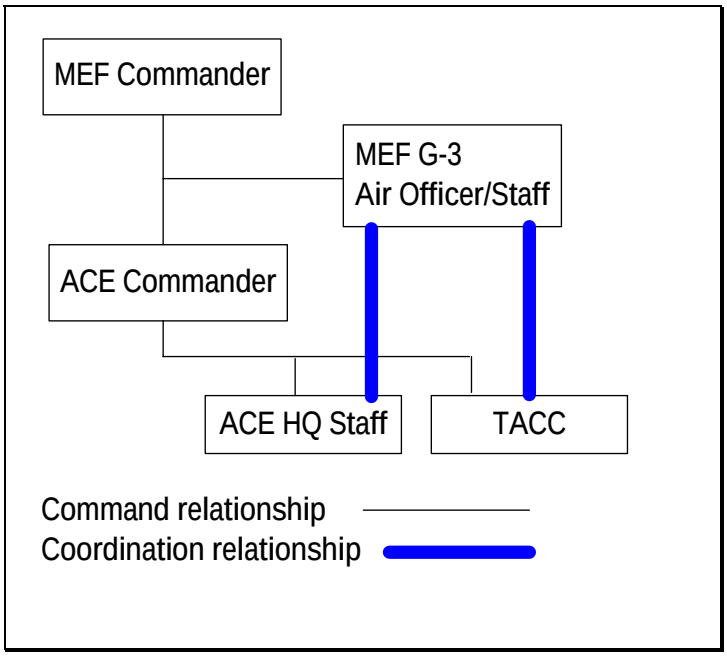

Figure 4-2. MEF Aviation Planning Relationships.

ACE Commander. The ACE commander is the MAGTF commander's aviation expert. In a decentralized planning environment, the ACE commander is free to conduct much of the MAGTF's detailed aviation planning. His actions and decisions must support the MAGTF commander's intent and concept of operations. The ACE commander's responsibilities include:

- Publication of the MAGTF ATO.
- Developing preliminary air operation plans for MAGTF approval.
- Coordinating air operations with the GCE, CSSE and external agencies in a joint or combined force.
- Providing input to the MAGTF target list.
- Recommending target priorities to the MAGTF commander.[4]

ACE Battlestaff. The ACE battlestaff assists the ACE commander in the execution of his duties by providing specialized expertise and advice. The ACE staff and battlestaff, as depicted in figure 4-3, consists of the chief of staff, the principal staff officers, and those special staff officers required by the situation or the ACE commander's desires. The chief of staff is the principal assistant and advisor to the ACE commander. The principal staff officers provide functional expertise and recommendations during deliberations. The staff principals facilitate the ACE's capability to plan and conduct missions across the operational spectrum by directing the activities of their respective staff sections based upon a shared understanding of the ACE commander's intent. The ACE commander exercises his air operations authority through the MACCS. The major MACCS agencies include:

- Tactical air command center (TACC)
- Tactical air direction center (TADC)
- Tactical air operations center (TAOC)
- Direct air support center (DASC)

A detailed discussion of the ACE battlestaff operations within the TACC is found in MCWP 3-25.4, *Marine TACC Handbook (Draft).*[5]

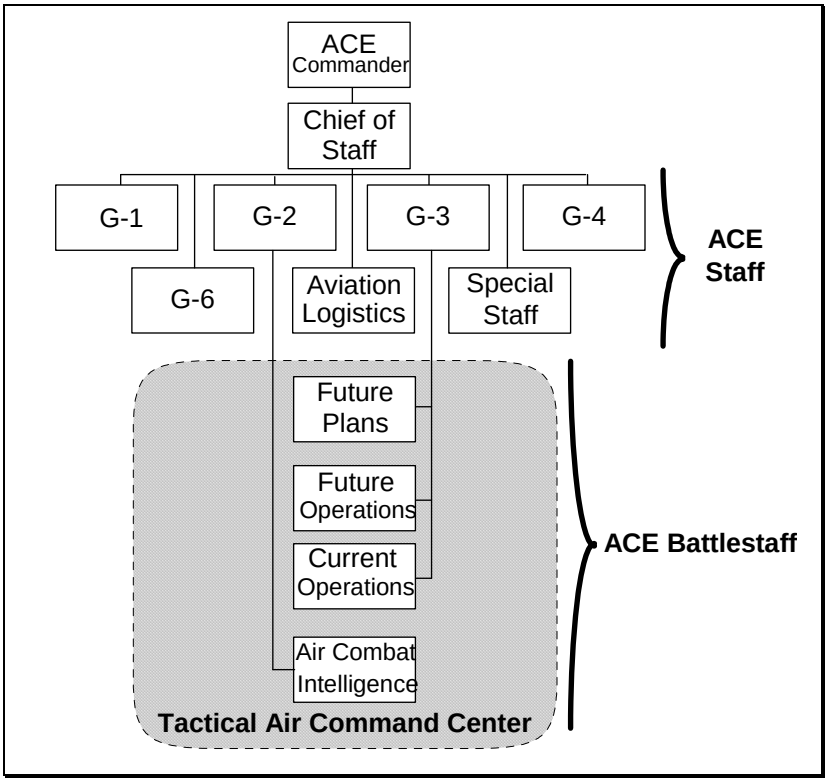

Figure 4-3. ACE Headquarters and TACC.

ACE G-3 Battlestaff Responsibilities. The ACE G-3 battlestaff consists of the future plans, future operations, and current operations sections. Future plans is responsible to the ACE G-3 for aviation planning in support of the next MEF mission. The future plans section has the responsibility for deliberate planning, including COA and OPLAN/OPORD development.[6] The strike support planner will be the key individual in OAS planning for the future plans officer. The future operations section is responsible for developing future MAGTF air tasking orders (ATO), writing the OPORD/FRAGO for the next ACE mission, and for conducting current planning. Producing the next ATO is the primary responsibility of the future operations section. The section also administers the ACE targeting board and provides the nucleus for the ACE operational planning team (OPT). The ATO development

---

[4]FMFM 5-70, MAGTF Aviation Planning, pg 1-4
[5]MCWP 3-25.4, *Marine TACC Handbook (Draft),* Pg 1-2.

process is detailed in MCWP 3-25.4 (Draft) and discussed in the following subsection.[7] The ground watch section, an integral part of the future operations section and composed of representatives from the GCE, will coordinate and deconflict (as required) ground maneuver and supporting arms with planned air operations beyond the FSCL where DAS missions are most likely to occur. Current operations is responsible for the ongoing execution of ACE operations including the execution of the current ACE OPORD/FRAGO, execution of the daily ATO, and assessment of its effectiveness.[8] The execution of preplanned and immediate OAS missions are approved and monitored through task organized cells within the current operations section.

GCE Commander. As an equal MAGTF partner, the GCE commander's input in developing the ACE commander's plan is vital. The synchronization of GCE organic fires and ACE OAS fires is vital to achieve the MAGTF commander's intent in the single battle concept. Synchronization is achieved through GCE planning and execution representation in the ACE battlestaff, and ACE planning and representation in the GCE's COC and FSCC. Detailed understanding of the aviation and ground schemes of maneuver is required to faithfully execute the MAGTF commander's intent.

CSSE Commander. The CSSE commander, also an equal MAGTF partner, provides input necessary in planning and executing the ACE commander's plan. When the CSSE commander is in charge of the RAOC, he requests OAS missions from the ACE to provide for the defense of the rear area. Although logistic maintenance and supply for the ACE is not a specific responsibility for the CSSE, coordination in overlapping areas results in efficient management of scarce resources.

