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# MAGTF Aviation Planning

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(Author's Draft)



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**U.S. Marine Corps**

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# MAGTF Aviation Planning

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## **Part I**

### **The Planning Environment**

The Marine Corps' mission is to provide combat-ready Marine air-ground task forces (MAGTFs) that can operate autonomously, as part of a naval expeditionary force, or as part of a joint force. MAGTFs employ combined arms to present the enemy with a dilemma—a no win situation. In order to counteract the firepower or mobility of one arm, the enemy becomes more vulnerable to the firepower or mobility of another arm.

The MAGTF commander is the warfighter. As the MAGTF commander plans and executes seamless operations through the employment of his combined arms, he maintains an operational outlook. He sets the stage for the tactical actions of his subordinate commanders by clearly transmitting his intent, concept of operations, and mission-type orders.

The ground combat element (GCE) and aviation combat element (ACE) are the two combat arms of the MAGTF. They conduct tactical actions, which may be operationally significant, to support the MAGTF commander's plan. Both the GCE and the ACE can be used as a maneuver force or a source of fires in the MAGTF commander's application of combined arms. In addition, the GCE and ACE may be designated as the Main effort. The MAGTF commander might choose the ACE as his main effort to shape the battlespace prior to contact between friendly and enemy ground forces.

The combat service support element (CSSE) commander plans and executes operations that provide essential logistics functions, activities, and tasks to support and permit force sustainment to all elements of the MAGTF. Although the CSSE is not a combat arm, it may also be designated the main effort.

Effective use of MAGTF aviation requires planning and coordination among all of the MAGTF elements. It is the responsibility of the ACE commander, with the MAGTF commander's guidance, to ensure coordination and interoperability of MAGTF aviation operations with naval operations, joint/combined operations, and their control agencies.

Part I provides a broad introductory discussion of aviation doctrine and planning fundamentals, and it gives the reader an overall view of aviation planning—a micro look at MAGTF, naval, and joint/combined planning environments. A detailed discussion of the MAGTF air tasking process concludes Part I.

## Chapter 1

# Aviation Planning Within the MAGTF

Proper planning must be accomplished if a MAGTF is to successfully integrate its operations within a naval expeditionary force (NEF) or a joint force. Chapter 1 addresses the critical issue of aviation planning at the MAGTF level. Aviation planning within the MAGTF is cyclical and consists of a series of analyses and judgments based on the current situation, previous actions, and future requirements. It is a deliberate and continuous process marked by concurrent, parallel, and detailed planning.

### **Deliberate Planning**

A MAGTF conducting maneuver warfare is a machine with many moving and potentially conflicting parts that operate at great speed. It continually adjusts itself to seize the fleeting opportunities presented in the modern battlespace. Aviation planning must be careful and deliberate to orchestrate these moving parts. The need to accomplish deliberate planning within a time limit has led to the use of three different planning frameworks: concurrent, parallel, and detailed. These frameworks complement each other to produce a timely planning cycle.

### **Concurrent Planning**

Concurrent planning is planning accomplished simultaneously by two or more echelons of the same command or by corresponding echelons of different commands. The skillful use of concurrent planning helps to compensate for the time spent on detailed planning by successive echelons. The detailed planning process can become stalled at any echelon due to lack of information. Subordinate commanders can begin concurrent planning prior to the issuance of written planning documents by using information announced at planning conferences and briefings. Planning memorandums, warning orders, and outline plans provide additional means to disseminate fragmentary planning information. Concurrent planning is kept on track by a common understanding of the commander's intent.

### **Parallel Planning**

Parallel planning results from close and continuous coordination between corresponding units. Coordination requirements, the interrelationship of assigned tasks, and complex support requirements make parallel planning essential. Basic decisions

~~made by individual commanders are based on a common understanding of objectives and procedures obtained from the free exchange of information between units. Mission-type orders, clear commander's intent, and continuous liaison between units provide an atmosphere conducive to parallel planning.~~

### **Detailed Planning**

~~Detailed planning is required at all levels, although its extent is situation-dependent. What is adequately detailed for one operation may not suffice for another. The necessity for economy of means and careful allocation of scarce assets may limit a commander's options. To the maximum extent possible, detailed planning should promote, rather than inhibit, flexibility. Detailed planning allows planners to foresee likely possibilities and develop plans that can respond to changing conditions.~~

Chapter 1 addresses the critical issue of aviation planning at the MAGTF level. At this level the MAGTF commander and his staff use the Marine Corps Planning Process (MCPPE). The MCPPE is an internal planning process used by Marine Corps operating forces. It aligns with and complements the joint deliberate and crisis action planning process found in JP 5-0, *Doctrine for Planning Joint Operations*. For a discussion on the relationship between the MCPPE and joint planning see MCWP 5-1, *Marine Corps Planning Process*, Appendix A. When preparing a supporting plan in a joint campaign, the ACE commander and his staff will use the joint planning procedures and the Joint Operation Planning and Execution System (JOPES) found in the 5 series joint publications. If planning an amphibious operation, the ACE commander and his staff refer to JP 3-02, *Joint Doctrine for Amphibious Operations*, for guidance.

### **Tenets of the Marine Corps Planning Process**

The tenets of the MCPPE—top-down planning, single battle concept, and integrated planning—are derived from the doctrine of maneuver warfare. These tenets guide the MAGTF commander's use of his staff to plan and execute aviation operations. Top-down planning and the single-battle concept ensures unity of effort, while Warfighting functions are used as the building blocks of integrated planning.

#### **a. Top-Down Planning**

Planning is a fundamental responsibility of command. The MAGTF commander not only participates in planning, he drives the process. His intent and guidance are key to planning. The MAGTF commander uses planning to gain knowledge and situational

awareness to support his decisionmaking process. His plan, communicated in oral, graphic, or written form, translates his guidance into a concept of operation. His subordinate commanders use his guidance and concept of operations to accomplish the mission.

### **b. Single-Battle Concept**

Operations or events in one part of the battlespace may have profound and often unintended effects on other areas and events, therefore the MAGTF commander must always view the battlespace as an indivisible entity. The single-battle concept allows the ACE commander to effectively focus the efforts of all the aviation elements of the force to accomplish the mission. While the battlespace may be conceptually divided as deep, close, and rear to assist planning and decentralized execution, the ACE commander's intent ensures unity of effort by fighting a single battle.

### **c. Integrated Planning**

Integrated planning is a disciplined approach to planning that is systematic, coordinated, and thorough. It is based on the warfighting functions of command and control, maneuver, fires, intelligence, logistics, and force protection. ACE Planners use these Warfighting functions to integrate the planning effort and supervise execution of the plan. ACE Planners use integrated planning to consider all relevant factors, reduce omissions, and share information across all the Warfighting functions. The key to integrated planning is the assignment of appropriate personnel to represent each Warfighting function. This does not mean the Warfighting function representative cannot be a staff representative. A Warfighting function representative must be knowledgeable and experienced in his functional area. For a detailed discussion of the Warfighting functions see MCWP 5-1, appendix B.

## **The Marine Corps Planning Process**

The Marine corps Planning Process establishes procedures for analyzing a mission, developing and wargaming courses of action (COAs) against the threat, comparing friendly COAs against the MAGTF commander's criteria's and each other, selecting a COA, preparing an operation order (OPORD) or operation plan (OPLAN) for execution, and transitioning the order or plan to those tasked with its execution. The Marine Corps Planning Process organizes these procedures into six manageable, logical steps. These steps provide the MAGTF commander and his staff, at all levels, a means to organize their planning activities, to transmit plans to subordinates and subordinate commands, and to



share a common understanding of the mission and commander's intent. Interactions among various planning steps allow a concurrent, coordinated effort that maintains flexibility, makes efficient use of time available, and facilitates continuous information sharing.

#### **a. Mission Analysis**

Mission analysis is the first step in planning, and it drives the MCPP. Its purpose is to review and analyze orders guidance, and other information provided by higher headquarters and to produce a unit mission statement. Commanders must issue mission orders with clear intent. Subordinate commanders must have a complete understanding of the mission and the commander's intent before they begin planning. They must also think at the two levels of command above them as they begin to plan and execute the mission.

#### **b. Course of Action Development**

During COA development, planners use the mission statement (which includes the higher headquarters commander's tasking and intent), commander's intent, and commander's planning guidance to develop COA(s). Each prospective COA is examined to ensure that it is suitable, feasible, acceptable, distinguishable, and complete with respect to the current and anticipated situation, the mission, and the commander's intent.

#### **c. Course of Action War Game**

Course of action wargaming involves a detailed assessment of each COA as it pertains to the enemy and the battlespace. Each friendly COA is wargamed against selected threat COAs. Course of action wargaming assists planners in identifying strengths and weaknesses associated risks, and asset shortfalls for each friendly COA. Course of action wargaming also provides the most reliable basis for understanding and improving each COA.

#### **d. Course of Action Comparison and Decision**

In COA comparison and decision, the commander evaluates all friendly COAs against established criteria, and then evaluates them against each other. The commander then selects the COA that will best accomplish the mission.

#### **e. Orders Development**

During orders development, the staff uses the commander's COA decision, mission statement, and commander's intent and guidance to develop orders that direct unit actions. Orders serve as the principal means by which the commander expresses his decision, intent, and guidance.

## **f. Transition**

Transition is an orderly handover of a plan or order as it is passed to those tasked with the execution of the operation. It provides those who will execute the plan or order with the situational awareness and rationale for key decisions necessary to ensure there is a coherent shift from planning to execution. For a detailed discussion on the MCPP refer to MCWP 5-1, Marine Corps Planning Process.

## **Planning Considerations**

The MAGTF commander and his staff use METT-T to address planning considerations ~~plan MAGTF aviation operations within the standard framework of METT-T:~~

- Mission
- Enemy
- Terrain and weather
- Troops and support available
- Time available

**Note:** Planners must remember that throughout the planning process the two most critical issues to remain focused on are the mission and the threat.

The MAGTF commander must consider many factors when developing his planning guidance for aviation operations. He relies on the expertise and advice of his element commanders and their staffs to help him shape his concept of operations.

## **~~The Assigned Mission~~**

~~A complete understanding of the mission is critical to its success. Properly balanced, these top-down (mission and commander's intent) and bottom-up (thinking two levels up) processes ensure unity of effort.~~

## **Control of Air Operations**

The effectiveness of MAGTF aviation depends on the ability of ground assets to interface with airborne platforms. A fully functional Marine air command and control system (MACCS) maximizes the effectiveness of aviation. In addition to its ground-based agencies, the MACCS includes airborne assets functioning as a tactical air coordinator (airborne) (TAC[A]), forward air controller (airborne) (FAC[A]), direct air support center (airborne) (DASC[A]), or assault support coordinator (airborne) (ASC[A]). However, a lack of assets or a degraded interface between MACCS agencies and airborne assets will have a detrimental effect on aviation operations. Since a fully functional MACCS is never a certainty, plans must be simple and

flexible enough to compensate for a margin of degradation.

## **Capabilities**

Aviation offers the following capabilities to the MAGTF.

**Variety of Attack.** Aircraft can perform a variety of attacks and tactics against both airborne and surface targets. The use of surface-to-air weapons (SAWs) complements this airborne capability by providing an even greater choice of attack methods.

**Observation.** Aircrews use sensors or visual observation to observe enemy activity in areas that are hidden from surface observation and to observe large areas of terrain. They relay this information through the MACCS. The surveillance capabilities of MACCS radar systems also enhance and complement an aircrew's observation capabilities. The MACCS integrates this information with other information to form the overall air picture.

**Responsiveness.** Marine aviation can launch from an array of dispersed flight decks and forward operating bases (FOBs). This allows the MAGTF to concentrate overwhelming and accurate firepower against the enemy. Decentralized control of aviation assets allows rapid reaction to changing battlespace conditions. The ACE's ability to rapidly respond to the MAGTF commander's needs allows the MAGTF commander to quickly seize and exploit fleeting opportunities within his battlespace. The MACCS allows the ACE to quickly respond to immediate requests.

**Flexibility.** The employment capabilities and control structure of Marine aviation make it a highly flexible asset. The ACE's variety of aircraft, attack methods, and profiles allows a commander to meet or adapt to changing situations. The ability to employ electronic warfare (EW), unmanned aerial vehicles (UAVs), and refueler aircraft in support roles also enhances the ACE's flexibility. Ground-based anti-air warfare (AAW) assets complement the capabilities of airborne platforms and provide commanders with a choice of weapons and control methods. Control of airborne missions can shift from one MACCS agency to another as required. The integration of aviation with other supporting arms provides additional flexibility.

**Range.** The forward basing of MAGTF aviation can extend its range. Forward-based aircraft and MACCS radars allow friendly forces to detect and engage enemy aircraft and ground-based weapons systems at greater distances.

**Firepower and Mobility.** Aircraft provide the MAGTF commander with his most powerful source of firepower. The wide variety of air-to-ground and air-to-air ordnance that can be brought to bear against the enemy gives the MAGTF commander many options for employment. Mobility allows dispersed aircraft to quickly converge in order to mass their firepower whenever and wherever needed.

**Accuracy.** Sophisticated radar systems aboard Marine aircraft and resident in the MACCS enable accurate location, detection, and identification of enemy targets. The accuracy of airborne and ground weapons system also increase the probability of kill. Radar-/sensor-computed bombing displays provide a pilot with flexible attack profiles that provide near pinpoint accuracy. The technological accuracy of radar systems and airborne and ground weapons systems reduces the number of aircraft, sorties, and ordnance required to destroy or neutralize a target.

### **Limitations**

Effective planning requires early recognition and consideration of factors that limit the effectiveness of Marine aviation.

**Visibility and Weather.** Technological advances have revolutionized night and all-weather capabilities and tactics. The development and use of night vision devices (NVDs), radar, targeting and navigational forward-looking infrared (FLIR), ground proximity warning systems, inertial navigation systems, global positioning systems (GPSs), advanced tactical aerial reconnaissance systems, and other technologies have drastically improved night and all-weather capabilities. Despite these advances, some aircraft are still more capable in certain environments than others. To accurately assess the limiting effects of visibility and weather, planners must know and understand the limitations of each aircraft and its on board systems.

**Target Identification.** The inability to identify an airborne or ground target can limit air operations. Visual means combined with existing/emerging technologies (FLIR, radar, NVDs, laser, datalink, inertial navigation system, global positioning system, etc.) and accurate target descriptions increase target identification capability.

**Time on Station.** All aircraft have time on station limitations, which affect the aviation capability of the MAGTF. Using

airborne tankers and cyclic operations may minimize these limitations.

**Radius of Action.** The amount of fuel on board, flight profile, and weapons/sensors load limits an aircraft's radius of action. Refueling, while airborne or at FOBs, reduces the effect of this limitation, but it also requires additional planning, coordination, and support assets.

**Range.** The maximum effective range of aircraft weapons and sensors and ground-based radars used by the MACCS and SAW units is a limiting factor. The range of communications equipment is also a limiting factor.

**Line of Sight/Terrain Masking.** Line of sight (LOS) and terrain masking affect all radars and many communications means. Breaks in LOS combine with terrain features to mask target areas and create blind spots in radar and communications coverage. Proper site selection and placement of equipment can reduce LOS and terrain limitations. The use of airborne radar platforms, satellite communications, relay/retransmission, and other technological advances can reduce LOS and terrain masking limitations.

**Enemy Air Defenses.** Enemy defenses can limit the scope of air operations conducted by the MAGTF. The sophistication and capability of enemy air defenses influence the amount and method of aviation asset employment necessary to accomplish the mission.