Air Tasking Cycle.

Once he receives the commander's intent and apportionment decision, the ACE commander initiates the MAGTF air tasking cycle. The ATO cycle is an integral tool in the MAGTF planning process. It normally provides a concept of aviation operations for a 24-hour period. By using and completing the cycle, planners can ensure that finite aviation assets are used to achieve their maximum effect with prioritization of resources weighted based on the commander's intent. The precise ATO tasking timeline from commander's guidance to start of ATO execution is specified by the joint force commander, but normally spans a 36 to 72-hour period. There are at least four air tasking orders at any

---

[6]MCWP 3-25.4, pg 1-20.
[7]MCWP 3-25.4, pg 1-38.
[8]MCWP 3-25.4, pg 1-52.

one time: the ATO(s) undergoing assessment (yesterday's), the ATO in execution (today's), the ATO in production (tomorrow's), and the ATO in planning (the day after tomorrow's).

The MAGTF air tasking cycle is divided up into four phases: apportionment/allocation, allotment, tasking, and scheduling. This should not be confused with the six step ATO process used in joint planning. The joint ATO process is covered later in this section. FMFM 5-70, *Aviation Planning*, and MCWP 3-25.4, *Marine TACC Handbook (Draft)* contain detailed information concerning the MAGTF air tasking cycle and ATO construction. A summation of the MAGTF air tasking cycle is covered below.

Apportionment and Allocation. Apportionment is the determination of the total level of effort that should be dedicated to various types of air operations/tasks. The level of effort is determined for a given period of time by priority of percentage. The MAGTF commander makes his apportionment decision based on the ACE commander's recommendation. The ACE commander will make his recommendation based on major subordinate commands' submission of prioritized requirements for aviation support. The air support requirements are validated, prioritized and analyzed by the ACE. The end product is an apportionment recommendation; a determination and assignment of the total expected effort by percentage and/or priority that will be diverted to the various air operations and/or geographic areas for a given period of time.

MAGTF apportionment in the joint environment is *independent of the joint force commander's (JFC) apportionment decisions.* The JFC's apportionment decisions effect only the sorties the MAGTF commander provides to the JFC. The remaining MAGTF sorties may be apportioned in any fashion the MAGTF commander may deem necessary.

Allocation is the translation of the apportionment into the total numbers of sorties available for each operation/task. Once the apportionment is approved, the ATO development officer in the future operations section prepares an air allocation request that lists, by mission type, the projected utilization of ACE sorties. The MAGTF may request joint sorties from the JFACC concurrently with other component commanders as a subparagraph on the ALLOREQ, or submit a request for joint sorties separately in air support request format. The joint force air component commander will subsequently release a sortie allotment (SORTIEALLOT) message that approves or alters the ALLOREQ to meet the joint force commander's intent. The ALLOREQ and AIRSUPREQ are MAGTF products that are typically prepared and submitted on behalf of the MAGTF commander by the TACC's future operations section.

Allotment. Sorties identified in the allocation process are then distributed, or allotted, to support the MAGTF and its elements. It is the allotment process that assigns specific sorties to the GCE and the CSSE. The GCE and/or CSSE commander(s) may then coordinate and integrate those sorties into their fire and maneuver plans. The GCE and CSSE commanders determine the appropriate distribution of these sorties, based on the main effort, to the control of subordinate units. GCE and CSSE commanders determine their preplanned scheduled, and preplanned on-call mission requirements.

Tasking. Tasking is the process of translating the allocation and allotment decisions into orders, and then passing these orders to the units involved. The MAGTF ATO provides instructions that allow executing units to accomplish their missions successfully. The tasking phase concludes once the ACE commander issues that MAGTF ATO.

Scheduling. Scheduling is the assigning of individual aircrews and aircraft to specific mission numbers and issuing squadron flight schedules in accordance with the MAGTF ATO. The scheduling process completes one evolution of the air tasking cycle.

Targeting. The ATO is not unique to OAS sorties, but it is important to remember that OAS sorties, especially DAS sorties, are scheduled on the ATO as a result of target planning. OAS sorties begin as air support requests and are analyzed, prioritized, and tasked to individual sorties. Targeting is the process of analyzing, and assessing the weapons to target mix for a target or target set. The weaponeering board will identify and prioritize targets from the target list for OAS sorties, or another suitable combat arm. The board decides to attack or reattack a target with OAS aircraft, at which time the target is incorporated into the master attack plan. The weaponeering board is composed as the situation depends, but will normally include:

- Deputy G-3.
- Aviation logistics division representative.
- Strike planners.
- Future operations officer.

The integrated ATO process is designed to produce a daily product of varying size dependent on the magnitude of the operation. In this case, the ATO grew to several hundred pages and served as the single source document for the entire flying operation of *Desert Storm.*

- LtGen Charles A Horner[9]

Joint Planning Considerations.

When a joint force is initiated, the JFC may designate a JFACC to exploit the capabilities of joint air operations through a cohesive joint air operations plan and a responsive and integrated control system. When a JFACC is not designated, the JFC may plan, direct, and control joint air opera-tions. The need for a JFACC is based on the JFC's overall mission, concept of operations, the missions and tasks assigned to subordinate commanders, forces available, duration and nature of joint air operations desired, and the degree of unity of command and control of joint air opera-tions required. The authority and command relationships of the JFACC are established by the JFC. These typically include exercising operational control over assigned and attached forces and tactical control over other military capabilities/forces made available for tasking. The responsibilities of the JFACC include, but are not limited to planning, coordinating, allocating, and tasking joint air operations based on the JFC's concept of operations and air apportionment decision. As mentioned earlier, JFACC apportionment does not effect MAGTF direct support requirements. However, the MAGTF is required to make sorties available up-front to the JFC for air defense, long-range reconnaissance, and long-range interdiction up-front. This is to ensure joint coordination of MAGTF sorties (such as DAS missions), throughout the battlespace. Appendix E, the policy for command and control of USMC TACAIR in sustained operations ashore details this agreement. Joint publication 3-56.1, *Command and Control for Joint Air Operations*, explains and describes the role and responsibilities of the JFACC and the joint air tasking cycle.

For operations involving joint or multinational forces, the six step joint air tasking cycle is used to plan joint air missions. It begins with the JFC's air apportionment process and culminates with the combat assessment of previous missions. In joint operations, the MAGTF will conform to the joint air tasking cycle. The joint and MAGTF air tasking cycles are depicted in figure 4-4.[10]

---

[9]Sep 91, *Military Review*, "The Air Campaign", Pg22.
[10]MCWP 3-25.4 pg 3-14.