**Communications.** Effective command, control, and coordination of aviation assets depend on reliable communications means. Degraded MAGTF communications, due to the condition of the equipment or enemy efforts to disrupt communication, limit the effectiveness of MAGTF aviation. Careful planning and the use of redundant communications architectures can help offset this limitation. See ~~FMFM 3-30, Communications~~ MCWP 3-40.3 Communications and Information Systems.

**Logistic Constraints.** A degraded aviation logistics capability limits MAGTF aviation capabilities. An aircraft is useless to the MAGTF commander if fuel, repair parts, and ordnance are not available to keep it combat ready. Preplanning aviation logistics requirement is essential to minimize this limitation.

**Phasing Ashore.** Phasing ashore is the physical process of moving combat power ashore. This type of movement takes

considerable time and manpower. The goal of phasing ashore is the seamless transition of power from the sea to shore without loss of operational readiness. To achieve this goal, skillful planning is required to minimize the limiting effects of phasing ashore. Planners must determine the size and amount of equipment and any special movement considerations.

### **Achievement of Local Air Superiority**

To achieve local air superiority, MAGTF operations must be free of prohibitive interference by enemy air assets. Although the complete destruction of the enemy air strength may not be possible, all elements of the MAGTF must be provided with air defense during this operation. See Joint Pub 3-01, Joint Doctrine for Countering Air and Missile Threats and MCWP 3-22, Antiair.

### **Access to Control Agencies**

Planners must ensure that all MAGTF echelons have direct access to agencies that control close air support (CAS) aircraft in the event that CAS is required. Intermediate ground command levels may countermand or modify requests of subordinates for CAS at the time the requests are made to the CAS control agency.

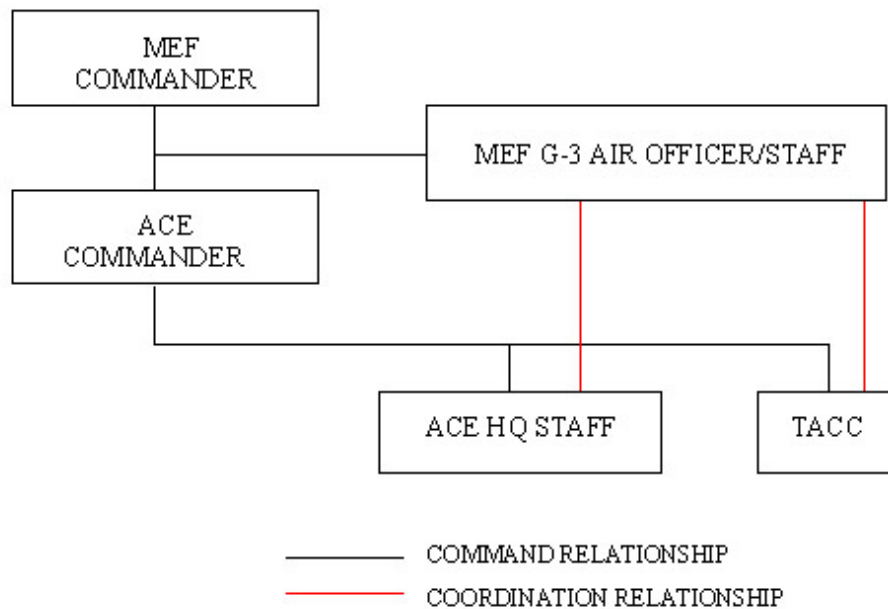
### **Role of the MAGTF Commander**

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. It is part of the MAGTF commander's air/ground team. Aviation can be the main effort or the decisive force in the MAGTF's battlespace. The MAGTF commander outlines proactive plans for the use of aviation and identifies his intent to the ACE. Working closely with the ACE, the MAGTF commander ensures that the ACE's planning of aviation operations supports his intent for MAGTF operations and does not stray from his combined-arms concepts.

### **Role of the MEF G-3 Air Officer and His Staff**

The Marine expeditionary force (MEF) G-3 air officer and his staff interface between the MEF-level MAGTF commander and the ACE. They provide the MEF commander with aviation expertise at the command level. The presence and assistance of the MEF G-3 air officer allows the MAGTF commander to develop his plans with a thorough understanding of aviation capabilities and limitations. The MEF G-3 air officer and his staff interface

between the MEF commander's staff and combat operations center (COC)/fire support coordination center (FSCC) and the ACE commander's battlestaff (Marine tactical air command center (TACC) and ACE HQ staff. They also provide personnel to MEF current and future operations section, the MEF FSCC, and the rear area operations center (RAOC). These personnel provide MEF air operations expertise to these sections/agencies. 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. They do not replace or duplicate the functions of the Marine TACC. Figure 1-1 shows the command and coordination relationship pertinent to MEF-level aviation planners.



**Figure 1-1. MEF Aviation Planning Relationships.**

Specifically, the MEF G-3 air officer and his staff perform the following functions:

- Maintain the status of air operations in support of all current and future MEF operations.
- Coordinate with MEF current operations section (COS), MEF future operations section (FOS), MEF FSCC, GCE, GSSE, and RAOC to ensure that they understand the CE concept of operations.
- Consolidate and review the MEF's aviation requirements, including preplanned air requests submitted by MEF major subordinate commands and coordination with the MEF COC/FSCC and ACE, as required.

- Provide targeting and air tasking input per requirements and requests.
- Disseminate battle damage assessment from air missions to MEF current and future operations sections.
- Coordinate air operations with joint, other services/nations, host country, and other external agencies.
- Ensure that any external tasking of MEF air assets are coordinated between the CE, MEF, and applicable external agencies/commands.
- Coordinate request by the MAGTF for air support from sources other than the ACE.
- Ensure MAGTF air operations are coordinated with joint air operations via the MEF liaison branch of the joint force air component commander (JFACC) staff.

Note: It may be necessary to augment the MEF air staff with additional personnel in order to successfully accomplish all of these functions.

### **Role of the GCE and CSSE Commanders**

Aviation planning is not the exclusive domain of the MAGTF and ACE commanders. The GCE and the CSSE also provide vital input to the aviation planning process. Their degree of involvement is determined by the mission, the role of aviation in the MAGTF's concept of operations, and the enemy situation. As GCE and CSSE commanders conduct their own planning, they must address their aviation requirements. They must make recommendations to the MAGTF commander and regularly coordinate with the ACE concerning aviation issues. Aviation issues include, but are not limited to, the following:

- Developing ~~essential elements of information (EIs)~~ priority intelligence requirements (PIRs) and ~~other intelligence requirements (OIRs)~~ the commander's critical intelligence requirements (CCIRs) for aviation operations and submitting them to the MAGTF G-2.
- Recommending objectives and air defense priorities.
- Nominating targets.
- Providing input for the implementation of AAW areas; including delineation of the vital, destruction, and surveillance areas.
- Determining GCE and CSSE requirements for aviation operations.
- Ensuring a common understanding of procedures, plans, and control measures.



## **Role of the ACE Commander**

The ACE commander is the MAGTF commander's aviation expert. His inputs are critical to the development of the aviation estimate of supportability, the air plan, and the air operations annex to the MAGTF operation order. In a decentralized planning environment, the ACE commander is free to conduct much of the MAGTF's detailed aviation planning. However, the ACE commander's actions and decisions must support the MAGTF commander's intent and concept of operations. He provides the detailed planning that supports the MAGTF commander's broad concept for employment of aviation assets. The ACE commander's responsibilities include—

- Developing ~~EEI~~ **PIRs** and **QIRCCIRs** and submitting them to the MAGTF G-2.
- Developing preliminary air operation plans for MAGTF approval.
- Coordinating air operations with the GCE and CSSE.
- Coordinating externally with the **NEF** and joint task force (JTF) as necessary.
- Developing the MAGTF air tasking order (ATO).
- Receiving the MAGTF's initial assessment of the enemy air defense.
- Providing input to the MAGTF list of targets.
- Recommending target priorities to the MAGTF commander.
- Submitting external support requirements requests to the MAGTF commander.
- Recommending air defense priorities (along with the GCE and CSSE commanders) to the MAGTF commander.

One of the most critical and challenging responsibilities of the ACE commander is the publication of the MAGTF ATO. The MAGTF ATO provides a concept of operations for a 24-hour period. It reflects the MAGTF commander's priorities and allocates assets for specific unit tasking. See chapter 4 of this manual and MCWP 3-25, *Control of Aircraft and Missiles*, for a detailed discussion of the ATO.

## **Role of the ACE HQ Staff**

Long-term planning is conducted by the G-3 plans section of the ACE HQ staff. This staff focuses on aviation operations that occur well into the future (beyond 48 hours) and coordinates with higher, adjacent, and external agencies.

## **Role of the ACE Battlestaff**

The ACE battlestaff conducts near-term planning and current execution of aviation operations. The ACE battlestaff consists of the senior watch officer (SWO), the intelligence watch

officer (IWO), the FOS, and the COS. The need to continuously man the ACE battlestaff with qualified planners, combined with the dynamics of continuous operations, requires detailed turnover briefs and close coordination.

Note: The manning requirements of the FOS and COS should be very specific if all six functions of MAGTF aviation are to be planned and executed.

The Marine TACC provides the facility from which the ACE commander and his battlestaff plan, supervise, coordinate, and execute MAGTF air operations. Marine TACC personnel come from the ACE staff and from the Marine air control group (MACG). The Marine TACC's organizational structure is based on the size and scope of the operation and the Marine TACC's intended role. Its structure must be flexible enough to satisfy the requirements of the ACE commander in any tactical situation. Linkage with the MAGTF FSCC/COC allows the Marine TACC to integrate ACE operations with the MAGTF command element. The Marine TACC is also linked to the tactical air operations center (TAOC)/sector anti-air warfare coordinator (SAAWC) and the direct air support center (DASC) to facilitate control, coordination, and planning.

Figure 1-2 shows the ACE commander's relationship with the G-3/S-3 planning section (long-term planning) and the Marine TACC/battlestaff (near-term planning and execution).

### **Senior Watch Officer**

The SWO is the direct representative of the ACE commander in the Marine TACC. He is responsible for the overall functioning of the COS and the FOS. He is the key coordinator between the COS, the FOS, and the Marine TACC and the ACE commander and his staff. He also ensures that the IWO integrates and coordinates with both the COS and FOS.

### **Intelligence Watch Officer**

The IWO is responsible to the SWO for maintaining an accurate display of the enemy situation, both air and ground. Although he primarily supports the COS, he also advises the FOS on possible future enemy courses of action. He is the coordinator of all Marine TACC intelligence functions. He coordinates with outside intelligence agencies to ensure that EEIs, imagery, status boards, and dissemination of information are available and current.

### **Current Operations Section**

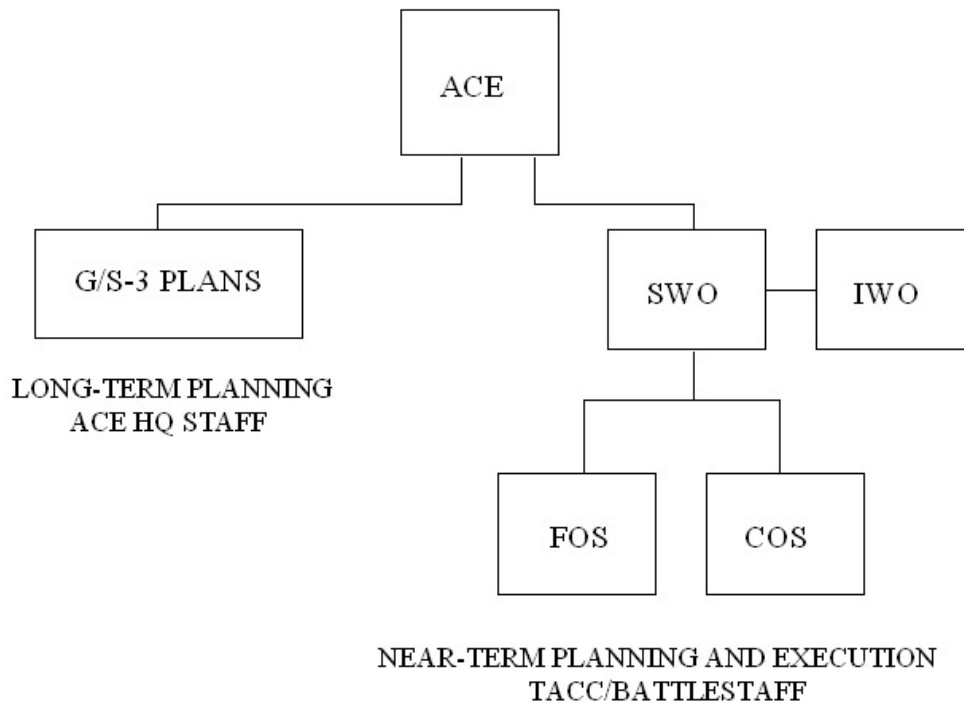
Execution of current operations is managed by the ACE commander from the Marine TACC. He is assisted by the COS of the ACE battlestaff. The COS manages the execution of the current day's ATO (developed by the FOS) and assists the commander in making timely, tactical decisions regarding operations conducted within 0 to 24 hours. The COS helps the ACE commander maintain situational awareness by monitoring communications nets, viewing and updating data link pictures and plotting boards, and maintaining contact with external agencies. The COS is staffed with the following personnel:

- Senior air coordinator (SAC) (overall in charge).
- Air defense coordinator (ADC).
- Air support coordinator (ASC).
- Tactical air watch officer (TAWO).
- Assault support watch officer (ASWO).
- Track data coordinator (TDC).

### **Future Operations Section**

The FOS develops tomorrow's air operations plan and ATO. The plan is formulated based upon the planning guidance received from the ACE commander and is structured to follow the framework of the long-term plan developed by the G-3/S-3 plans section. The FOS collects inputs from supported MAGTF units (via MAGTF G-3 air staff) and integrates them into the next day's plan. The following representatives are normally required to adequately man a FOS planning staff for operations involving all six functions of MAGTF aviation:

- G-3/S-3 watch officer (overall in charge).
- Fixed-wing tasker.
- Rotary wing tasker.
- Weapons employment officer.
- Planning officers for six functions of MAGTF aviation (as required).
- Liaison officers (as required).



**Figure 1-2. ACE Planning Relationships.**

**Initiating the MAGTF Aviation Planning Sequence**

Aviation planning parallels the MAGTF command and staff action sequence. Upon mission receipt, the ACE commander and the G-31S-3 staff review the MAGTF commander's intent and conduct an initial mission and threat analysis. They analyze and develop an initial list of implied missions. The plans section of the G-3/S-3 staff analyzes the available information and determines the requirement for additional information (EEPIRs). The G-3/S-3 plans section begins developing an operational sequence for the ACE, focusing on the objectives outlined by the MAGTF commander. The G-31S-3 plans section assists the ACE commander in developing the apportionment to accomplish the assigned tasking. Once the ACE commander has reached some basic decisions, he provides the battlestaff with his guidance and recommendation for apportionment.

**ACE Commander's Guidance**

The ACE commander's guidance to the battlestaff and his subordinate units is normally given in an intent and concept of operations format. Figure 1-3 provides a framework for the ACE commander's guidance.

**General Situation**

- Review of the joint force mission and commander's intent (if applicable).
- Review of the MAGTF mission and commander's intent.
- Review of the MAGTF commander's main effort.
- Review of the MAGTF commander's approach to phasing the operations.
- Review of the ACE tasking by the MAGTF commander.

**The ACE Commander's Intent (Principal Objectives)**

- Purpose of the operation.
- Critical vulnerabilities and centers of gravity for both enemy and friendly forces.
- Vision of how the operation will be conducted in a broad scope.
- Description of the end state with respect to the relationship of the force, the enemy, and battlespace.
- Description of how the end state will facilitate future operations.

**ACE Commander's Concept of Operations (Plan of Execution)**

- Description of the sequence of operations from the ACE perspective. This will help define the "how," "when," and "why" for subordinates.
- Definition of phases and how they relate to the MAGTF plan.
- Determination of criteria that will cause the ACE to shift from phase to phase.
- Determination of who will be the main effort during the various phases.
- Description of contingencies that would substantially alter the ACE plan.

**Additional Considerations**

- Rules of engagement.
- Task organization.
- Delegation of authority and command and control.
- MAGTF air defense priorities.
- Etc.

**Figure 1-3. ACE Commander's Guidance Format.**

## **FOS Planning**

FOS planning starts upon receipt of the ACE commander's guidance. The initial planning process must be completed in a matter of a few hours. A rough plan must be developed that supports the commander's intent and main effort on paper as soon as possible so that subordinate units will have sufficient time for detailed planning. Many tasks must be completed in a limited time:

- G-3/S-3 watch officer consolidates information received via joint tactical air strike requests (JTARs), joint tactical air reconnaissance/surveillance requests (JTAR/SRs), and assault support requests (ASRs).
- Planners review the MAGTF, GCE, and CSSE schemes of maneuver and the ACE commander's guidance with the bafflestaff to ensure that all members clearly understand priorities and intent.
- Air requests are prioritized and sequenced based on the ACE commander's guidance.
- The enemy situation and the threat are assessed.
- If necessary, FOS planners initiate requests for additional information.
- The FOS develops a list of threats that must be addressed if the ACE is to effectively conduct air operations in the MAGTF sector.
- A timeline for inputs and completed action items is developed.

Additionally, the FOS allocates MAGTF aviation assets within the guidelines set by the MAGTF commander's apportionment decision. The following tasks comprise the allocation process:

- List all specified tasks and prioritize.
- List all critical implied tasks and prioritize.
- Determine aircraft availability and sortie rates/turn-around times.
- Review the air defense plan and compare it with the air defense priorities to determine AAW requirements.
- Review target list and targeting folders/information.
- Determine specific requirements for all six functions of MAGTF aviation and the subfunctions they encompass, including the numbers of aircraft/sorties required.
- Determine multi-role/multi-mission capabilities of assets available.
- Determine periods of vulnerability, surge periods, and other critical time periods.

- Review the ACE commander's apportionment recommendations and priorities.
- Construct an initial timeline of events.
- Allocate assets based on priorities,, specified and implied tasks, and aircraft capabilities.

Once the initial allocation is completed, the FOS reviews the existing operations order or airspace control order (ACO) to determine if the published routing, control points (CPs) and initial points (LPs), command and control (C<sup>2</sup>) architecture, and surveillance plan support the new plan being developed. Next, FOS planners must address issues that require the ACE commander's approval. Some of these issues include, but are not limited to-

- Launch and divert authority.
- Delay/abort/change authority.
- Changes to rules of engagement (ROE).
- Reasonable assurance issues (requires MAGTF commander approval).

The final process in the allocation process is to review the planning accomplished thus far and perform the following, as applicable:

- Fill all preplanned JTARs, JTAR/SRs, and ASRs.
- Allocate for immediate CAS missions.
- Allocate for on-call tactical recovery of aircraft and personnel (TRAP) and medical evacuation (MEDEVAC).
- Determine requirements for airborne controllers and coordinators (TAC[A]/ASC[A] or FAC[A]).

Once these actions are completed, the FOS staff prepares to deliver the concept of employment briefing to the ACE commander.

### **The ACE Concept of Employment Brief**

The concept of employment brief is the first brief given to the ACE commander by the FOS. It is a general description of how the FOS has allocated the assets and how they envision accomplishing the assigned tasks based on the ACE commander's guidance. The briefer should use maps and other aids, as necessary, to paint an adequate picture for the ACE commander. This brief is the G-3/S-3's vehicle to communicate the proposed plan to the ACE commander for his approval. It allows the ACE commander to review the plan, make changes, or provide additional guidance early in the planning process. The brief should be clear and concise and-

- Provide the ACE commander with a picture of how the plan is taking shape.
- Show the ACE commander how the planners in-tend to use the ACE assets to accomplish the ACE objectives in support of the MAGTF.
- Describe how tasking will be accomplished.
- Provide a broad sequence of events.
- Identify any unresolved issues.

### **Refining the Plan**

During the concept of employment brief, the ACE commander provides input and guidance on the direction that he wants the plan to take. Following the briefing, the G-3/S-3 issues warning orders to subordinate units that have not yet received them. The P08 incorporates the ACE commander's inputs and conducts the necessary coordination to finalize the aviation plan. The FOS-

- Reviews the enemy situation and updates the plan, as required.
- Incorporates additional support requirements as necessary (fuel, ordnance, special equipment, external support, etc.).
- Addresses issues of concern that surfaced during the courses of action brief.
- Develops a final sequence of events (master plan).
- Determines the number of sorties to be given to the joint force commander (JFC) for joint force use (sorties requested by the JFC for long-range reconnaissance, long-range interdiction, and air defense plus any excess sorties after MAGTF requirements have been met).
- Conducts internal mission coordination and deconfliction.
- Reviews the airspace control plan (ACP)/ACO.
- Reviews the communications plan.
- Reviews the target area/objective area flow and deconfliction.
- Drafts the MAGTF ATO.
- Develops the coordinating instructions and special instructions (SPINS).
- Conducts continuous coordination with MAGTF, GCE, CSSE, subordinate units, and mission commanders.

Planning and coordination continue between the FOS and subordinate units until the plan is executed. Once the plan is refined, the FOS concentrates on developing a confirmation briefing for the ACE commander and his staff.

### **The Confirmation Brief**

The confirmation brief helps the ACE commander, his staff, and



key participants understand how the different missions within the air operation are integrated and where a particular mission fits into the overall plan. This briefing, short of ATO dissemination, is the end product of the ACE battlestaffs planning effort. In most cases, the confirmation briefing is where the whole plan comes together. A confirmation briefing may not always be possible, but it is strongly recommended if time permits. It should present the following information:

- How ACE assets are used to achieve the assigned objectives.
- How ACE assets are integrated to maximize their effectiveness.
- How the ACE and GCE have integrated their fire support plan.
- How the C<sup>2</sup> system manages the air defense plan.
- How the C<sup>2</sup> plan supports the flow of critical information.
- How airspace control measures support the operation.

### **Completing the Aviation Plan**

Immediately following the conformation brief, the FOS finalizes the MAGTF ATO. The MAGTF ATO's distribution to unit commanders for scheduling marks the end of a MAGTF aviation planning sequence.

### **Rapid Response Planning**

MAGTFs may be faced with situations where quick action is required affording little time for planning. For example, a Marine expeditionary unit (MEU) may have to quickly conduct a noncombatant evacuation operation (NEO), in-extremis hostage rescue (IHR), TRAP, or raid. In these situations, rapid response planning must be used. Rapid response planning is not an abandonment of the deliberate planning process. It is deliberate planning that is constrained by time. The idea is to streamline the process by advance thought, action, coordination, and positioning and the skillful use of concurrent and parallel planning.

To allocate the reduced time available for planning, a 1/3-2/3 rule is considered optimum. One-third of the time for staff planning and two-thirds of the time for major subordinate command planning—although a 50/50 division of time may be more realistic. MAGTFs will have standing operating procedures that address rapid response planning. Appendix A contains a notional rapid response planning timeline that addresses a need to respond in 6 hours (possibly a MELT operation).

## Chapter 2

# MAGTF Aviation Planning for Amphibious Expeditionary Operations

Expeditionary operations are operations conducted by an armed force to accomplish a specific objective in a foreign country. Amphibious operations are expeditionary operations launched from the sea by naval and landing forces embarked on ships or craft and involve landing on a hostile or potentially hostile shore. MAGTFs are trained and equipped to conduct amphibious operations. This chapter discusses issues critical to MAGTF aviation planners operating in an amphibious environment.

### Command Relationships Within the ATF

The interrelationship of naval and landing force (LF) tasks during the planning and execution of an amphibious operation requires the establishment of parallel chains of command and corresponding commanders at all levels of the amphibious task force (ATF) organization. The following command relationships apply:

- The commander, amphibious task force (CATF) is responsible for the operation. He exercises operational control (OPCON) over the entire force, except during the planning phase.
- The commander, landing force (CLF) has OPCON over the LF.
- The CATF and CLF are on a corresponding level of command with regard to their respective components.
- The CATF, through the Navy chain of command, handles matters of command that affect only Navy forces.
- The CLF, through the LF chain of command, handles matters of command that affect only the LF.
- Matters of command that affect both the Navy and the LF are dealt with through the corresponding Navy and LF chains of command. Commanders at all levels are required to maintain close and continuous coordination to ensure that no commander makes decisions affecting corresponding commanders without consultation, except in emergency situations. The commander making an emergency decision notifies the corresponding commanders of his action at the earliest practicable time.
- Corresponding commanders are established at each subordinate level of both naval and LF elements.

## **The Initiating Directive**

The initiating directive is an order to the CATF to conduct an amphibious operation. Its dissemination begins the planning process. The initiating directive may not be a single comprehensive document. For example, during crisis action planning for a contingency operation, the initiating directive's information may be found in several orders: warning order, alert order, planning order, and execute order. The initiating directive—

- Establishes the ATF.
- Assigns a mission.
- Provides forces to accomplish the mission.
- Assigns assault shipping for both the assault echelon and assault follow-on echelon.
- Designates CATF, CLF, and other commanders, as appropriate.
- Defines the amphibious objective area (AOA) in terms of sea, air, and land space.
- Provides code words for the operation name and for other key specifics about the operation.
- Sets target dates for the execution of the operation.
- Provides special instructions on command relationships.
- Provides instructions for planning, employment, allocation, and control of nuclear and chemical munitions.
- Includes instructions that govern the termination of the operation and, if feasible, command arrangements and disposition of forces to be effective at that time.
- Provides information regarding operations conducted after termination of the amphibious operation.
- Assigns responsibility and provides necessary coordination instructions for the conduct of supporting operations.
- Provides cryptographic and operations security (OPSEC) guidance.
- Provides a concept for military deception operations conducted in support of the amphibious operation.

## **Planning Relationships Within the ATF**

Special relationships are observed during the planning phase of an amphibious operation. These planning relationships are designed to ensure that both naval and LF considerations are adequately factored into decisions that address conduct of an amphibious operation. The CATF coordinates planning of an amphibious operation. However, the CATF, CLF, and other commanders designated in the initiating directive are co-equals in planning matters and decisions. All decisions are made based on a common understanding of the mission, objectives, and procedures and on a free exchange of information. Any differences

between commanders that cannot be resolved are referred to their common superior in the operational chain of command.

Once the LF is embarked on amphibious shipping, the CATF assumes full responsibility for the ATF and for the operation. If a change in the mission occurs after an operation begins or if an amphibious operation is initiated from an afloat posture, co-equal planning relationships apply to any subsequent planning. These planning relationships are described above or as specified in the initiating directive. If the operational situation dictates, the CATF's OPCON may specify planning relationships that better coordinate planning efforts, especially if time-sensitive planning is required.

### **The ATF Air Plan**

The CATF's staff develops the ATF air plan. It is published as an annex to the ATF operation plan. The ATE tactical air officer, in close coordination with the CLF, prepares the air plan and directs the air effort within the area of operations (AO). The ATE tactical air officer is responsible to the CATF. The ATE air plan must address pre D-day operations, D-day operations, and post D-day operations:

#### **Pre D-Day Operations**

- Achievement of air superiority within the landing area. This includes neutralization or destruction of enemy air defense capabilities.
- Neutralization or destruction of enemy forces within the landing area.
- Interdiction of enemy forces capable of interfering with assault landings.
- Airborne mine countermeasures.
- Naval surface fire support (NSFS).
- Antisubmarine warfare.
- TRAP.
- Reconnaissance and air operations in support of reconnaissance forces.
- Psychological operations.

#### **D-Day Operations**

- Pre H-hour neutralization of beaches, drop zones, and landing zones.
- Transport and helicopterborne operations.
- Tactical airlift operations.
- CAS (preplanned and immediate).
- Suppression of enemy air defenses (SEAD).

- Air reconnaissance, observation and spotting.
- Operations of TAC(A), EAC(A), and ASC(A).
- Continuation of applicable pre D-day air operations. This includes maintaining local air superiority and interdiction of enemy forces.
- Battlefield illumination.
- Air delivery of supplies.
- Medical evacuation.
- TRAP.
- Air defense.
- Attack helicopter operations.
- Other assault support.

### **Post D-Day Operations**

Post D-day aviation requirements are difficult to forecast because of the unpredictable nature of the unfolding battle. Missions performed during pre D-day and D-day operations are continued as applicable. The ACE commander, knowing the MAGTF mission and commander's intent, can anticipate and plan for a wide range of contingencies. For example, he may direct that a series of offensive air support (OAS) combat air patrol (CAP) stations near critical areas be manned continuously during the decisive phase of the operation. This provides a ready force for the MAGTF commander to use as one of his combined arms or to support a ground commander with CAS.

### **Additional Considerations**

- Comprehensive plans for aircraft control, air warning, and air defense.
- Movement of forces and supplies into the AOA by air transport.
- Early arrival of liaison and observation aircraft in the landing area.
- Rehabilitation of airfields or construction of FOBs. This includes vertical/short takeoff and landing (WSTOL) capable locations in the landing area.

### **MAGTF Aviation Planning Actions**

Typically, amphibious operations involve extensive air operations. Effective planning in this environment is a complex and demanding task due to the participation of a wide variety of aircraft performing the full spectrum of aviation missions. See Joint Pubs 3-02, *Joint Doctrine for Amphibious Operations*, and 3-02.1, *Joint Doctrine for Landing Force Operations*.

MAGTF amphibious operations are planned using 15 command and staff planning steps. Throughout the planning process, the MAGTF aviation section performs vital planning functions. The timing and interplay between the command and staff steps and the five aviation planning actions must be understood by all aviation planners. The circles in figure 2-1 show the command and staff planning steps accomplished by the MAGTF commander/CLF. The squares in figure 2-1 show the five aviation planning actions performed by the MAGTF G-3 air section which correspond to the command and staff steps. MAGTF aviation planners may draw on the expertise of the ACE to complete these planning actions. The ACE commander and his planning staff must understand that they are involved in both the 5-step process and the 15-step process, but at different levels. At the MAGTF command level, the ACE assists the MAGTF G-3 air section by completing the five planning actions. At its own command level, the ACE initiates its own 15-step command and staff process.