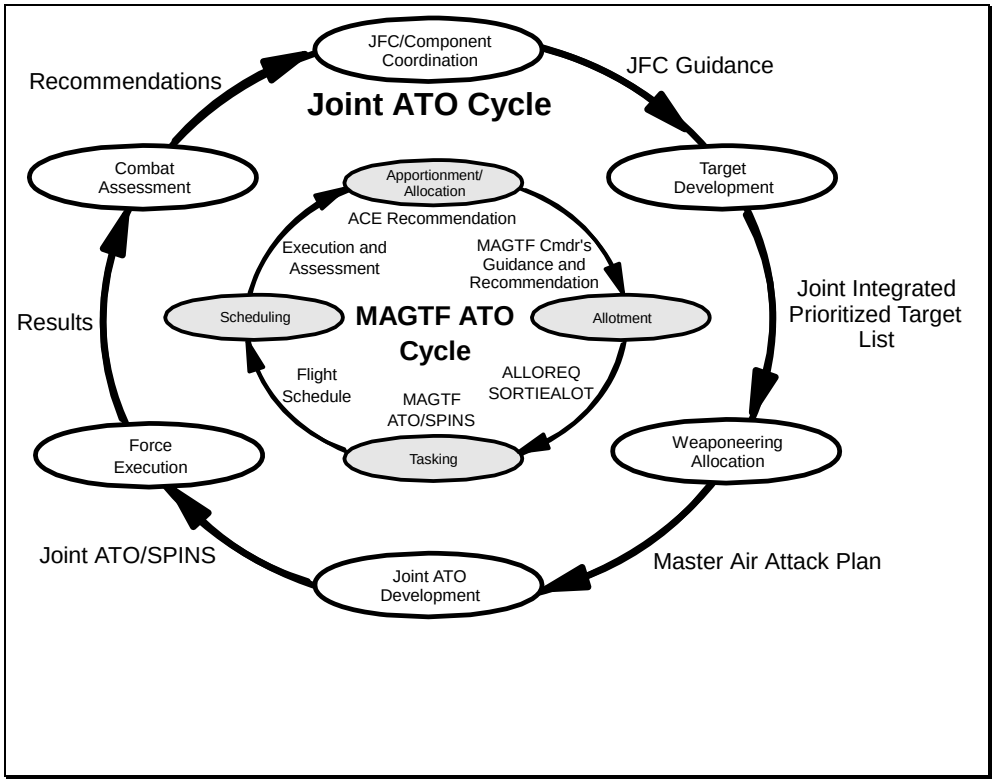

Figure 4-4. Joint and MAGTF air tasking

Phase 1, JFC/Component Coordination. The JFC consults with his component commanders to assess the results of the warfighting effort. This provides component commanders an opportunity to introduce recommendations, support requirements, and state their ability to support other components. JFC will make his apportion decision based on the component commanders' air plan.

Phase 2, Target Development. The specific objectives received during phase 1 are used to focus target development. In accordance with JFC's objectives and component targeting requirements, the JFACC/JFC staff will develop the joint air operations plan to employ available joint air capabilities/forces. The end product is a prioritized list of targets or, the joint integrated prioritized target list (JIPTL).

Phase 3, Weaponeering/Allocation. Targeting personnel quantify the expected results of lethal and nonlethal weapons employment against prioritized targets including recommended aimpoints, target identification and description, and other pertinent information. The final prioritized target nominations are then included into the master air attack plan (MAAP). The resulting MAAP is the employment plan that forms the foundation of the joint ATO. Following the JFC air apportionment decision, the JFACC/JFC staff allocates that decision into total number of sorties by aircraft or weapon type available for each operation/task they support.

Phase 4, Joint ATO Development. After the MAAP is approved by the JFACC (JFC under the JFC staff option), detailed preparations continue by combat plans section on the joint ATO, special instructions (SPINS), and the airspace coordination order (ACO). The JAOC reviews each air capable component's allocation decision/air allocation request message and may prepare a sortie allotment message back to the components as required. It is this phase that a components air sortie deficiencies and overages are smoothed, filled, or distributed as necessary.

Phase 5, Force Execution. The JFACC/JFC staff directs the execution and/or deconflicts all capabilities/forces made available for a given ATO. The JFC may give the JFACC the authority to redirect joint air operations.

Phase 6, Combat Assessment. Combat assessment is done at all levels of the joint force and evaluates combat operations effectiveness in achieving command objectives. If a target is not destroyed and a reattack decision is made, the target will be regenerated in a following ATO.

Tasking methods

Units will forward OAS requests up the chain of command for approval. The MAGTF commander normally requests the preponderance of DAS sorties, maneuver units normally request the preponderance of CAS. Request for OAS may be submitted by message using the USMTF AIRSUPREQ format, or by submission of a JTAR. The AIRSUPREQ is normally used by the ACE in the joint environment. A sample JTAR is found in Appendix D. Early submission of JTARs is essential. JTAR submission should not be delayed because it is incomplete; allowances for uncertainty in the fluid battlespace is assumed. For example, CAS requests may not have detailed target locations, but should include the type of ordnance required to address the expected targets. Joint publication 3-09.3, *Joint Tactics, Techniques and Procedures for Close Air Support (CAS)* has proposed the CASREQ, a new message text format to be included in the USMTF system. The CASREQ does not replace other messages such as the USMTF AIRSUPREQ. Rather it is intended to be used in lieu of the AIRSUPREQ, specifically for close air support requests.

There are two types of air requests, preplanned and immediate. Early submission of preplanned requests help to prevent the need for immediate requests. Detailed information on CAS request procedures can be found in MCWP 3-23.1, *Close Air Support.*

Preplanned requests. Preplanned OAS requests can be either preplanned scheduled or preplanned on-call. DAS requests are almost always preplanned scheduled. Requesting units submit preplanned JTARs to normal fire support coordination agencies, either FSCCs or RAOCs. All requests for OAS are evaluated, consolidated and approved at each level. Once approved, the senior maneuver FSCC or the RAOC sends the requests to the ACE (via the

Marine TACC) for planning and execution. A mission number is assigned to the request and forwarded to the requesting unit.

Preplanned on-call request procedures are identical to preplanned scheduled with the exception that no time on target is defined. The JTAR block 5 C and D will reflect the period of time the mission is desired to be on-call. Preplanned on-call OAS missions can be on strip alert or airborne alert.

Immediate requests. Immediate OAS requests are normally for CAS. Immediate requests can be for DAS as in the case of SCAR missions who might send an immediate request for DAS to exploit an opportunity in the deep battle. Immediate requests are normally made by radio on the tactical air request/helicopter request (TAR/HR) net directly to the DASC. FSCCs/RAOCs monitor immediate requests on the TAR/HR net and indicate consent by silence. The FSCC has responsibility for coordination of CAS. Immediate requests are filled by diverting other scheduled OAS sorties and may not be filled by aircraft loaded with the optimum ordnance for the immediate request.

Command, Control, and Communications

The MACCS consists of various air command and control agencies designed to provide the ACE commander with the ability to monitor, supervise, and influence the application of Marine aviation's six functions. The MACG is responsible for providing, operating, and maintaining principal Marine air command and control system agencies.[11]

The ACE operates under the principle of centralized command and decentralized control. The ACE commander plans, directs and coordinates all aspects of aviation employment to exercise centralized command. The control of aviation assets by MACCS agencies that are responsive to

[11]MCWP 3-25.3, *MACCS Handbook*, pg 1-1.

him and the dynamic changes in the battlespace is decentralized control. In addition, the Marine Corps stresses blending positive and procedural control as appropriate to control its airspace. Where positive control relies on positive identification, tracking, and direction of aircraft within an airspace by electronic means, procedural control relies on a combination of previously agreed upon and promulgated orders and procedures (Joint publication 1-02). Those MACCS agencies that OAS missions will usually interface with are the DASC, the tactical air control party (TACP), and the TAOC. As the situation depends, OAS aircraft may interface with airborne control agencies such as the tactical air coordinator (airborne) (TAC[A]), assault support coordinator (airborne), forward air controller (airborne) (FAC[A]), and SCAR aircraft. A detailed description of these control agencies and the philosophy of control of aircraft and missiles is found in the following publications:

w MCDP 6, *Command and Control*

w MCWP 3-25, *Control of Aircraft and Missiles*

w MCWP 3-25.3, *MACCS Handbook*

The following section will illustrate the flow of a typical mission through normal MACCS agencies.