### **Initial Estimate of Landing Force Aviation Requirements**

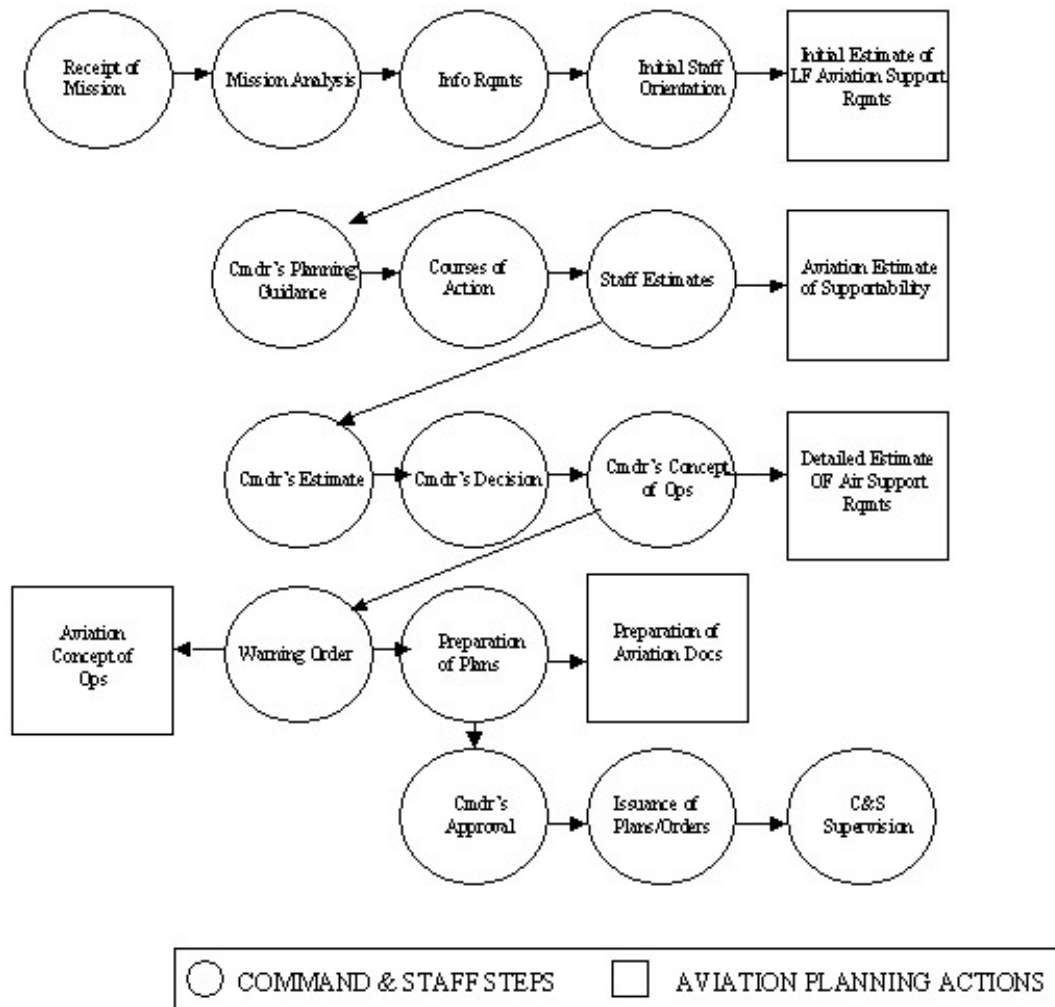
After the CLF meets with the CATF, he briefs his staff and his staff begins to develop the initial estimate of landing force aviation requirements. This estimate addresses all six functions of Marine aviation. It is an informal examination of each staff and functional area that will identify information for the CLF. The *CLE* uses this information at the initial staff planning conference. This estimate is shaped by input solicited from subordinate MAGTE units and completed preliminary planning. Once the estimate is complete, the staff briefs the *CLE* during the initial staff orientation step. The initial estimate is broad in nature and identifies the approximate number and type of participating units, the necessary control agencies, and the logistic support required.

**Note:** Some intelligence requirements are identified during the development of this estimate. The CLF coordinates with the CATF and other agencies to provide intelligence as the need arises throughout the entire planning process.

### **Aviation Estimate of Supportability**

The aviation estimate of supportability is presented to the MAGTF commander/CLF during the staff estimate step. During this briefing, the aviation staff provides input as to the supportability of each course of action from an aviation perspective. This estimate also provides advice to the MAGTF commander on how to best employ aviation within those courses of actions. The aviation estimate may be framed within the five categories of-

- Mission.
- Situation and considerations.
- Analysis.
- Evaluation.
- Conclusions.



**Figure 2-1. Command and Staff Steps and Aviation Planning Actions.**

**Note:** The ground combat and combat service support estimates are also presented at this time.

### **Detailed Estimate of Air Support Requirements**

The detailed estimate of air support requirements begins after the MAGTF commander issues his concept of operations. This estimate identifies the number and type of aircraft needed to

support the operation. It addresses targeting and the control facilities required to support the MAGTF's concept of operations. It identifies logistics requirements (including fuel, ordnance, shipping, and special equipment). The ACE commander should be closely involved in the MAGTF staff process. If he determines that the necessary assets are not available, he informs the MAGTF commander. The MAGTF commander may have to request additional assets from higher authorities or modify the MAGTF concept of operations.

### **Aviation Concept of Operations**

The aviation concept of operations summarizes the support that assigned aviation units will provide to support the MAGTF concept of operations. An ACE task organization must be completed, which requires inclusion of all aviation support units needed for the units specified in the detailed estimate of air support requirements. The aviation concept of operations is incorporated into the air operations annex of the operation plan/order. The aviation concept of operations is general in nature and provides an overall picture of how Marine aviation operations are executed. It should answer the following questions:

- Which units will provide air support, including as-sets external to the ACE?
- What functions of aviation air support will be provided?
- When will the air support be provided?
- Where will the aviation assets provide support from and where will support be provided?

### **Preparation of Aviation Documents**

The required type and number of aviation documents varies with the nature and complexity of each operation. Appendix J FMFRP 5-71, MAGTF Aviation Planning Documents, provides a comprehensive listing of document formats and Aviation specific examples. These documents are presented in the Joint Operation Planning and Execution System (JOPES) format. This permits rapid cross-referencing to similar documents of other Services.

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## Chapter 3

### **MAGTF Aviation Planning Within a Joint Force**

As Marines, our focus is operational maneuver from the sea. We are amphibious warriors with a unique air/ground capability. However, we must be prepared to become a self-sustaining, contributing part of joint operations ashore under command of a JFC. As delineated in Joint Pub 0-2, *Unified Action Armed Forces (UNAAF)*, if the MAGTF operates as part of a joint force, some of its aviation sorties may be tasked to support JTF missions that do not directly support the MAGTF. Conversely, in the joint environment, the MAGTF may also request and receive JTF air support from non-MAGTF sources as needed.

The job of planning and tasking MAGTF aviation to support the MAGTF commander becomes more complex when operating in a joint environment. MAGTF planners must understand the MAGTF planning environment and the joint planning environment and how they interface. It is critical that MAGTF aviation planners understand the various staffs and agencies that make up a joint force in order to maximize the potential of the MAGTF in this environment.

See Navy and Marine Corps White Paper, "*...From the Sea*" of September 1992; Joint Pub 3-56.1, *Tactical Command and Control Planning Guidance and Procedures for Joint - Operations (Procedures and Formats)*; Joint Pub 3-52, *Doctrine for Joint Airspace Control in the Combat Zone*; and Naval Doctrine Test Publication 3-56.1, *Joint Force Air Component Commander Organization and Processes*, for specific information.

#### **Role of the MAGTF in a Joint Force**

A commander in chief (CINC) may elect to organize a joint force strictly along Service or functional lines, but most often their organization is a combination of the two. Figure 3-1 depicts Service components (Marine Corps, Army, Air Force, and Navy) displayed alongside functional components (joint force air component and special operations component). If the joint organizational structure is to be effective, MAGTF planners must understand the operation of the other components and agencies and how they affect the MAGTF.

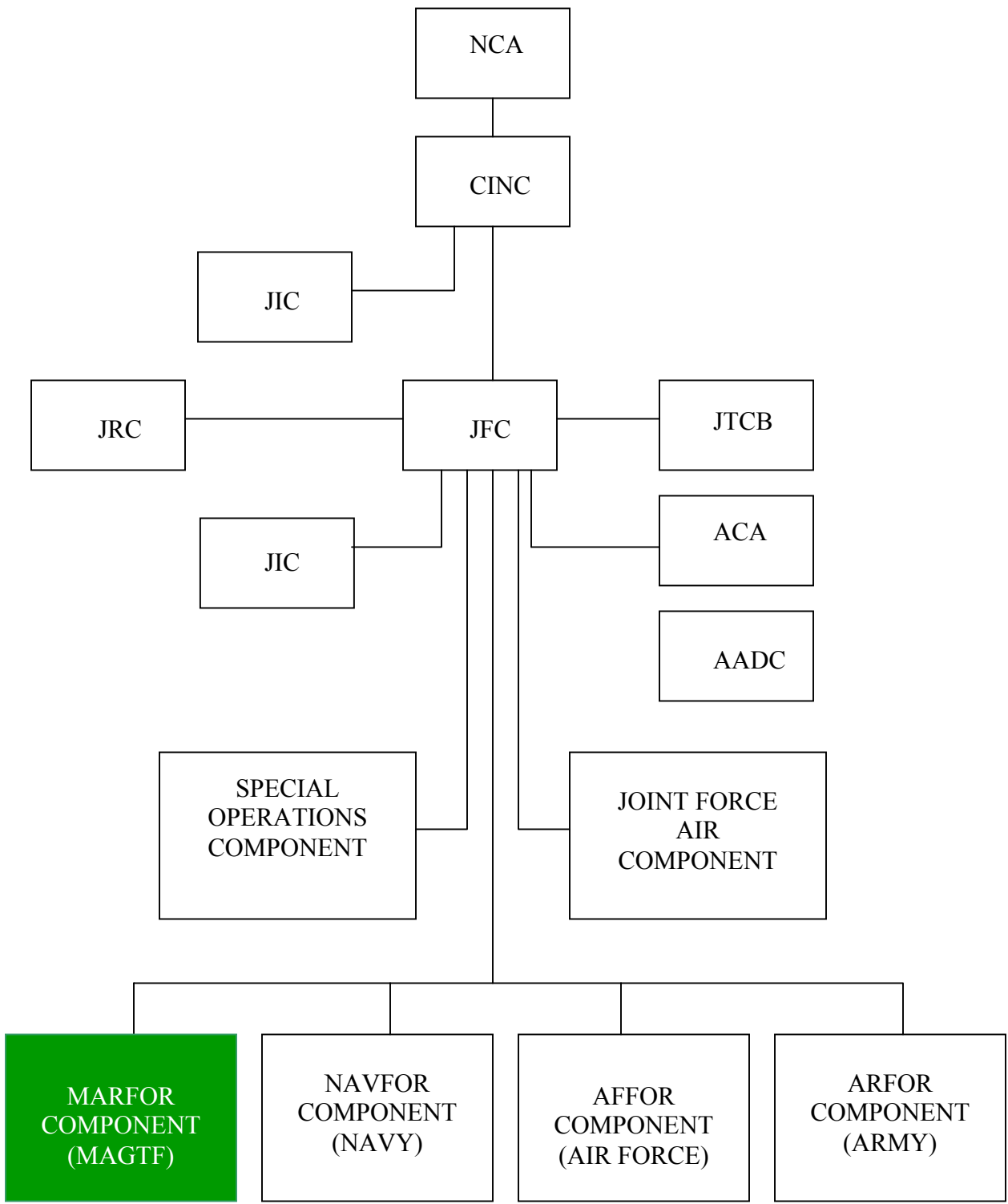


Figure 3-1. MAGTF Within a Joint Structure.

MAGTF planners must appreciate the aviation capabilities of the other components of the joint force. The MAGTF commander may need to supplement his inherent MAGTF aviation support with the specialized and sophisticated capabilities performed by theater or national assets. These capabilities are only provided if proper procedures are used and if the request is made with sufficient lead time. The MAGTF planner that operates under the inflexible attitude of "we can do it alone" may deny the MAGTF access to significant additional capabilities. Since the MAGTF provides sorties to the JFC for joint missions, MAGTF aviation planners should not hesitate to ask for specific supplemental joint air support.

### **Joint Force Air Component Commander**

The JFC may designate a JFACC to consolidate the efforts of theater air assets and support the JFC 's objectives. Typically, a JFACC is not designated in a single-Service operation that requires limited support from other components or in a multi-Service operation where each Service operates in an autonomous AO with its own inherent aviation capability (very little cross boundary coordination is required). The following factors influence a JFC 's decision to appoint a JFACC:

- Service participation.
- Scope of the operation.
- Duration of the operation.
- Operational boundaries assigned to service components.

The JFACC is drawn from the component that has the preponderance of aviation assets in theater and the ability to control them. Based upon JFC guidance, the JFACC may be designated the supported commander for such operations as AAW/counterair and air interdiction. The JFC may choose to assign the responsibilities of JFACC (if assigned), area air defense commander (AADC), and airspace control authority (ACA) to the same person. However, the JFC may also assign separate individuals to perform these functions.

Normally collocated with the JFC, the JFACC functions as a coordinator. The JFACC provides coordinated and unified joint air operations in order to deliver direct support to certain components while exploiting the flexibility of air operations to achieve campaign objectives. The JFC assigns responsibilities to the JFACC. The JFACC's responsibilities include, but are not limited to, the following:

- Planning integrated air operations that support JFC objectives.

- Coordinating designated air activities with other operations within the theater.
- Recommending apportionment of the joint air effort to the JFC for approval or revision.
- Translating the JFC's apportionment decision into sortie allocation. The JFACC determines allocation by mission, but individual components assign missions to specific squadrons.
- Tasking available component air sorties for support of the joint campaign, normally through an ATO and SPINS. Tasking is done at the JFACC level for joint targets and missions and at the MAGTF level for Marine Corps targets and missions. There is a single ATO for all joint air operations.

The JFACC also coordinates and integrates with other joint agencies, such as the joint rescue center and the joint targeting coordination board. See Joint Pub 3-56.1

### **MAGTF Commander and JFACC Relationship**

As stipulated in the UNAAF (see app. B), the MAGTF commander retains operational control of his organic air assets. During joint operations, MAGTF aviation assets normally support the MAGTF mission. The MAGTF commander makes sorties available to the JFC for air defense, long-range interdiction, and long-range reconnaissance. These sorties are tasked through the JFACC. Sorties in excess of MAGTF direct support requirements are provided to the JFC for the support of other components or the joint force as a whole, and are also tasked through the JFACC. Authority to alter this relationship by reassigning, redirecting, or reallocating MAGTF direct support sorties rests at the JFC level and higher. It only occurs when MAGTF sorties are required for higher priority missions.

### **Composition of the JFACC Staff**

The JFACC staff is a joint staff that maintains a joint focus. It is staffed with personnel from participating components. The personnel mix is proportional to the component mix of the joint force. Liaison officers from individual components collocate and coordinate with the JFACC staff in order to address their Services' concerns. The JFACC staff operates out of the joint air operations center. It performs the following functions:

- Conducts detailed planning (targeting, weaponeering, tasking) and coordination of joint air operations. Planning is conducted 24 to 72 hours in advance of ATO publication.
- Publishes the sortie allotment and ATO messages.

- Tracks and monitors all air operations within the joint operations area or the area of responsibility.
- Coordinates redirected sorties as directed by the JFC through the JPACC.
- Administers the current ATO.
- Provides intelligence, targeting support, situational analysis, and enemy threat assessment and reporting.
- Coordinates operations through the joint targeting coordination board (JTCB), the JFACC, and the joint intelligence center (JIC).
- Ensures intelligence personnel are connected via secure communications nodes to all critical intelligence elements.
- Ensures communications and data connectivity between the JFACC, JFC, and all component and supporting commanders.
- Provides for all written and data fax support required by the JFACC.

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  - Administers the current ATO.
  - Provides intelligence, targeting support, situational analysis, and enemy threat assessment and reporting.
  - Coordinates operations through the joint targeting coordination board (JTCCB), the JFACC, and the joint intelligence center (JIC).
  - Ensures intelligence personnel are connected via secure communications nodes to all critical intelligence elements.
  - Ensures communications and data connectivity between the JFACC, JFC, and all component and supporting commanders.
  - Provides for all written and data fax support required by the JFACC.
  - Maintains all records and correspondence.
  - Hosts liaison officers from component commander's staffs, supporting commands, and coordinating agencies in order to provide functional expertise and connectivity with their commanders for all air operations in the joint operations area or area of responsibility.

### **Joint Intelligence Center**

There are two JICs: one at the CINC level and one at the JFC level. The CINC-level JIC handles theater-wide intelligence requirements. The JFC-level JIC supports the intelligence needs of the JFC, JFACC, and Service components (e.g., the MAGTF). The JIC provides valuable up-to-date intelligence from sources that are not available to MAGTF intelligence agencies. MAGTF aviation planners should use the capabilities of the JFC-level JIC through their Service liaisons on the JFACC staff, or directly if the opportunity presents itself.

### **Joint Targeting Coordination Board**

The JTCCB is manned by representatives from all Services. The JTCCB coordinates targeting information, recommends targeting priorities to the JFC, and prepares and refines the joint target list. Normally, JTCCB meetings are conducted daily to disseminate JFC targeting guidance and objectives, monitor effectiveness of targeting efforts (battle damage assessment), coordinate and deconflict all joint targeting operations; validate no-fire areas, areas, approve new targeting nominations for inclusion in the joint target list, and establish priority targets in the joint target list. The **JTCCB** ensures deconfliction between operations of the various service components. It also ensures that various service components support each other and support the JFC's campaign strategy. JTCCB results are considered to be JFC

direction and are disseminated through the JFC to the appropriate components or agencies. If conflicts arise between the MAGTF and the **JFACC**, they are submitted to the ITCH for resolution.

### **Airspace Control Authority**

The ACA coordinates and integrates the use of the airspace control area through the use of airspace control measures. Centralized coordination by the **ACA** does not imply operational control over any air assets. The ACA's key responsibility is to provide the airspace control system with the flexibility it needs to meet contingency situations that require rapid employment of forces. To facilitate control and coordination, the ACA uses the following control measures:

- Corridors.
- Low level transit routes (LLTRs).
- Restricted operations zones (ROZs).
- High density airspace control zones (HIDACZs).
- Identification, friend or foe (IFF) on/off lines.

These control measures can be found in the ACO. The ACA also develops an ACP that is implemented through the ACO. The ACA also coordinates with civilian aviation agencies as necessary. See Joint Pub 3-52.

### **Area Air Defense Commander**

The AADC integrates the operation of all air defense systems and provides recommendations to the JFC for establishment of air defense priorities. He also coordinates air defense operations with other operations. Since the functions of the AADC are closely related to those of the ACA, it is critical that they maintain close and continuous coordination. Both staffs coordinate to release the tactical operational data (TACOPDAT) message. See Joint Pub 3-01.2

### **Joint Rescue Center**

The joint rescue center (JRC) is established by the **JFC** to plan, coordinate, and task components to execute combat search and rescue and MEDEVAC missions. Its staff is comprised of representatives from all components that participate in rescue activities, including the Coast Guard when applicable.

## Chapter 4

### The MAGTF Air Tasking Cycle

The MAGTF mission drives the MAGTF air tasking cycle. The air tasking cycle is a tool used by MAGTF planners to achieve mission accomplishment. It is an integral part of the MAGTF planning process. By using and completing the tasking cycle, planners can ensure that limited aviation assets are used to achieve their maximum effect with correct prioritization based on the main effort.

The MAGTF air tasking cycle is divided into four phases designed to occur during a 24-hour period. Completion of phase IV (scheduling) marks the complete evolution of the MAGTF air tasking cycle. Because the cycle is continuous, the next evolution will have already begun. The MAGTF ATO is the final product of the MAOTF air tasking cycle.

Operations that involve significant joint or combined forces may require an adjustment to the time period of the MAGTF air tasking cycle so that it conforms to the larger force's cycle. This normally involves increasing the MAGTF air tasking cycle from a 24-hour period to a 36-hour period, but it may be longer or shorter based on the decision of the overall force commander. See Joint Pub **3-56.1** and Joint Pub *3-56.24, Tactical Command and Control Planning Guidance and Procedures for Joint Operations—Joint Interface Operational Procedures—Message Text Formats*, for more information on the joint air tasking cycle.

#### **Mission Assignment**

The MAGTF commander assigns missions to his major subordinate commanders (GCE, ACE, and CSSE). He designates a main effort and establishes priorities for the total level of effort through his guidance, mission orders, and commander's intent. The mission order includes the higher commander's intent, the MAGTF commander's intent, and the MAGTF commander's concept of operations. The commander's intent conveys his vision of the desired end state and the purpose. The ACE commander initiates the MAGTF air tasking cycle (see last page of this chapter) after he receives his mission and apportionment decisions from the MAGTF.

**Note:** If the MAGTF is a Service component of a joint force, the MAGTF commander may issue special instructions pertaining to



the JFC 's apportionment guidance for MAGTF aviation sorties provided to the joint force.

### **Initiating the MAGTF Air Tasking Cycle**

The ACE commander initiates the MAGTF air tasking cycle after he receives his mission from the MAGTF commander and after he receives the MAGTF commander's apportionment decision. The ACE commander assigns missions to his subordinate commanders and provides guidance and his commander's intent. Throughout the air tasking cycle, the ACE commander and his subordinate commanders must consider their assigned mission and the higher commander's intent.

Table 4-1, located at the end of this chapter, describes a MAGTF air tasking cycle including the functions that occur within each phase. This example assumes that the following actions occurred: all subordinate commanders (ACE, GCE, CSSE) were briefed on the MAGTF's mission and concept of operations; subordinate commanders received their mission orders, including the MAGTF commander's intent; and subordinate commanders developed their concept of operations based on their mission and the MAGTF's main effort.

### **Phase I: 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 or percentage. Apportionment ensures the efficient use of limited assets to perform a wide range of missions. The ACE commander makes apportionment recommendations based on his assigned mission. He presents his recommendations to the MAGTF commander for approval.

Allocation is the translation of the apportionment into the total numbers of sorties (by aircraft type) available for each operation/task. Marine Corps allocation is geared more to aircraft capability than specific aircraft type. Allocation includes the submission of preplanned air support requests (AIRSUPREQs) by the ACE, GCE, and CSSE commanders. These preplanned requests include JTARs, JTAR/SRs, and ASRs. Preplanned requests, after approval by the appropriate major subordinate commanders, are prioritized and submitted to the MAGTF FSCC/air center. After approval by the MAGTF, preplanned requests are submitted to the FOS of the Marine TACC. Once all AIRSUPREQs have been received, the ACE presents his allocation request (ALLOREQ) to the MAGTF commander.

During phase I, the ACE commander—

- Issues guidance to his staff.
- Identifies, if applicable, the percentage of effort and sorties to be dedicated to joint force missions of air defense, long-range interdiction, and long-range reconnaissance as stipulated in the Joint Pub 0-2 under guidelines set by the JFC. These sorties are provided "up front" to the JFC after approval by the MAGTF commander.
- Calculates the total number of sorties available for MAGTF use. This calculation is based on sorties remaining after the "up front" joint force sorties are factored out.
- Estimates the number of sorties required to fulfill the MAGTF's air operations needs.
- Calculates the percentage of effort and number of sorties required to support the AAW plan based on input from his staff, the MACCS, and subordinate units. Once these sorties are identified, the remaining sorties are available for tasking to accomplish the other functions of Marine aviation in support of the MAGTF.
- Identifies any additional requirements for air operations and determines whether they can be sourced from within the MAGTF or require other joint air assets. If non-Marine joint air support is needed, it is requested and included in the ALLOREQ.

**Note:** Once the needs of the MAGTF have been met, excess MAGTF sorties are turned over to the JEC for joint tasking. Unlike the "up front" sorties, which covered only three specific missions, excess sorties are culled from all functions of Marine aviation. These sorties are identified and included in the ALLOREQ.

## **Phase II: Allotment**

During phase II, sorties that were allocated in phase I are distributed, or allotted, to support the MAGTF and its elements. Allotment decisions allow MAGTF elements to plan and coordinate the integration of sorties into their fire and maneuver efforts. Specifically, after phase I is completed, GCE and CSSE commanders know the deep air support (DAS) targets to be attacked and the allocation of CAS, assault support, and other aviation sorties. Phase II is the allotment of these sorties to the GCE and CSSE. 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 scheduled and on-call preplanned mission requirements.

For example, aviation support may be needed for the start of an operation. Since the start time is known, preplanned scheduled support is requested. If the GCE or CSSE commander knows that a

certain type of support is required at some point during a 2-hour period, preplanned on-call support is needed.

During the allotment phase, the ACE commander presents the ALLOREQ to the MAGTF commander. The MAGTF commander transmits it to the JFC. The JFC then prepares a sortie allotment (SORTIEALOT) and transmits it back to the service components. The SORTIEALOT includes-

- Revisions, if any, to the Service component's planned allocation to the joint force.
- Approval/disapproval of a Service component's request for air support beyond its capability.
- Allotment of other service component's excess sorties to fill the approved requests.
- Allotment of Service component excess sorties to fill mission requirements for the joint force.

Note: Excess sorties are considered returned to the reporting Service component if they are not allotted in an applicable SORTIEALOT message.

- Revisions to mission data for Service component requests, such as a changed mission priority or time on target. This is usually the result of informal coordination between Service components and the joint operations center.

### **Phase III: Tasking**

Tasking is the process of translating the allocation and allotment decisions made in phases I and II 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 the MAGTF ATO.

The MAGTF ATO is prepared by the ACE commander and should include, but is not limited to, the following information:

- Mission number.
- Tasked unit.
- Supported unit.
- Request number (JTAR, JTAR/SR, ASR, etc.).
- Priority.
- Mission type.
- Mission times (time on/off target, time on station, pick up/drop off times, etc.).
- Alert status.

- Location of mission, target, pick up/drop off zones (to include coordinates).
- Cargo/passengers (size, weight, number).
- Call sign.
- Number and type of aircraft.
- Number/type of ordnance.
- 1FF/selective identification feature (SIF) mode and code.
- Call sign/frequency of control agency, controller, terminal controller, landing zone control, etc.
- Amplifying notes and SPINS.

The MAGTF ATO is disseminated to all major subordinate elements of the MAGTF and to all elements that requested air support. Normally, it is distributed to the following:

- Marine TACC.
- TAOC.
- Early warning/control (EW/C).
- DASC.
- Marine air traffic detachment (MATCD).
- Force fires coordination center (FFCC)/FSCC.
- Operations sections.
- Air bases.
- Aircraft groups/squadrons.
- Separately deployed units (squadrons/detachments).

It is not necessary to distribute the entire MAGTF ATO to everyone. The MAGTF ATO may be tailored for dissemination to specific agencies/units. For example, a battalion air officer would not need the entire ATO; he only needs those portions applicable to his battalion. Similarly, data that remains applicable over a period of several days may be supplemented by a partial (fragmentary) ATO. The partial ATO would contain only information that is new or has changed.

#### **Phase IV: Scheduling**

The MAGTF ATO assigns missions to specific squadrons. Upon receipt of the ATO, aircraft squadrons complete the scheduling process by assigning individual aircrews and aircraft to specific mission numbers and issuing squadron flight schedules. The scheduling process completes one evolution of the air tasking cycle.

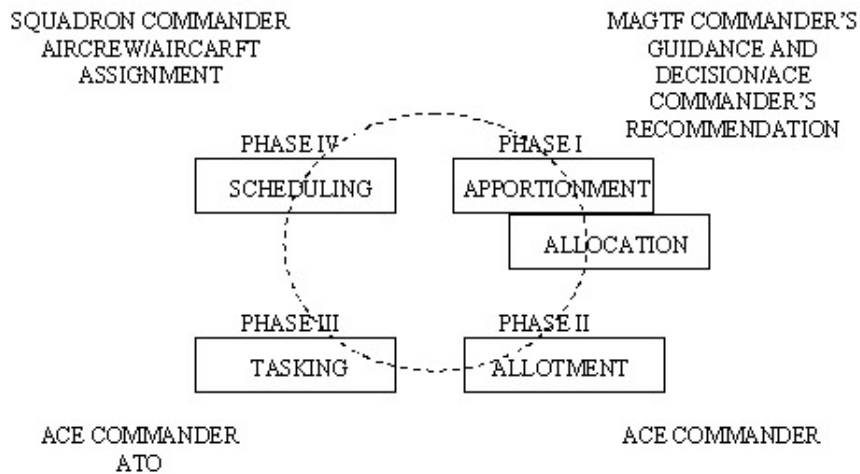
**Table 4-1. Notional Sequence of MAGTF Air Tasking.**

<b>Phase</b>	<b>Function</b>	<b>Who Does</b>	<b>Description</b>	<b>Example</b>
I	Appointment	MAGTF CMDR (ACE CMDR Recommended)	Per JFC guidance, the We will provide the JFC with five sorties for MAGTF will provide up-front air defense, three sorties for long-range air sorties to the JFC for air de-interdiction, and three sorties for long-range defense, long-range air inter- air reconnaissance.	We will prvide the JFC with five sorties for air defense, three sorties for long-range air interdiction, and three sorties for long-range air reconnaissance
		MAGTF CMDR (ACE CMDR recommended, w/input from MAGTF MSCs)	Total level of effort (by priority or percentage) to be dedicated to various types of air operations/tasks for a given period of time.	My priority of effort is to gain and maintain the air superiority necessary for the MAGTF to conduct operations. This will be accomplished through AAW; the ACE will be the main effort. Of secondary concern will be OAS, focused primarily on DAS. AAW will give the MAGTF air superiority and DAS will help shape the battlespace for future MAGTF operations. Assault support, specifically combat assault transport, will Be used to position forces and supplies for future combat operations.
I	Allocation	ACE Commander	Translate apportionment into total number of sorties available for each air operation/task. MAGTF allocation geared to aircraft capability vice specific aircraft type.)	I have: 60 sorties available for AAW (40 for OAAW, 20 for air defense), 40 sorties available for OAS (15 for air interdiction, 10 for armed reconnaissance, 15 for CAS). 10 sorties available for EW. 60 sorties available for assault support (45 for combat assault transport, 10 for aerial refueling, 5 for TRAP). 5 sorties available for C2 (two for TAC[A], two for FAC[A], one for DASC[A]).
		MAGTF MSCs	Submit preplanned air support requests and other aviation requirements	JTARs, JTAR/SRs, ASRs

		MAGTF CMDR (ACE CMDR recommended)	Submit ALLOREQ to MAGTF commander. MAGTF commander submit to the JFC.	The MAGTF will fly 180 direct support sorties per the following assigned missions/type aircraft...etc.. I can provide to the JFC: three excess F/A-18 (air-to- air) sorties and two excess AV-8AB (air-to-ground) sorties. I need joint force support for aerial refueling and AEW/C.
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II	Allotment	ACE commander	Distribution of allocated sorties to elements of the MAGTF (supported commander knows what he is getting and supporting commander knows what he is providing.)	<p>I have allotted:  40 of 60 AAW sorties retained by the ACE for OAAW, provided by MAGs-31, 14.  20 remaining AAW sorties provided for air defense: 10 sorties for air defense of GCE (2<sup>nd</sup> MarDiv), provided by MAG-31; 10 sorties for air defense of CSSE (2<sup>nd</sup> FSSG), provided by MAG-31.  15 sorties for air interdiction retained by ACE for DAS, provided by MAG-14.  10 sorties for armed reconnaissance retained by ACE for DAS, provided by MAG-14.  15 sorties for CAS to support GCE (2<sup>nd</sup> MarDiv);  10 provided by MAG-32, 5 provided by MAG-26.  10 sorties for EW to support OAAW and air interdiction missions, provided by VMAQ-2.  60 sorties for assault support; 30 sorties to support GCE (2<sup>nd</sup> MarDiv) heliborne operations, provided by MAG-26; 15 sorties to support GCE (2<sup>nd</sup> MarDiv) resupply, provided by MAG-29; 10 sorties for aerial refueling, provided by VMGR-252.  5 sorties for TARP, provided by MAG-29  5 sorties for visual reconnaissance, provided by MAG-31.  2 sorties for TAC(A) to support DASC, provided by MAG-31.  2 sorties for FAC(A) to support DASC, provided by MAG-29.  1 sortie for DASC(A) to support DASC, provided by VMGR-252</p>
		MAGTF MSCs	Distribution allotted to subordinate units.	<p>GCE (2<sup>nd</sup> MarDiv) commander: I have 15 CAS sorties allotted to me, 2<sup>nd</sup> Marines is my main effort. I will distribute 12 of 15 sorties to 2<sup>nd</sup> Marines. I will distribute remaining three sorties to 8<sup>th</sup> Marines.</p>

		JFC	Prepare and transmit SORTIEALOT	MAGTF up-front sorties are sufficient for joint force. The Air Force Service component will provide the MAGTF three KC-135 sorties for aerial refueling. The Navy Service component will provide the MAGTF two E-2C sorties for AEW/C.
III	Tasking	ACE commander	Translate allocation and allotment into publication and dissemination of MAGTF ATO. MAGTF ATO assigns mission to specific aircraft squadrons. Supporting commander knows what mission he is getting	MSNDAT/24001/CRUSADER 01/2FA-18/CAP/4-2-G/0730U/0730U/WEST CAP/350/
IV	Scheduling	Aircraft group/squadron commanders	Assign individual aircrew and aircraft to specific mission number of MAGTF ATO.	Publication of squadron flight schedule.