Intelligence updates

Intelligence updates are critical to keep aircrews informed of the events in a changing battlefield. This is especially true for OAS missions as their purpose is to influence the battlespace to conform to the MAGTF commander's intent. An intelligence update should be incorporated in the mission brief the aircrew perform in the ready room immediately prior to crewing into their aircraft. After engine start, intelligence updates can be provided by MACCS agencies. The local air traffic controller at the airfield can provide threat updates and other pertinent information to aircraft that are taxiing or standing by on strip alert. Depending on the mission, intelligence updates can be provided by different MACCS agencies once the aircraft are airborne.

A typical DAS mission may check in after takeoff with the TAOC to get an update of the long range air picture. If executing armed reconnaissance or SCAR, the mission may check in with the TAC(A) or DASC on a tactical air

direction (TAD) net for updates before proceeding. Upon completion, the DAS mission should report in with bomb damage assessment to the TACC, and include any vital intelligence updates.

A typical CAS mission will normally contact the TAC(A) or DASC after take-off. A threat update, friendly and enemy positions, change in FSCL or change in other control measure may be obtained after check in. The DASC may provide the aircrew with a nine line brief, or the brief will be given from the forward air controler (FAC) with the TACP, or the FAC(A). CAS missions will check out with the DASC after leaving FAC and pass bomb damage assessment(s) plus any other relevant information concerning friendly or enemy disposition. Missions may contact the TACC or TAOC on return and pass the same information as well. Normally, once the aircrew have shut down and finished the maintenance debrief, they will normally go immediately to the intelligence section for a post mission debrief.

Weather Considerations

Technological advances have minimized the impact of weather on aviation operations, but to ensure the providing of OAS in less permissive weather, additional contingencies may need to be planned and provided. During night and periods of reduced visibility, extra control measures may need to be employed through all phases of the mission including take-off and landing. The extra control measures may result in reduced sorties and reduced time on station for OAS aircraft. This is especially true when OAS aircraft are operating from a sea-base, as high sea-states will degrade operations. Poor weather may require instrument recoveries that require OAS aircraft to maintain extra fuel reserves, thus reducing their range and endurance. Certain precision guided munitions and sensors are degraded by weather conditions. The infrared conductivity in the target area will be a factor for such weapons. Extremely cold or extremely hot weather may reduce aircraft sortie rates. Cold hydraulic systems on aircraft must warm up before use or the seals may burst. Hot weather may increase the distance required for take-off and reduce the aircraft payload. Electronic equipment is sensitive to high temperatures, especially when combined with high humidity and/or dust and sand. Large temperature changes will cause fuel to expand and could cause a bladder to leak or rupture.

Weather affects the operational environment as well. Aircraft flying low over snow covered terrain are easy to spot. Snow acts as radar absorbing material masking the terrain it covers. Sand and dust blown up from rotor blades

highlight helicopters. Most of all, extreme weather conditions take a physical toll on the aircrew and maintenance crew servicing the aircraft.

Special Operations

Joint publication 3-5, *Doctrine for Joint Special Operations* states that special operations are a form of warfare characterized by a unique set of objectives, weapons, and forces. Furthermore, special operations are usually joint, but may also be conducted as single-service operations. Special operations occur at the strategic, operational, and tactical levels of war.[12] Marine OAS aircraft can expect to participate in special operations when their unique equipment and/or capabilities are required for a unique mission. The unique capabilities that may cause OAS aircraft to be used in special operations include sea-based location, night operations, and special weapons or tactics.

OAS in Operational Maneuver From the Sea Concepts

OMFTS is the Marine Corps capstone operational warfighting concept for the 21st Century. OMFTS is a naval concept developed by the Marine Corps and executed in concert with the Navy. It capitalizes on naval forces' ability to use the sea as a maneuver space. In addition to the OMFTS concept are other enabling concepts. Among these are STOM and SOA. These concepts are evolving and may be refined into future doctrine. This section will discuss existing doctrine concerning amphibious assaults, raids, demonstrations, withdrawals and command and control required to phase control ashore with an eye toward OMFTS concepts. Additional information on amphibious operation can be found in the following publications:

- Joint Publication 3-02, *Joint Doctrine for Amphibious Operations*
- Joint Publication 3-02.1, *Joint Doctrine for Landing Force Operations*
- NWP 3-09.11, *Supporting Arms in Amphibious Operations*

Amphibious Assaults. An amphibious assault is defined in Joint Publication 1-02 as the princi-ple type of amphibious operation which involves establishing a force on a hostile shore. The principle supporting arms in an

[12]Joint Pub 3-05, Special Operations, pg I-4.

amphibious operation are aviation, naval gunfire, and artillery.[13] OAS operations needed to support an amphibious assault will be outlined in the air plan annex of the operations plan. Because amphibious OAS missions are usually in high demanded, the fire support plan should complement the use of aviation, naval gunfire, and artillery fires. Prior to D-day, OAS will largely be responsible for shaping the battlespace. Missions that OAS aircraft may perform in advance of the amphibious task force landing are neutralization or destruction of enemy forces within the landing area, interdiction of enemy forces capable of interfering with the assault landings, and airborne delivery of mines. On D-day, OAS aircraft will be the primary supporting arm for the landing force while artillery is moving ashore. Naval gunfire may be limited by its range when employing STOM tactics from over the horizon. Missions OAS aircraft may perform on D-day are pre-H-hour neutralization of beaches, drop zones, and helicopter landing zones, preplanned and immediate CAS, SCAR, interdiction, and suppression of enemy air defenses. Post D-day, OAS operations can only be planned in general because actual requirements will depend on the tactical situation ashore. OAS operations post D-day will most likely consist of CAS missions in support of tactical objectives, and DAS missions that shape the battlespace for subsequent operations.

Using OMFTS concepts, OAS missions will be from aircraft capable ships. The air plan will be oriented toward missions that have the aircraft returning to the sea base for turn-around maintenance and crew changes, with the possibility of using FARPs ashore. The distance from the sea base to the objective and the aircraft endurance must be balanced against the required response time. OAS missions may be augmented by joint and coalition aircraft that are both land based and sea-based on an aircraft carrier. Their inclusion places responsibility on the MAGTF for ensuring good communications and coordination with that OAS augmentation.

Amphibious raids. Amphibious raids are conducted as independent operations or in support of other operations, such as another landing, land campaign, or air or naval operation. Depending on the purpose of the raid, they may be conducted by stealth or appropriately supported so that they resemble the early stages of an amphibious assault. Generally, amphibious raids are conducted to:

w Destroy certain targets, particularly those that do not lend themselves to destruction by other means.

[13]Jt Pub 3-02.2 Landing Force ops. Pg VIII-1.

- Harass the enemy by attacks on isolated posts, patrols, and headquarters and to capture or neutralize key personnel.
- Attack the enemy rear or flank positions on a seacoast, in support of forces engaged with the enemy.
- Obtain information on hydrography, terrain, enemy dispositions, morale, strength, movements and weapons.
- Create a diversion in connection with strategic or tactical deception operations.
- Evacuate individuals, including agents, or materiel.
- Establish, support, or coordinate unconventional warfare activities.

An amphibious raid is planned and executed in the same general manner as an amphibious assault, except **a raid always includes provision for withdrawal of the raid force.** Surprise is essential for the success of an amphibious raid. Therefore, OAS missions prior to a raid will most likely be either absent, or limited to those few that are essential for success. Amphibious raids are well rehearsed, their objectives limited and duration short. Therefore, fire support planning can be more detailed and of less volume than for an amphibious assault. The need for surprise and the distance to the objective may conspire to make aviation fires the primary fire support for a raid.