**Figure 4-1. MAGTF Air Tasking Cycle.**



## **Part II**

### **Planning Considerations**

There are six functions of Marine aviation: control of aircraft and missiles, antiair, air reconnaissance, electronic warfare, assault support, and offensive air support. Each of these functions is a critical component in the overall effectiveness of MAGTF aviation.

Part I was a horizontal look across the breath of planning environment. It covered issues common to all six functions of Marine aviation. Part II is a vertical approach that covers planning considerations for each of these functions.

Proper planning for each function of MAGTF aviation ensures that all functions receive the amount of planning attention required to maximize its effectiveness. Planning also keys aviation planners to consider each function in relation to the other functions and to prioritize and integrate them in a manner that best accomplishes the overall mission.

If planners do not perform proper and thorough planning for each function of MAGTF aviation, they may overlook critical capabilities and jeopardize mission accomplishment. For example, a plan for an aviation operation that details how CAS is used but does not plan for sufficient AAW to protect CAS assets may be doomed to fail.

The chapters contained in Part II complement the employment planning checklists contained in appendix C to provide vital information to planners as they begin to focus on each specific function of MAGTF aviation.

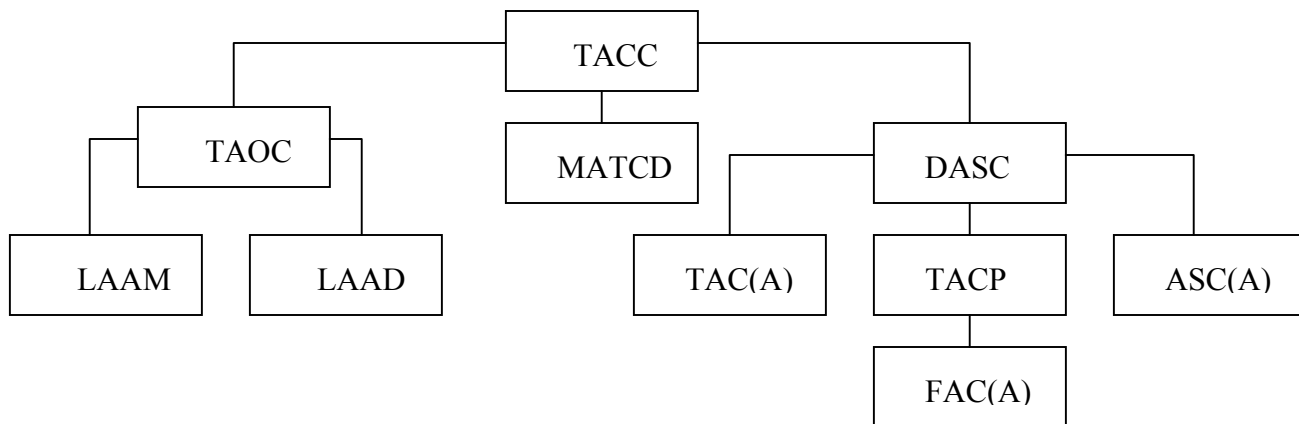
## Chapter 5

# Control of Aircraft and Missiles

The control of aircraft and missiles is the core function of the six functions of Marine aviation. It ties all air operations together within the MAGTF. It allows the ACE commander to plan, direct, and control the efforts of the ACE to support the MAGTF. Control of aircraft and missiles is a combination of tasks that integrate all Marine aviation functions within the MAGTF and with joint/combined forces.

The ACE commander exercises his authority to command, coordinate, and control MAGTF air operations through the MACCS. The MACCS provides the command and control required for the other five functions of Marine aviation to operate and interact. Figure 5-1 shows the major elements of the MACCS. See MCWP 3-25.3, *MACCS Handbook*, for a detailed discussion on the MACCS.

Planners must understand the critical planning considerations that relate to the control of aircraft and missiles. This chapter provides aviation planners with 15 critical planning considerations that provide a firm foundation from which to begin effective planning. Although they are presented in sequential fashion, some of the issues are addressed by concurrent vice sequential planning.



**Figure 5-1. Major Elements of the MACCS.**

## **The Mission**

Planners must understand the MAGTF's and the ACE's missions. This understanding includes the commander's intent, the main effort, the desired end state, and the specified and implied tasks. Understanding the mission is the starting point for the effective planning of control of aircraft and missiles.

## **Assumptions**

Assumptions can significantly impact continued planning. Therefore, they must be identified early in the planning process. Planners incorporate any guidance they previously received concerning assumptions.

## **Friendly Force Composition**

Planners must examine the friendly force composition from the joint and combined level down to the MACCS level. They must identify any unique integration requirements and plan accordingly.

Planners must address MACCS interface with the JFACC, ACA, and AADC. They must ensure that the delineation of authority and responsibilities within these joint agencies is understood, particularly in contrast to the responsibilities of MACCS agencies. They must plan for MACCS integration with joint or combined air C<sup>2</sup> agencies; to include electronic connectivity as well as division of labor and responsibility requirements for surveillance, CAP control and management, tanker control, cross sector coordination, etc. Contingency operations may require planners to effect liaison with the International Civil Aviation Organization, host nation air traffic control facilities, and the Federal Aviation Administration.

At the MAGTF level, detailed planning is required to integrate UAV operations into the overall plan for control of aircraft and missiles. UAVs are integrated early in the planning phase. This gives planners sufficient time to minimize the difficulties of deconflicting UAV and piloted aircraft operations within an assigned airspace. Planners must also address the means to disseminate UAV combat information.

Once planners assess the mission and the force composition at the joint, combined, and MAGTF level, they can determine the appropriate level of MACCS support required to successfully complete the ACE mission.

## **Threat Assessment**

Threat assessment permeates the entire planning process; from

mission receipt to mission accomplishment. During the threat assessment process, planners evaluate enemy capabilities in regard to the friendly situation and MAGTF capabilities, limitations, and intentions. As the threat changes, planners change the employment plan accordingly. Planners must evaluate the following issues during threat assessment.

### **Air Order of Battle**

The air order of battle is one of the first threat assessment issues addressed by planners. Their assessment extends beyond the raw data on airframe capabilities and limitations. They focus on enemy ordnance capabilities, training and morale, likely tactics, and enemy-anticipated priority targets.

### **Unmanned Aerial Vehicles**

Enemy UAVs may be used as targeting, jamming, or reconnaissance platforms. They may also be used as drones to stimulate our air defenses and make us more susceptible to antiradiation missiles. Therefore, planners must identify the potential enemy UAV threat.

### **Ground Order of Battle**

Planners must consider the enemy's mechanized capability and the impact of enemy mobility when choosing sites for MACCS agencies. The enemy's mechanized capability is of particular concern if the enemy has access to high speed avenues of approach into the MAGTF's operation area.

### **Surface-to-Air Weapons**

Planners must assess the enemy's SAW threat. This includes his antiaircraft artillery (AAA) as well as surface-to-air missiles (SAMs). The range and accuracy of the enemy's SAW systems must be identified as well as his ability to rapidly displace and fire again.

### **Electronic Warfare**

Planners must examine the EW capability of the enemy. This includes enemy electronic warfare support (ES) and electronic attack (EA) capabilities.

### **Reconnaissance**

Planners must identify the enemy's airborne and ground reconnaissance capabilities.

### **Terrorism**

Planners must identify any potential for terrorist activity or unconventional operations. A terrorist with a well-aimed sniper

round or a well-placed satchel charge can easily disrupt the MAGTF's ability to effectively control its aircraft and missiles.

### **Amphibious Objective Area/Area of Operations**

Planners must consider the location and size of the AOA or AO. Within the AO, planners must identify the airspace control area and air defense area. These areas are then divided into airspace control sectors, air defense regions and, ultimately, air defense sectors. Planners must understand which sector or sectors the MAGTF has been assigned responsibility for. They must also be aware of sector boundaries to continue planning.

### **Terrain and Weather**

Topography, masking effects, mobility and trafficability, and vegetation/foilage must be analyzed. Planners must also consider environmental effects on communications gear, radars, and personnel.

### **Airspace Control**

Airspace control entails the coordination, regulation, and integration of the assigned airspace, as well as the identification of all tracks within the assigned airspace. Proper planning of airspace control is critical to the success of MAGTF aviation operations. Planners must address the following areas.

### **Surveillance Plan**

The proper planning of surveillance ensures that all surveillance-capable assets are properly integrated to support MAGTF operations. The surveillance plan also helps determine which agencies are granted identification authority. Aviation planners must ensure that the surveillance plan provides reliable communications links for the passage of time-critical information. Rapid and reliable communications links are also important to nonradar capable assets such as Stinger teams and visual combat air patrol aircraft. Once the surveillance plan is established, planners can assess the extent of the recognized air picture. This assessment includes identification of any gaps in coverage. An assessment of the surveillance plan and the capabilities, limitations, and integration potential of each surveillance-capable asset facilitates the development of an effective radar control (RADCON) plan and the establishment of radar contracts to minimize gaps in surveillance. To reduce the enemy's EW capability, the RADCON plan addresses the need to maintain situational awareness during conditions when emissions are minimized emission control (EMCON). The RADCON plan also identifies the radar contracts established between the TAOC and radar-capable CAP aircraft.

## **Handover Procedures**

Control procedures, both positive and procedural, must be established to effect handovers of aircraft from the original airfield traffic area, through the control agencies and terminal controllers for mission execution, and then back to the appropriate agency for aircraft recovery.

## **IFF/SIF Requirements**

Planners must develop IFF/SW mode and code procedures to facilitate the identification of air tracks.

## **Airspace and Air Defense Control Measures**

The assigned airspace must be segmented by volume and/or time through the establishment of airspace and air defense control measures.

## **Destruction Area**

The enemy airborne threat is destroyed or defeated in the destruction area. The destruction area includes base defense zones (BDZs), missile engagement zones (MEZs), fighter engagement zones (FEZs), and crossover zones/points. The destruction area is built around the air defense priorities established by the MAGTF commander. See Joint Pub 3-01 and MCWP 3-22 for additional information.

**BDZs.** BDZs are established as needed around main air facilities and FOBs. Their size is limited to the effective engagement envelopes of the deployed short-range air defense (SHORAD) system (i.e., Stinger). When planners establish BDZs, they must establish entry and exit procedures (including safe lanes) and TEE mode and code requirements.

**MEZs and FEZs.** When planners establish **MEZs** and FEZs, they must address the threat, primary threat axes, effects of terrain, and realistic engagement envelopes of the weapon system that will be used to engage the threat.

**Crossover Zones.** With the increased sophistication of aircraft navigation capabilities, it may not always be necessary to establish a crossover zone between FEZs and MEZs. In some instances a crossover line is sufficient.

## **Airspace Coordination Areas**

Airspace coordination areas are established, either formally or informally, to facilitate and protect friendly air-craft

operations from concurrent fire support missions (NSFS, artillery, mortars). Planners must consider the ramifications of fire support coordination measures such as the fire support coordination line, free fire areas, restricted fire areas, and no fire areas. See Joint Pub 3-09, *Doctrine for Joint Fire Support* (under development); NWP 22-2, *Supporting Anns in Amphibious Operations*; and EMEM 6-18, *Techniques and Procedures for Fire Support Coordination*.

### **Routing Procedures**

Effective routing procedures ensure safe and expeditious passage of friendly aircraft and allow ground air defenses and other sources of fire support freedom to engage enemy targets without undue restriction. Planners establish routing procedures to ensure safe passage of friendly aircraft into, out of, and within the air defense sector. Minimum risk routes are delineated by aircraft type and should include altitude and speed requirements/constraints. Minimum risk routes should not be positioned on the seam of adjacent weapon engagement zones (WEZs) or directly overhead an air defense priority or ground-based air defense agency. The plan for routing should also include fade and bugout plans for high-value assets.

### **Control Points**

Control points are used for ease of navigation and routing. Easily identifiable terrain features or landmarks are normally chosen as control points.

### **Orbrt Areas**

Orbit areas may be required for EA and ES tracks (EA-6B), tanker tracks, TAC(A) tracks, FAC(A) tracks, DASC(A) tracks, and CAS stacks. They are defined by specific altitudes and lateral dimensions. When planners establish orbit areas, they should orient specific tracks to specific missions of the user aircraft (e.g., ES track parallel to the forward line of own troops, EA track perpendicular to the forward line of own troops).

### **Additional Airspace Control Measures**

There are a variety of additional airspace control measures that may be required based on the tactical situation. The following subparagraphs discuss some, but not all, of the potential additional airspace control measures. See Joint Pub 3-52 and MCWP 3-25 for additional information.

**HIDACZ.** An HIDACZ may be required for concentrated employment of numerous and varied weapons and airspace users. The HIDACZ

allows the commander to restrict nonmission essential use of a volume of airspace. Such a restriction may be necessary due to the large volume and density of supporting fires.

**LLTR.** A LLTR is a temporary corridor that may be activated to facilitate the low-level passage of friendly aircraft through friendly air defenses. Currently, LLTRS are established only in NATO.

**Coordinating Altitude.** A coordinating altitude may be published in the ACP. It provides altitude separation for fixed-wing and rotary wing aircraft.

**ROA/ROZ.** A restricted operations area (ROA)/restricted operations zone (ROZ) may be designated by the ACA in response to specific operational situations or requirements in order to restrict airspace use. Particular attention must be given to establishing exclusion areas or exclusion zones to restrict civil use of airspace as necessary. To establish a ROA/ROZ, planners must publish international notices to airmen via the International Civil Aviation Organization.

**SAAFR.** When participating in joint operations involving U.S. Army helicopters, planners may use standard-use Army aircraft flight routes (SAAFRs) established below the coordinating altitude. SAAFRs do not require ACA approval and could present a source of conflict.

**Civil Airways.** Planners must assess the impact of civil aviation on operations. They must identify the international and national civil airways that remain open to both civil and military air traffic.