Using OMFTS concepts, STOM tactics lend themselves to amphibious raids especially when employing MV-22 aircraft from over the horizon. OAS missions in this environment will be most useful when planned to interdict critical targets just prior to the raid, and provide fires on the landing zone/objective for the landing force. CAS missions should be planned to be available for the duration of the raid, including the withdrawal.

Amphibious Demonstrations. The amphibious demonstration is intended to confuse the defender as to time, place, or strength of the main operation. Effectiveness of an amphibious demonstration increases in direct proportion to the degree of realism involved in its execution. It is crucial that the enemy receive a convincing impression of preparations for a landing. Amphibious demonstrations can be either within the AOA or outside the AOA. An amphibious demonstration may be conducted with the intent of supporting other, non-amphibious operations in the theater. An amphibious demonstration conducted before, during, or after commencement of another operation may

distract the attention of enemy commanders and induce the enemy to divert major resources from the main area of operations.

An amphibious demonstration normally includes the approach of demonstration forces to the demonstration area, at least a part of the ship-to-shore movement, and employment of supporting fires. A brief but intense preliminary bombardment by naval gunfire will usually be the preferred fire support for a demonstration. Because of the requirement for the demonstration force to execute supporting fires of a nature and scope that ensures credibility, OAS missions may be conducted. However, the danger of losing an aircraft and crew, or capture of aircrew supporting an amphibious demonstration may curtail OAS missions in support of those operations.

Amphibious withdrawals. Amphibious withdrawals are conducted to disengage forces for employment elsewhere. They may be conducted under enemy pressure or voluntarily. Withdrawal begins with establishment of defensive measures in the embarkation area and ends when all elements of the force have been extracted and embarked or reembarked on designated shipping. With respect to OAS planning, amphibious withdrawals are characterized by having abridged planning processes, curtailed fire support means, and circumstances that may render it advisable to conduct the operation under conditions of limited visibility.

During an amphibious withdrawal, OAS missions will be instrumental in interdicting deep targets, and covering the withdraw of the heavy elements such as artillery and tanks. The withdrawal of heavy elements usually will take place under cover of darkness. The primary difference for fire support in an amphibious assault versus an amphibious withdrawal is that in the assault, supporting arms and control facilities are progressively built up ashore, whereas, in a withdrawal, supporting arms and control facilities are progressively decreased ashore until all functions are performed afloat. Sea-based OAS assets will be vital in providing cover to the dwindling forces ashore.

Command and Control Required to Phase Control Ashore. Phasing control ashore is the passing of authority to control and coordinate certain functions from the commander, amphibious task force to the commander, landing force. OMFTS concepts call for a minimum footprint ashore. Command and control functions are accomplished from the sea therefore reducing the footprint ashore. However, some command and control agencies may be established ashore when required. Current doctrine states that the DASC is normally the first principal air control agency established ashore during amphibious operations. The DASC is normally co-located with the senior fire support coordination center. The development of current USMC concepts may evolve to make the DASC the only

Marine aviation agency to be located ashore. Its responsibility for the direction of air operations in direct support of ground forces, and its inherent mobility make it the logical choice to be the ACE's expeditionary agency ashore. Current doctrine regarding the phasing of control ashore in expeditionary operations is detailed in the following publications:

w MCWP 3-25.3, *MACCS Handbook*

w FMFM 1-7, *Supporting Arms in Amphibious Operations*

w FM FM 5-50, Antiair Warfare.

Joint and Multinational Operations

Joint air operations are those air operations performed with air capabilities/forces made available by components in support of the JFC's operation or campaign objectives, or in support of other components of the joint force.[14] To apportion those air capabilities/forces that the MAGTF makes available to the joint force, the JFC may designate a JFACC. The JFC has the authority to exercise operational control, assign missions, direct coordination among his subordinate commanders, redirect and organize his forces to ensure unity of effort in the accomplishment of his overall mission. The JFACC will use the JFC's guidance and authority, and in coordination with other assigned or supporting commanders, the JFACC will recommend to the JFC apportionment of air sorties to various missions or geographic areas. As a result, the MAGTF in joint and multinational operations may have OAS from both organic USMC direct support capabilities/forces and those capabilities/forces allocated to it by the JFACC. Appendix A contains the policy governing joint operations for command and control of USMC tactical aircraft in sustained operations ashore from the UNAAF. More information about air support in a joint force can be found in the following publications:

w Joint Publication 0-2, *Unified Action Armed Forces (UNAAF)*

w Joint Publication 3-0, *Doctrine for Joint Operations*

w Joint Publication 3-56.1, *Command and Control of Joint Air Operations*

w Joint Publication 3-09, *Doctrine for Joint Fire Support (Draft)*

w MCWP 3-25, *Control or Aircraft and Missiles*

CAS and AI. It has been stated that "CAS is CAS," which is to say there are no conflicting Service views of CAS. This holds true in joint and multinational operations. All Services agree on key points concerning CAS; CAS requires detailed planning, coordination, and training for effective and safe execution, and CAS takes place when friendly forces are in close proximity to enemy forces. CAS is a direct support air capability for the MAGTF, and is exempt from the JFC up-front tasking.

Air interdiction destroys, disrupt, diverts, or delays the enemy's surface military potential before it can effectively engage friendly forces, and includes both lethal and non-lethal systems. Air interdiction usually occurs in the deep battlespace, and does not require as much detailed planning and coordination as CAS. ACE forces for air interdiction in the joint environment are not exempted from JFC up-front tasking. The JFC may redirect MAGTF sorties for long range interdiction as well as for air defense and long range reconnaissance if he determines that they are required for higher priority missions. The JFACC is the supported commander for the JFC's overall air interdiction effort.[15] The following publications contain detailed information on AI and CAS in the joint environment:

w Joint Publication 3-03, *Doctrine for Joint Interdiction Operations*

w Joint Publication 3-09.3, *Joint Tactics, Techniques, and Procedures for Close Air Support (CAS)*

w Air Force Doctrinal Document 2-1.3, *Counterland (Draft)*

Command and Control in Joint and Multinational Operations. Successful use of joint air resources to support the JFC's campaign requires unity of effort, centralized planning, and decentralized execution. The JFC may designate a JFACC to coordinate joint air operations. The processes and framework used are consistent across the spectrum of conflict. The JFC integrates the actions of assigned, attached, and supporting forces into unified area of responsibility (AOR)/joint operations area (JOA)-wide joint air operations. In order to create synergism and avoid duplication of effort, the JFC orchestrates the actions of assigned, attached, and supporting capabilities/forces in time, space, and purpose. He does this through the use of control measures and coordinated plans. When

---

[14]Joint Pub 3-56.1 pg I-1.

designated, the JFACC, airspace control authority (ACA), and area air defense commander (AADC) will integrate joint air operations with joint airspace control and joint air defense operations in support of the JFC's campaign. Although these functions may be performed by different individuals, joint doctrine favors the assignment of one person to be the JFACC, ACA and AADC to ensure seamless integration of these functions.

The JFACC's command post isthe JAOC. The JAOC is structured to operate as a fully integrated facility and staffed to fulfill all of the JFACC's responsibilities. The two organiza-tions or functions which should be common to all JAOCs are combat plans (future joint air operations) and combat operations (execution of the daily joint ATO). The JAOC will include senior component liaisons who serve as conduits for direct coordination between the JFACC and their respective component commanders. The liaisons help integrate and coordinate their component's participation in joint air operations and coordinate and deconflict component direct support air operations with joint air operations. The Marine forces (MARFOR) ACE, and all other components should provide the JFACC with a description of their direct support plan through the Marine liaison (MARLO) to allow for coordination and deconfliction of targeting efforts between each component and within the JFC staff and agencies. In addition, the MAGTF's direct support sorties that are not available for joint air tasking must still comply with

[15]Joint Pub 3-03, Doctrine for Joint Interdiction Operations pg viii.

the (ACO) and (SPINS). Detailed information on command and control for joint operations can be found in Joint Publication 3-56.1, *Command and Control for Joint Air Operations.*

The JFC, JFC Staff, and Service Component Commander in Joint Operations. The JFC will not always appoint a JFACC. When joint air operations are the only operations or the duration and scope of air operations are of a very limited nature, the JFC may elect to plan, direct, and control joint air operations. When a JFACC is not assigned, a staff section or individ-ual will be assigned the mission of planning, coordinating, and executing joint air operations. The JFC normally assigns missions and issues mission-type orders to all components. With receipt of the mission goes the authority for each service component commander to conduct operations in accordance with the JFC's intent and concept of the operation.

OAS in Military Operations Other Than War (MOOTW)

Military Operations Other Than War - Exercise Determine Falcon

On June 15, 1998, eighty-five aircraft from 13 NATO countries launched to begin Operation Determined Falcon, an aerial show of force meant to stop violence in Kosovo. "This is a very vivid demonstration of the North Atlantic Treaty Organization's ability to rapidly project power in the (Balkan) region," said Lt. Gen. Michael C. Short, commander of Allied Air Forces Southern Europe. "This is what air power is all about: inherent speed and flexibility to get air power where you need it in a hurry, in a very short time. In addition to AV-8B Harriers from the 26th MEU were air forces from Belgium, Denmark, France, Germany, Greece, Italy, Holland, Norway, Turkey and the United Kingdom. Aircraft participating in the four-hour exercise took off from 15 bases spread throughout six European countries creating an 120-mile air flow over the Adriatic Sea and into the Southern Balkans. The show of force operation was the result of foreign ministers from eight nations warning Yugoslavian President Slobodan Milosevic to call off his operation to put down ethnic Albanian separatists in the southern province of Kosovo by the declared June 16 deadline.

Modern military operations are becoming increasingly involved in MOOTW. MOOTW can occur pre-conflict, post-conflict, and as a deliberate action. MOOTW focus on deterring war and promoting peace while war encompasses large-scale, sustained combat operations to achieve national objectives or to protect national interests. MOOTW are more sensitive to political considerations and often the military may not be the primary player. More restrictive rules of

engagement and a hierarchy of national objectives are followed. MOOTW are initiated by the National Command Authorities and are usually, but not always, conducted outside of the United States.

As in all military operations, MOOTW will have a center of gravity identified. The military force will be engaged in operations to exert the commander's influence on that center of gravity. OAS missions will similarly be oriented to exert influence on the center of gravity. The MOOTW environment is unique in that it can transition quickly from combat to non-combat and back again and often has constraints on the forces, weapons, tactics employed, and the level of violence.

Control of aircraft in the MOOTW environment is uniquely challenging. Depending on the environment, mission, and location of MOOTW operations, the degree of control may need to be more rigorous and the rules of engagement may need to be more restrictive than for higher scale operations. Consequently, in MOOTW environments prone to such dynamic change, all air missions, including both fixed- and rotary-wing of all components, must appear on the appropri-ate ATO and/or flight plan. In addition, all aircraft must monitor a common frequency and operate on designated identification friend or foe (IFF) modes and codes, which must be appro-priately checked prior to mission start. In cases of high density aircraft operations, such as in a properly designated high density airspace control zone or amphibious objective area published on the ACO, aircraft may operate without an ATO mission number. This type of rigorous control is necessary during such MOOTW because the mix of friendly, enemy, and neutral aircraft and mission constraints requires the commander to strictly control flights in the AOR/JOA (e.g., peace operations).[16]

Joint publication 3-07, *Joint Doctrine for Military Operations Other Than War*, identifies six principals for MOOTW that help ensure success and minimize losses. They are:

- Direct every military operation towards a clearly defined, decisive and attainable objective.
- Unity of effort in every operation ensures all means are directed to a common purpose.
- Security is always important and depends on never permitting hostile factions to acquire a military, political, or informational advantage.

[16]Joint Pub 3-56.1, *Command and Control for Joint Air Operations* pg vii.

- MOOTW may require restraint in order to apply appropriate military capabilities prudently.
- Perseverance allows for measured, protracted application of military capability in support of strategic aims.
- Committed forces must sustain the legitimacy of the operation and the host government, where applicable.

There are sixteen types of MOOTW listed in Joint publication 3-07, four of which usually involve OAS, three may, and the remaining ten typically will not. Figure 4-5 shows those types of operations and the probability of utilizing OAS missions to accomplish their objectives.

Type of Operation	Probability of OAS
Arms control	Low
Combating terrorism	Medium
DoD support to counterdrug operations	Low
Enforcement of sanctions/maritime intercept ops	High
Enforcing exclusion zones	Medium
Ensuring freedom of navigation and overflight	Low
Humanitarian assistance	Low
Military support to civil authorities	Low
Nation assistance. support to counterinsurgency	Low
Noncombatant evacuation operations	Medium
Peace operations	Low
Protection of shipping	High
Recovery operations	Low
Show of force operations	High
Strikes and raids	High
Support to insurgency	Low

Figure 4-5. Probability of using OAS for the types of MOOTW.

The OAS environment lends itself to employment of non-lethal weapons on OAS missions. AFDD 2-3, *Military Operations Other Than War* contains additional information of the use of air and space forces is support of MOOTW.

In conclusion, for success of OAS in MOOTW, planning and execution must always take into account the political objective, propensity for change in both the object and the level of violence, and the need for effective and flexible control.

Appendix A
AIRCRAFT CAPABILITIES GUIDE

Aircraft	Service	Ordnance	Laser Tracker	Laser Designator	Mark	Beacon	Other
AV-8B	USMC	Precision Guided Munitions (PGM) General Purpose (GP) Bombs Cluster Bomb Units (CBU) Napalm 5.00”& 2.75” Rockets LUU-2 Flares 25mm Cannon	Yes	No	Rockets	No	ARBS NVG (Radar-Harrier II Plus only)
AC-130	USAF	105mm Howitzer 40mm Cannon 20mm Cannon	No	Yes	Laser 105mm White Phosphorus (WP) 105mm High Explosive (HE)	Yes	FLIR LLTV Radar
F-14	USN	PGMs GP Bombs LUU-2 Flares Aerial laid mines 20mm Cannon	No	(Yes-LANTIRN installed)	(Laser-with LANTIRN)	No	FLIR NVG Radar
F-15E	USAF	PGMs GP Bombs CBU 20mm Cannon	No	(Yes-normally installed)	Laser	Yes	FLIR Radar
F-16	USAF	PGMs GP Bombs 20mm Cannon	No	(Yes-LANTIRN installed)	(Laser-with LANTIRN)	Yes	FLIR NVG Radar
F/A-18	USN USMC	PGMs GP Bombs CBU Aerial laid mines LUU-2 Flares 5.00”& 2.75” Rockets Napalm 20mm Cannon	(Yes-Pod installed)	(Yes-Pod installed)	(Laser-Pod installed) WP Rockets HE Rockets	No	FLIR NVG Radar

Table A-1. Fixed-Wing Aircraft.