### **Lame Duck Procedures**

Planners must establish lame duck procedures for aircraft that can't squawk, talk, or navigate. Their first consideration is risk assessment. A decision must be made to either weigh risk assessment in favor of the returning lame duck aircraft or in favor of air defense priorities. If air superiority has been gained and the enemy air threat is being engaged well forward, risk assessment would likely be weighed in favor of the lame duck aircraft. This forces a delay in engagement by air defenses. If the enemy air threat is greater, risk assessment may be weighed toward air defenses. The lame duck aircrew must ensure that it presents a nonthreatening profile to air defense agencies. Once risk assessment is determined, it becomes easier to develop specific lame duck procedures.



## **Air Control**

Once planners establish baseline procedures for air control and apply applicable control measures, they must consider specific air control issues that impact mission execution and enemy contact. Specific air control issues include the following items:

## **Engagement Authority**

Engagement authority must be determined. Will the authority be given to the flight lead on CAP or will it reside at the agency exercising CAP control?

## **CAP and Tanker Control**

Agency responsibility and procedures are determined for CAP control and tanker control.

## **Hawk Mode of Control**

The mode of control must be delineated for Hawk engagements: Will the TAOC or *EWIC* exercise centralized control of engagements? Will engagement authority be decentralized to the tactical officer in the Hawk platoon? The mode of control is selected based on several considerations. These include the ability to respond to the threat, extent of recognized air picture, risk of fratricide, political considerations, and the situational awareness of the missile controllers as compared to that of the tactical officers. Control by exception, though rarely used, is also an option that might apply when the threat is such that the tactical officer requires freedom to prosecute engagements without keeping the missile controller informed on a real-time basis.

## **Rules of Engagement**

Planners receive ROEs (peacetime, transition to war, and wartime) guidance from the National Command Authorities, through the supported **CLNC**, to the MAGTF commander, and down through the ACE commander. This guidance and the published ROE must be clear and specific. It must address each engagement-capable weapon system. ROE includes the following issues:

**Identification and Engagement Authority.** The agencies deemed appropriate by the MACCS planning staff to exercise identification and engagement authority must be consistent with the agencies identified in the ROE. Aviation planners must operate within the established ROE guidelines when conferring this authority.

**Identification Criteria and Weapons Control Status.**

Identification criteria for hostile, unknown, and friendly aircraft must be clearly delineated. Additionally, there must be a clear and easily understood relationship between identification criteria and weapons control status.

**Commit Criteria.** Commit criteria must be clearly stated for CAP aircraft.

**Self-Defense Criteria.** Self-defense criteria must be disseminated in mission briefs, the operation order, and SPINS to the ATO. This information must be planned and well promulgated for each weapon system. It is critical that each unit have access to self-defense criteria for other units. For example, a Hawk platoon may be well aware of its own self-defense criteria but a potential for fratricide exists if a transiting aircraft is not aware of Hawk criteria.

**Night Operations.** If night operations are planned, planners must consider potential changes to the ROE. This is of particular concern due to the advent and increased availability of night optics and infrared devices.

**Reasonable Assurance.** The ROE should clearly state under what conditions reasonable assurance will go into effect for OAS operations and when it will cease as stipulated by the MAGTF commander

**Air Direction**

Air direction regulates employment of air resources (aircraft and ground-based air defense units) to maintain a balance between their availability and their priority of usage. Air direction planning requirements include the following:

**CAP and Tanker Management**

Planners must delineate responsibilities and procedures for CAP management and tanker management.

**Launch and Divert Authority**

Planners must determine responsibility for aircraft launch and divert authority for AAW, OAS, and assault support missions.

**States of Alert**

Planned states of alert maximize employment and availability of CAP aircraft and ground-based air defense units. States of alert can include battle stations, airborne alert, 5-minute alert, 1-

hour alert, etc. States of alert are driven by the extent of situational awareness, ability to respond to the threat, indications and warnings capability, and maintenance and crew fatigue considerations. A detailed time-distance analysis is useful in determining the required states of alert.

### **Communications**

Communications is one of most critical planning areas. Insufficient planning for communications can render an otherwise functional aircraft and missile control system inoperative. Appendix D includes a listing of MACCS communications capabilities. Planners should accomplish the following tasks to ensure an effective communications plan. See MCWP 3-25.3 for additional information

### **Identify Requirements**

In identifying communications requirements, planners should review the commander's intent and the friendly force composition. Additionally, planners must identify critical information flow requirements for each agency that supports the control of aircraft and missiles.

### **Assess Available Assets**

Planners must have a realistic idea of what is required to fulfill communications requirements and what is available. Once the list of communications requirements is consolidated, it must be balanced against the available communications assets. Communications requirements may exceed the assets available, especially in a joint or combined environment. Planners can request communications assets from other agencies if requirements exceed available assets.

### **Ensure Equipment and Cryptographic Compatibility**

Compatibility of equipment and cryptographic compatibility is critical, particularly in a joint or combined environment.

### **Plan Backup Paths for Critical Information Flow**

Planners must address the need for redundancy of communications paths to ensure the flow of critical information in case primary paths are rendered inoperative.

### **Develop EMCON Plans**

EMCON plans need to be developed to protect friendly communications and radars from enemy ES and EA means.

## **Plan Integration of Intelligence**

Planners must conduct detailed planning to identify communications paths for intelligence flow and combat information dissemination. Planners must be aware of the intelligence sources available as well as the integration means for each source (e.g., Marine All-Source Fusion Center, electronic intelligence platforms, UAVs).

## **Survivability**

The MAGTF's air control system must be able to survive system degradation or the loss of one or more components. Survivability and the ability to function in degraded conditions are critical planning considerations. Planners must address the potential for degradation from three perspectives: an agency perspective, a functional perspective, and a communications perspective. For example, if the Marine TACC becomes a casualty, it cannot be assumed that the TAOC alone will perform as the alternate Marine TACC. A division of Marine TACC responsibilities is the likely solution. The TAOC may functionally assume responsibility for some of the current operations functions of the Marine TACC (including responsibility for AAW operations) while the senior air director in the DASC may assume responsibility for OAS and assault support functions.

## **Logistics**

Planners must anticipate the need for resupply and sustainment (ordnance, fuel, repair parts) and provide for those needs. They also must consider the effect the logistics plan for the control of aircraft and missiles will have on other logistical support capabilities.

## **Unmanned Aerial Vehicles**

Planning of UAV operations is critical to ensure effective control. UAVs are controlled in the same manner as manned aircraft. They enter the airspace control system via the appropriate airspace control agency, normally the DASC. UAV controllers maintain communications with the appropriate airspace control agency during missions to receive routing, altitude, and other pertinent airspace control information. UAV missions should be included on the ATO and coordinated with other air operations and supporting arms. Requests for UAVs are made via the DD 1972, JTAR, form. See MCWP 3-42.1, *Unmanned Aerial Vehicle (UAV) in MAGTF Operations*.

## **Phasing MACCS Elements Ashore**

An amphibious operation's goal is to achieve a seamless transition of power from sea to shore. Because many MACCS elements are ground-based and much of the MACCS's equipment must be phased ashore, proper planning is critical to ensure that effective control of aircraft and missiles is not interrupted during the ship-to-shore movement. The following subparagraphs address the different MACCS elements, discuss their movement ashore, and provide considerations for their employment during amphibious operations.

## **Low Altitude Air Defense Sections**

Low altitude air defense (LAAD) sections are a vital part of the integrated air defense system. The primary LAAD weapon is the Stinger, which is designed to provide close and low coverage. It is best employed along key avenues of approach and in masked terrain that would not be protected by larger systems. Initially, LAAD assets may come ashore in direct support of the maneuver forces. Notionally, a LAAD battery of three platoons would be assigned to a MEF (forward). Teams supporting the assault should coordinate with the forward air controller (FAC) to help deconflict friendly aircraft from hostile aircraft. While still afloat, the LAAD commander can provide early warning alerts from the Navy tactical air control center (TACC). As the beachhead expands, Stinger sections are employed in general support of the MAGTF, concentrating in areas likely to be targeted by enemy air (e.g., airfields, port facilities, and beach support areas). See 3-25.10, *Low Altitude Air Defense Handbook*, for detailed information on LAAD.

## **Direct Air Support Center**

The DASC lands and collocates with the senior FSCC of the GCE. Since the DASC does not have a radar, it relies on procedural control (control points, altitudes, airspeeds, and other routing measures) to move aircraft from one location to another. After the DASC has come ashore, the LAAD commander may collocate and coordinate with the DASC for deconfliction of friendly aircraft.

## **Light Antiaircraft Missile Battalion**

The primary light antiaircraft missile (LAAM) weapon is the Hawk missile. Elements of a Hawk firing platoon come ashore to augment the LAAD capability as the MAGTF vital area enlarges. Planners should consider echeloning the platoon ashore to provide quick establishment of low altitude protection. Once the full platoon is established ashore, they can provide protection against medium and low altitude threats. The first Hawk platoon is supplemented, as soon as possible, by an additional Hawk firing platoon. See OH 5-5A, *Employment of the Light*

*Antiaircraft Missile Battalion-Hawk.*

### **Early Warning/Control Site**

Surface-to-air and air-to-air weapons systems must be integrated with EW/C capabilities. This integration allows sufficient lead time to acquire, track, and destroy enemy air assets. An advance echelon of EW/C equipment and personnel should arrive ashore at about the same time as the Hawks to provide this capability. An EW radar, an operations van, and the necessary personnel comprise this preliminary capability and are usually the first element of the TAOC to come ashore. This is a limited system designed to support the SAWS until the full TAOC is ashore.

### **Marine Air Traffic Control Detachment**

As MAGTF aircraft begin to operate from FOBs ashore, they require the MATCD to provide them with air traffic main air bases and four air facilities/sites with continuous all-weather service.

### **Tactical Air Operations Center**

As additional MACCS units are phased ashore, the TAOC is established ashore to provide surveillance, weapons control, and positive control of aviation assets. The ACE commander's air defense battle manager, the SAAWC, should be collocated with or integrated into the TAOC. A fully functional TAOC significantly enhances the MAGTF's capability to conduct deep air operations and is a prerequisite for MAGTF assumption of AAW responsibility in a sector. See 3-25.7, *TAOC Handbook*, for additional information on the TAOC.

### **Tactical Air Direction Center**

There will be a transfer of complete control from the Navy TACC to the Marine tactical air direction center (TADC) at some point during the movement of personnel and equipment ashore. However, in the interim, there may be a requirement for coordination of air operations from the beachhead. As the balance of control begins to shift landward, a Marine TADC may be established to control the functions that are phasing ashore. For example, the DASC may be controlling OAS missions or the TAOC may be handling AAW missions. In either instance, both agencies would benefit by being able to coordinate with a Marine TADC ashore until the Navy TACC transfers control. The growing Marine TADC becomes the Marine TACC when overall control is transferred; thereby ensuring a smooth transition. Once control transfers to the Marine TADC, the Navy TACC reverts to a TADC.

## Chapter 6

# Antiair Warfare

AAW refers to the actions undertaken to destroy, or reduce to an acceptable level, the enemy air and missile threat. It includes the use of interceptors, bombers, antiaircraft guns, surface-to-air and air-to-air missiles, and EW. AAW also refers to the methods taken to minimize the effects of hostile air action, such as cover, concealment, dispersion, deception, and mobility. AAW's primary purpose is to gain and maintain a degree of air superiority that allows the MAGTF to conduct aviation and ground operations without prohibitive interference from enemy aircraft and missiles. There are two general types of AAW: air defense and offensive AAW (OAAW). Air defense consists of defensive measures designed to destroy attacking enemy aircraft or missiles or to nullify or reduce the effectiveness of an attack. OAAW consists of operations against enemy air or air defense systems before they can assume an attacking role. See Joint Pub 3-01 and MCWP 3-22.

Successful employment of AAW requires a flexible AAW system that is capable of operating independently or as part of a larger system. An effective AAW system integrates all available AAW assets and coordinates the execution of the three components of a viable AAW system (surveillance, control, and weapons employment). Aviation planners must understand the MAGTF AAW system and **MAGTF** AAW employment doctrine in order to properly plan AAW use. This chapter begins with a discussion of basic AAW issues (including principles of AAW, tasks of OAAW, categories of air defense, and air defense priorities) and ends with a discussion of AAW planning responsibilities and considerations.

### AAW Principles

Planning and execution of AAW is based upon three fundamental principles: destruction-in-depth, mutual support, and centralized coordination and decentralized control.

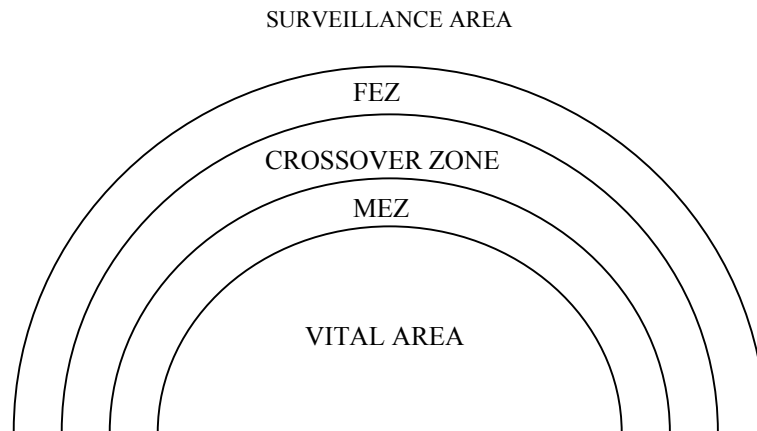
### Destruction-in-Depth

Destruction-in-depth is considered the most important principle of AAW. Its goal is to engage and destroy the enemy air threat

as far out as possible. The area required to ensure this destruction is designated the AAW area and consists of the vital area, the destruction area, and the surveillance area. See figure 6-1.

**Vital Area.** A vital area is a designated area or installation defended by air defense assets. It contains critical facilities, units, and installations necessary to MAGTF mission accomplishment. There may be one or more vital areas depending on the size and scope of the operation. The outer boundary of the vital area serves as the reference point in the application of destruction-in-depth principles. Expected enemy attack profiles and anticipated weapons are considered, along with required minimum standoff range, when planners determine and designate the vital area.

**Destruction Area.** The destruction area is the planned area for the destruction or defeat of the enemy airborne threat. Beginning at the edge of the vital area, the destruction area varies in size depending on the situation. Three factors that normally determine the size of the destruction area are the capabilities of the air defense weapons system, engagement sequence, and surveillance capabilities. The destruction area is normally divided into three geographical subdivisions: the MEZ, crossover zone, and FEZ.



**Figure 6-1. Notional AAW Area.**



**MEZ.** The MEZ is the geographic portion of the destruction area where SAMs have primary responsibility for destruction of airborne targets. It is normally tailored to encompass the maximum range of the SAM system. The MEZ is closest to the vital area.

**Crossover Zone.** The crossover zone is the geographic portion of the destruction area where the primary responsibility for destruction shifts from SAMs to interceptor aircraft.

**FEZ.** The FEZ is the geographic portion of the destruction area where interceptor aircraft have primary responsibility for destruction of airborne targets. The FEZ is furthest away from the vital area.

**Surveillance Area.** The surveillance area is the area in which search, detection, and tracking are accomplished. It extends beyond the destruction area to allow enough warning and reaction time to permit engagement as the target reaches the destruction area.

### **Mutual Support**

AAW assets should be positioned and employed to ensure continuity of engagement. An integrated and overlapping pattern of support and continuity ensures that each target is brought within range of several AAW elements. This increases the chances of preventing the penetration of the vital area by hostile aircraft or missiles. For example, if enemy aircraft successfully transit the FEZ and enter the crossover zone, MAGTF fighter aircraft alert MEZ, ground-based air defense systems to the approaching threat.