Aircraft	Service	Ordnance	Laser Tracker	Laser Designator	Mark	Beacon	Other
AH-1W	USMC	TOW missile Hellfire missile 5.00"& 2.75" Rockets LUU-2 Flares 20mm Cannon	No	Yes	Laser WP Rockets HE Rockets	No	FLIR NVG
AH-64	USA	Hellfire missile 2.75" Rockets 30mm Cannon	Yes	Yes	Laser WP Rockets HE Rockets	No	FLIR NVG (Radar-Later models)
UH-1N	USMC	2.75" Rockets .50 cal machine gun 7.62mm machine gun	No	No	WP Rockets HE Rockets	No	FLIR NVG
OH-53D	USA	Hellfire missile 2.75" Rockets .50 cal machine gun	YES	Yes	Laser WP Rockets HE Rockets	No	FLIR NVG

Table A-2. Rotary-Wing Aircraft.

Appendix B
SAMPLE JOINT TACTICAL AIR STRIKE REQUEST (JTAR)

All US Armed Forces use the JTAR Request Form (DD Form 1972) to request CAS. The use of this form is mandatory unless otherwise authorized by higher authority. Joint Pub 3-56.24, "Tactical Command and Control Planning Guidance and Procedures for Joint Operations (Procedures and Formats)", contains detailed instructions on the use of the JTAR. The following paraphrased instructions are included for reference only.

Section I - Mission Request

Line	Title and Elements	Explanation
1	UNIT CALLED	Identifies the unit designation/call sign/preassigned number.
	THIS IS	Identifies the request originator byunit designation/call sign/ preassigned number.
	REQUEST NUMBER	For preplanned missions, indicates the originator's request number in series. For immediate missions, this number is assigned by the ASCS/DASC.
	SENT	Indicates the time and the individual who transmitted the request.
2	(Mission categories)	
	PREPLANNED: A. PRECEDENCE B. PRIORITY	For preplanned requests, enter precedence (block A) or priority (block B). Precedence is stated numerically in descending order of importance,as determined by the requestor. Priority is expressed as shown below.
	IMMEDIATE: C. PRIORITY	For immediate requests, enter priority (block C). A precedence entry is not required for immediate requests because, by definition, all immediate requests are precedence #1. Use the numerical designation below to determine priority (e.g., define the tactical situation) for preplanned (block B) or immediate (block C): 1. Emergency. Targets which require immediate action and

		supersedes all other categories of mission priority.
Line	**Title and Elements**	**Explanation**
		2. Priority. Targets which require immediate action and supersede routine targets.
		3. Routine. Targets of opportunity. Targets which do not demand urgency in execution.
3	TARGET IS/ NUMBER OF	Describes the type, approximate size, and mobility of the target to be attacked. It is necessary to specify, even if a rough estimate, the number of targets (i.e., 10 tanks) or the size of the target area (i.e., personnel on a 500 meter front). Otherwise planners cannot accurately determine what force is required - aircraft numbers/type and ordnance amount/type.
4	TARGET LOCATION IS	Locates the target by using the military grid reference system prescribed for the area concerned.
	A. COORDINATES	Locates a point target or starting point.
	B. COORDINATES	When used together with A, provides from ____ to ____ coordinates.
	C. COORDINATES	When used together with A and B, provides a route.
	D. COORDINATES	When used together with A through C, provides a route or describes a target area.
	E. TARGET ELEV	Target elevation in feet above sea level.
	F. SHEET NO.	Self-explanatory.
	G. SERIES	Self-explanatory.
	H. CHART NO.	Self-explanatory.
	CHECKED	Indiates with whom target information has been cross-checked.
5	TARGET TIME/ DATE	Indicates the time/date when the airstrike is requested.

	A. ASAP	As soon as possible.
	B. NLT	The target is to be attacked before, but not later than the time indicated.

Line	Title and Elements	Explanation
	C. AT	Indicates time at which target is to be attacked.
	D. TO	Denotes end of period of time in which support such as airborne alert or column cover is required. When D is used with C, B is unnecessary.
6	DESIRED ORD/ RESULTS	Indicates the requestor's desired airstrike results. This is essential information for the planner and must be carefully considered by the requestor.
	A. ORDNANCE	Desired ordnance.
	B. DESTROY	Self-explanatory.
	C. NEUTRALIZE	Self-explanatory.
	D. HARASS/ INTERDICT	Self-explanatory.
7	FINAL CONTROL	Identifies the final controller (FAC, FAC(A), etc.) who will conduct the briefing and control the release of ordnance.
	A. FAC	Transmit the type of terminal control.
	B. CALL SIGN	Call sign of terminal controller.
	C. FREQ	Recommended TAD frequency that is usable on the FEBA.
	D. FIX/CONT PT	Military grid coordinates and/or NAVAID fix of a control point which is the furthest limit of an attack aircraft's route of flight prior to control by the final controller.
8	REMARKS	Allows incorporation of briefing information not included elsewhere in the request. Enter data for the standard CAS brief.

1. IP/BP_____

2. HDG_____ oMAG: OFFSET L/R
3. DISTANCE_____
4. TGT ELEVATION_____ FT MSL
5. TGT DESCRIPTION_____
6. TGT LOCATION_____
7. MARK TYPE -_____ CODE _____
8. FRIENDLIES_____
9. EGRESS_____

Section II - Coordination

Line	Title and Elements	Explanation
9	NGF	Now known as Naval Surface Fire Support (NSFS).
10	ARTY	Artillery coordination.
11	AIO/G-2/G-3	Air Intelligence Officer, G-2, G-3, or other Service equivalent coordination.
12	REQUEST A. APPROVED B. DISAPPROVED	Indicates the approval or disapproval of the request.
13	BY	Indicates the individual who approved or disapproved the request.
14	REASON FOR DISAPPROVAL	Self-explanatory.
15	AIRSPACE COORDINATION PLAN A. IS NOT B. NUMBER	The ACA establishes airspace that is reasonably safe from friendly, surface-delivery, non-nuclear fires. The ACA provides a warning to aircraft of the parameters of surface-delivered fire in a specific area. A plan number or code name is issued, as appropriate.
16	IS IN EFFECT A. FROM TIME __ B. TO TIME __	Establishes the time period that the applicable ACA plan will be in effect.
17	LOCATION A. FROM COORDINATES B. TO COORDINATES	Grid coordinates of the start/end points of the ACA's centerline.
18	WIDTH (METERS)	Defines the ACA from either side of the centerline.
19	ALTITUDE/ VERTEX A. MAXIMUM/ VERTEX B. MINIMUM	ACA altitude given in feet above MSL. (Use A forVERTEX only entry).

Section III - Mission Data

NOTE: Mission data information transmitted to the requesting agency may be limited to those items not included in the request.

Line	Title and Elements	Explanation
20	MISSION NUMBER	Indicates mission number.
21	CALL SIGN	Call sign of mission aircraft.
22	NO. AND TYPE AIRCRAFT	Self-explanatory.
23	ORDNANCE	Type of ordnance either by code number or actual nomenclature.
24	EST/ACT TAKEOFF	Estimated or actual time the mission aircraft will take off.
25	EST TOT	Estimated time on target.
26	CONT PT/RDNVS (COORD/ NAVAID FIX)	The furthest limit of the attack aircraft's route of flight prior to control by the final controller. Same as Line 7, item D, when designated in the request.
27	INITIAL CONTACT	Indicates the initial control agency the flight is to contact.
28	FAC/TAC(A) CALL SIGN FREQ	Call sign and frequency of final control agency.
29	AIRSPACE COORDINATION AREA	Refer to lines 15 through 19 for this data.
30	TGT DESCRIPTION	Self-explanatory.
31	TGT COORD/ELEV	Self-explanatory.
32	BDA REPORT	This optional space is used to record BDA for each mission.
	LINE 1/ CALL SIGN	Call sign of the reporting aircraft.
	LINE 2/ MSN NUMBER	Mission number of the CAS mission for which results are being reported.

Line	Title and Elements	Explanation
	LINE 3/ REQ NUMBER	Requesting unit's request number.
	LINE 4/ LOCATION	The location of the target when it was attacked.
	LINE 5/ TOT	The time the aircraft began attack on the target/the time the aircraft completed the mission and departed the target.
	LINE 6/ RESULTS	The specific results of the mission(e.g., "10 tanks destroyed, 150 KIAs, enemy unit neutralized, mission successful").
	REMARKS	Other information appropriate to the tactical situation or as requested.

Appendix C

POLICY FOR COMMAND AND CONTROL OF USMC TACAIR IN SUSTAINED OPERATIONS ASHORE

The following policy for command and control of USMC tactical air (TACAIR) in sustained operations ashore deals with Marine air-ground task force (MAGTF) aviation during sustained operations ashore:
The MAGTF commander will retain operational control of organic air assets. The primary mission of the MAGTF air combat element is the support of the MAGTF ground element. During joint operations, the MAGTF air assets will normally be in support of the MAGTF mission. The MAGTF commander will make sorties available to the joint force commander, for tasking through the joint force air component commander, for air defense, long-range interdiction, and long-range reconnaissance. Sorties in excess of MAGTF direct support requirement will be provided to the joint force commander for tasking through the joint force air component commander for the support of other components of the joint force or the joint force as a whole. Nothing herein shall infringe on the authority of the geographic combatant or joint force commander in the exercise of operational control, to assign missions, redirect efforts (e.g., the reapportionment and/or reallocation of any Marine Air-Ground Task Force (MAGTF) TACAIR sorties when it has been determined by the joint force commander that they are required for higher priority missions), and direct coordination among the subordinate commanders to ensure unity of effort in accomplishment of the overall mission, or to maintain integrity of the force.

NOTE: Sorties provided for air defense, long-range interdiction, and long-range reconnaissance are not “excess” sorties and will be covered in the air tasking order. These sorties provide a distinct contribution to the overall joint force effort. The JFC must exercise integrated control of air defense, long-range reconnaissance, and interdiction aspects of the joint operation or theater campaign. Excess sorties are in addition to these sorties.

Reprinted from Joint Publication 0-2, *Unified Action Armed Forces (UNAAF)*, 24 February, 1995.

Appendix D

GLOSSARY

AAA	anti-aircraft artillery
AADC	area air defense commander
ACA	airspace control authority
ACE	air combat element
ACI	air combat intelligence
ACO	airspace coordination order
AI	air interdiction
AIRSUPREQ	air support request
ALLOREQ	allotment request
AO	air officer
AOA	amphibious objective area
AR	armed reconnaissance
ARA	armed reconnaissance area
ARBS	angle rate bombing system
ATO	air tasking order
C2	command and control
C4I	command control communications computers and intelligence
CAP	crisis action planning
CAS	close air support
CBU	cluster bomb unit
CIFS	close-in fire support
COA	course of action
COC	combat operations center
CONPLAN	concept plan
CSSE	combat service support element
DAS	deep air support
DASC	direct air support center
EW	electronic warfare
FAC	forward air controller
FAC(A)	forward air controller (airborne)
FARP	forward arming and refueling point
FFCC	force fires coordination center
FLIR	forward looking infra-red
FMFM	Fleet Marine Force manual
FMFRP	Fleet Marine Force reference publication
FSCC	fire support coordination center
FSCL	fire support coordination line
GCE	ground combat element
GP	general purpose
HE	high explosive
HR	high explosive
IR	infrared
JAOC	joint air operations center
JFACC	joint force air component commander
JFC	joint force commander
JIPTL	joint integrated prioritized target list
JMTF	joint messaage test format
JOA	joint operations area
JOPES	joint operation planning and execution system
JTAR	joint tactical air strike request
JTF	joint task force
JV2010	Joint Vision 2010
LANTIRN	low altitude navigation and targeting for night
LOC	lines of communication
MAAP	master air attack plan
MACCS	Marine air command and control system
MACG	Marine air control group
MAGTF	Marine air-ground task force
MARLO	Marine liaison
MCDP	Marine Corps doctrinal publication
MCPP	Marine Corps planning process
MCWP	Marine Corps warfighting publication
MEF	Marine expeditionary force
METT-T	mission, enemy, terrain and weather, troops and support available-time available
MEU	Marine expeditionary unit

FSC	fire support coordinator
MOOTW	military operations other than war
NVG	night vision goggles
NSFS	naval surface fire support
OAS	offensive air support
OMFTS	operational maneuver from the sea
OPLAN	operation plan
OPORD	operation order
OPT	operational planning team
PGM	precision guided munitions
R2P2	rapid response planning process
RABFAC	radar beacon forward air control
RAF	Royal air force
RAOC	rear area operations center
RFI	request for information
SACC	supporting arms coordination center
SCAR	strike coordination and reconnaissance
SEAD	suppression of enemy air defenses
SIGINT	signals intelligence
SOA	sustained operations ashore
SORTIEALLOT	sortie allotment
SPINS	special instructions
STOM	ship-to-objective maneuver
TAC	tactical air controller
TAC(A)	tactical air controller (airborne)
TACAIR	tactical air
TACC	tactical air command center
TACP	tactical air control party
TAD	tactical air direction
TADC	
TAOC	tactical air operations center
TAR	tactical air request
TOW	tank optical wireguided
TPFDD	time phased force deployment data
TTTP	tactics, techniques, and procedures
UAV	unmanned aerial vehicle
UNAAF	unified action armed forces
USMC	U.S. Marine Corps
USN	U.S. Navy
WP	white phosphorus

USA	U.S. Army
USAF	U.S. Air Force

- Big Picture
  - Mission
  - Commander's Intent
  - Scheme of maneuver
  - Commander's planning guidance
- OAS Missions
  - Deep Air Support
    - Interdiction
    - Armed Reconnaissance
    - Strike Control and Reconnaissance
  - Close Air Support
    - Fixed wing
    - Rotary wing
- Threat
  - Surface to air missiles
  - Anti-Aircraft artillery
  - Enemy fighters
  - Electronic Warfare
  - Information operations
  - Force protection in rear area
- Assets
  - Force requirements
  - External support
  - Type, number and capabilities of aircraft available
  - Location of operating bases
  - Turn around times
  - Surge rates
  - Crew rest
  - Day/night availability
- Ordnance
  - Type and number
  - Probability of kill/accuracy
  - Stand off capability
  - Aircraft carriage restrictions
  - Load-out/weapons mix
- Support Assets
  - Air refueling aircraft
  - Electronic attack aircraft
  - Fighter escort
  - Suppression of enemy air defenses (SEAD)
  - Command and coordination communications
- Terrain
  - Masking
  - Navigation
  - Selection of control points, initial points and attack positions
  - Target acquisition
- Weather
  - Sun/moon angle
  - Illumination
  - Cloud layers
  - Precipitation
  - Visibility
  - Temperature
- Navigation
  - Systems
  - Avenues of approach
  - Defense along route
  - DAS
    - Interdiction deconfliction
    - Armed Reconnaissance areas
    - SCAR deconfliction
  - CAS
    - Fixed wing deconfliction
    - Rotary wing deconfliction
  - Minimum risk routes
- Targeting
  - Deliberate
  - Reactive
  - Aquisition/marking
  - Vulnerability
  - Defenses
  - Damage assessment