### **Centralized Coordination and Decentralized Control**

To provide a viable and self-sufficient system in an environment that requires rapid reaction, planners must ensure that control is decentralized enough to permit timely employment of AAW assets. In the example provided in the paragraph above of a surviving enemy aircraft approaching the MEZ, MAGTF fighters are free to engage the enemy immediately by using SAMs in the MEZ if the ROE is satisfied. But if clearance to fire could only be given by higher echelons, valuable time would be lost and the enemy aircraft might be able to penetrate the vital area before being engaged. Centralized coordination is achieved through reliable communications and a common understanding of the ROE.

## **OAAW Tasks**

OAAW can be broken down into three specific tasks. Each task has its own individual objective.

### **Preemptive Measures**

Preemptive measures weaken the enemy air threat before it can be brought to bear against the MAGTF. Preemptive measures allow MAGTF air and ground operations to proceed. They can include—

- Air strikes on enemy airfields to destroy or damage aircraft, facilities, and logistic support.
- Attacks on (22 facilities and surveillance systems.
- Air strikes on the enemy's air supply and support; e.g., railroads and convoys.
- Offensive air-to-air sweeps to search out and destroy enemy aircraft.

### **Suppression of Enemy Air Defenses**

SEAD's objective is to temporarily suppress the enemy's antiair capability in a defined zone of airspace in order to allow MAGTF air missions to proceed. SEAD is a tactical mission that supports other aviation missions. It includes direct engagement of enemy air defense assets by friendly ground, air, and naval forces as well as countermeasures against enemy capabilities. See Joint Pub 3-01.4, *Joint Tactics, Techniques, and Procedures for Joint Suppression of Enemy Air Defenses (J-SEAD)*, and MCWP 3-22.2, *Suppression of Enemy Air Defenses*.

### **Local Air Superiority Measures**

Despite application of preemptive measures and SEAD, a residual air threat may still exist. The objective of local air superiority measures is to prevent the residual air threat from prohibitive interference in specific zones of action. Local air superiority measures include offensive CAPs, escort tactics, and aircraft countermeasures and maneuvers.

### **Air Defense Categories**

There are two categories of air defense: active and passive. Active air defense is direct defensive action taken to destroy attacking enemy aircraft or missiles or to nullify or reduce the effectiveness of an attack. It includes the use of aircraft, interceptor missiles, air defense artillery, nonair defense weapons in an air defense role, and EA. Passive air defense constitutes all measures, other than active air defense, taken to minimize the effects of hostile air action. These include the use of cover, concealment, camouflage, deception, dispersion, and protective construction.

## **Air Defense Priorities**

Air defense priorities are determined by the MAGTF commander and based on recommendations from his staff and element commanders. To determine these priorities, the MAGTF commander evaluates each asset to determine its relative importance toward mission accomplishment. This list is balanced against available air defense assets. Planners begin at the top (most critical item appears first) of the list and assign air defense capabilities to the prioritized assets. When determining the air defense priorities, planners should consider the following factors.

### **Criticality**

Criticality is the degree that the asset is essential to mission accomplishment. When planners determine criticality, it may be helpful if they divide assets into four groups:

- Assets, which if damaged, are capable of preventing mission accomplishment.
- Assets, which if damaged, are capable of immediate serious interference with mission accomplishment.
- Assets, which if damaged, are capable of eventual serious interference with mission accomplishment.
- Assets, which if damaged, are capable of limited serious interference with mission accomplishment.

### **Vulnerability**

Vulnerability is the asset's resistance to destruction or degradation, its mission, its ability to move or disperse, and its ability to employ passive air defense protection measures.

### **Recuperability**

Recuperability is the degree that the asset can recover from damage in terms of time, equipment, and manpower.

### **Threat Characteristics**

Planners use threat characteristics to determine which weapons provide the most economical air defense of an asset. Knowledge derived from intelligence estimates, past enemy attack methods, enemy location and strength, type of enemy aircraft and ordnance, and enemy doctrine aid planners in this matching process.

### **Planning Responsibilities**

AAW planning and coordination is necessary throughout the MAGTF; not just between the MAGTF commander and the ACE commander. Without local air superiority, all elements of the MAGTF are at

risk of unpredictable impairment due to enemy air attack. The MAGTF commander must have input from higher and lower level commanders to ensure that all AAW needs are met.

### **Higher Headquarters**

Planning for AAW, including the coordination of all air defense weapon systems and EA, is initially the responsibility of higher headquarters (JFC, NEF commander, or CATF). At this level, planning responsibilities include—

- Establishing and disseminating the appropriate ROES.
- Coordinating plans for early warning and air surveillance.
- Determining the general policy for AAW priorities.
- Establishing appropriate AAW sectors.
- Establishing AAW restricted areas as required.

### **MAGTF Commander**

The AAW planning responsibilities of the MAGTF commander (or CLF) include—

- Coordinating MAGTF intelligence planning.
- Translating information requirements into collection tasks for agencies internal and external to the MAGTF.
- Providing initial and periodic assessments of enemy air defense capabilities.
- Determining landing force requirements for the conduct of AAW.
- Submitting requirements for support of the landing force's AAW effort and a statement of landing force AAW capabilities to the CATF.
- Establishing priorities between the ACE, GCE, and CSSE for AAW operations, including delineation of vital, destruction, and surveillance areas.
- Issuing OAAW and air defense objectives in the initial MAGTF planning guidance.
- Ensuring AAW means are available and properly allocated.
- Acting on requests for organic and nonorganic AAW support.
- Providing for early movement of AAW capabilities ashore.
- Providing for early establishment ashore of land-based EW and target acquisition capabilities.
- Establishing necessary AAW control agencies ashore.

### **ACE Commander**

Because the ACE commander may not have direct access to all available intelligence collection activities, he must inform the MAGTF, GCE, and CSSE commanders of his intelligence requirements. OAAW operations short of the fire support coordination line (FSCL) and vital area air defense operations

require in-depth coordination with other element commanders. The ACE commander's planning responsibilities include—

- Developing EEIs and OLRs for air defense and OAAW operations and submitting them to the MAGTF G-2.
- Developing preliminary OAAW and air defense plans for MAGTF approval and coordinating with the GCE and CSSE in their development.
- Receiving the MAGTF's initial assessment of enemy air defense capabilities.
- Recommending OAAW and air defense objectives to the MAGTF commander.
- Assisting in the development of air defense priorities with respect to the ACE and recommending air defense priorities to the MAGTF commander.
- Recommending vital, destruction, and surveillance areas to the MAGTF commander.
- Providing input to the MAGTF list of targets and recommending OAAW target priorities to the MAGTF commander.
- Submitting requests for external support to the MAGTF.
- Developing procedures for monitoring AAW operations between the ACE, GCE, and CSSE, including the status of enemy air and air defense assets.
- Processing and disseminating information on air defense targets of opportunity detected by GCE and CSSE units or aircrews.
- Developing procedures for rapidly attacking or engaging enemy air and air defense targets and targets of opportunity by MAGTF elements.
- Maintaining the enemy air and air defense status by using all available intelligence sources, and providing the MAGTF commander with periodic evaluations of their impact on overall MAGTF objectives.

### **GCE and CSSE Commanders**

GCE and CSSE commanders must also provide input to AAW planning. Their involvement is determined by the size of the MAGTF and the degree of enemy air and air defense threat. Their efforts can encompass both air defense and OAAW areas of concern. These responsibilities include—

- Developing EEIs and OIRs for AAW operations and submitting them to the MAGTF G-2.
- Making recommendations to the MAGTF commander and coordinating with other element commanders on—
  - Developing OAAW and air defense objectives.
  - Developing OAAW target priorities and procedures.

- Developing air defense priorities with respect to the GCE and CSSE.
- Delineating the vital, destruction, and surveillance areas.
- Developing the preliminary AAW plan.
- Determining GCE and CSSE requirements for the AAW planning and execution phases.
- Developing procedures to monitor AAW operations.
- Developing procedures to process and disseminate information on air defense targets of opportunity and air assets.
- Assisting the ACE commander in developing procedures for the rapid engagement of enemy air and air defense targets of opportunity discovered by the GCE and CSSE.
- Providing periodic evaluation on the impact of enemy air and air defense capabilities on the GCE and CSSE objectives.

## **Planning Considerations**

### **Principal Considerations**

The MAGTF commander's decision to conduct AAW operations is based primarily on his mission and objectives. Situational considerations include—

- Concept of operations and scheme of maneuver.
- Characteristics of AO/AOA.
- MAGTF size and composition.
- Enemy forces type, composition, organization, and capabilities.
- Enemy air defense capability.
- MAGTF commander's air defense priorities.
- Duration of anticipated amphibious or expeditionary operations.
- Integration of the MAGTF AAW system with naval and joint forces.
- Logistics support (especially aviation and surface-to-air ordnance).
- Communications.
- Reserve forces available.

### **Availability and Capability**

The quantity, type, and readiness of aircraft, SAWs, and MACCS elements all combine to determine the operational availability and capability of the AAW system. Multipliers, such as the use of FOBs, must be considered when assessing this capability.

## **Air Defense**

Air defense considerations directly affect the MAGTF commander's courses of action. The enemy air and missile threat and the type of AAW requested determine the degree of destruction or reduction necessary. If existing enemy air defense assets pose prohibitive interference to MAGTF operations, the MAGTF commander makes their neutralization or elimination a high priority. **If** assigning terrain objectives for air defense purposes, the MAGTF commander must give priority to the early establishment of air defense facilities ashore.

## **Threat Levels**

Threat levels are tools used to estimate the extent of AAW required. There are three threat levels: low, medium, and high. When determining threat levels, planners must remember that a low threat to one MAGTF aircraft or AAW asset may be a high threat to another. Likewise, a high threat during daylight hours may be a low threat during darkness or overcast conditions. Threat levels aid aircrews, SAW operators, and MACCS personnel in tailoring their tactics, actions, and responses based on changes in the threat and the environment.

**Low Threat.** 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.

**Medium Threat.** 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.
- A fully integrated fire control system that has been degraded due to terrain, weather, or other factors.

**High Threat.** A high threat level exists when the enemy has an air defense system that includes integrated fire control systems and **EW capabilities**. **This** threat level severely affects the MAGTF's ability to conduct operations and includes—

- **C<sup>2</sup>** systems.
- Mobile or strategic SAMs.

- Early warning radars.
- EW capability.
- Integrated AAA fire control systems.
- Interceptor aircraft.

### **Unmanned Aerial Vehicles**

UAVs can be used to support AAW through their normal task of reconnaissance, surveillance, and target acquisition. UAVs can also support OAAW strikes by locating enemy SAW systems and forcing them to radiate or launch weapons thereby - exposing themselves to electronic or physical attack. They can also be used to adjust SEAD fires in support of an OAAW mission and to provide real-time, post-strike damage assessment of the mission. See MCWP 3-42.1 for additional information.



## Chapter 7

### Air Reconnaissance

Air reconnaissance plays a vital role in the planning and execution of military operations. Air reconnaissance may be strategic or tactical. Strategic air reconnaissance provides information for the formulation of plans and policies at the national and international level. Tactical air reconnaissance obtains specific information about terrain, weather, and the enemy. MAGTFs normally conduct tactical air reconnaissance using a variety of aircraft (manned and unmanned) as well as national assets. The Marine Corps' intelligence system processes and disseminates intelligence information to commanders and their staffs as analyzed intelligence products. The *G-21S-2* officer plans and coordinates air reconnaissance. See MCWP 3-26, *Air Reconnaissance*. This chapter identifies categories of air reconnaissance, provides a listing of MAGTF air reconnaissance tasks and capabilities, and discusses specific air reconnaissance planning and tasking considerations.

#### Air Reconnaissance Categories

There are three types of air reconnaissance: visual, multisensor imagery, and electronic. A single mission can employ any combination of these types.

##### Visual

Visual reconnaissance aids offensive actions such as artillery, naval gunfire, or air support missions. It obtains information concerning enemy activities and resources or the physical characteristics of a given area; It also supplements operational information concerning friendly forces. Consider the following when requesting or planning visual reconnaissance:

- Visual reconnaissance provides immediate information on the disposition of friendly and enemy forces.
- Visual reconnaissance requires planning on a day-to-day basis due to the fluid nature of combat operations.
- Visual reconnaissance requires close coordination with supporting arms because both use the same airspace.
- Aircraft speed, visibility conditions, enemy camouflage and deception measures, and standoff distances can limit collection ability.

Throughout the history of warfare, unpredictable, chance observations have turned the tide of battle. But many opportunities have also been lost because an observer did not understand the importance of what he had just witnessed or the information was not reported in time to be useful. If commander's intent is known by all and time is taken to brief aircrews and analysts on what to look for, the MAGTF commander maximizes his chances of using random, valuable pieces of visual reconnaissance information to his advantage.

### **Multisensor Imagery**

Multisensor imagery reconnaissance uses a variety of sensors to detect and pinpoint the location of enemy installations, facilities, and force concentrations. It is also a valuable tool for terrain analysis. Effective imagery depends on proper operation of the system. Therefore, planning to use two or more systems and using visual reconnaissance to complement and enhance the validity of information is prudent. Multisensor imagery sources include the following items:

**Hand-held and Mounted Cameras.** Photography produces the most recognizable image for use by untrained observers. When compared to other imagery systems, photographs offer the highest resolution. Processing and production times are relatively short and a wide variety of cameras, films, viewing angles, and scales are available. Poor visibility, cloud cover, and darkness limit photographic capabilities.

**Airborne Radars.** Radar may provide acceptable imagery during periods of darkness and in conditions of light rain, smoke, haze, or dust. Radar systems are detectable and susceptible to countermeasures.

**Infrared Devices.** Infrared may be effective in periods of darkness or reduced visibility. Viewing methods include a scope presentation for instantaneous viewing and imagery recording on film for later use.

### **Electronic**

Electronic reconnaissance detects, identifies, evaluates, and locates enemy electromagnetic radiation. Electronic interception equipment recovers signals and determines signal direction, source, and characteristics. It is passive and can operate continuously.

### **MAGTF Tasks and Capabilities**

MAGTF air reconnaissance assets are suited for the following functions:

- Battlefield surveillance.
- Route/area reconnaissance.
- Artillery/NSFS spotting.
- Battle damage assessment.
- Target acquisition/identification.

Proper planning ensures that air reconnaissance assets can-

- Collect multisensor imagery of areas of interest.
- Provide and maintain surveillance of enemy activities or areas of interest.
- Conduct airborne electronic reconnaissance.
- Support the direction and adjustment of artillery and NSFS.
- Provide intelligence collection capabilities to the MAGTF.
- Afford the MAGTF commander the ability to sustain coverage in areas of operations.
- Provide rapid and current information on enemy composition, disposition, activity, installations, and terrain.

Effective air reconnaissance helps the MAGTF commander by-

- Identifying targets for attack.
- Warning of hostile intent or actions.
- Allowing for analysis and development of counter tactics.
- Assessing damage to enemy and friendly targets.
- Determining enemy force structure.

The following units provide air reconnaissance to the MAGTF:

- VMFA(AW) - multisensor reconnaissance.
- VMAQ - electronic reconnaissance.
- UAV company - multisensor reconnaissance.
- All aviation units - visual reconnaissance.

### **Planning Considerations**

Planners must address the following basic considerations while planning air reconnaissance missions:

- Avoid offensive combat action in order to accomplish the primary mission of delivering information to the supported commander.
- Use deception, surprise, and speed to avoid detection and afford protection.

- Integrate sensor systems to complement individual capabilities, permit comparison and confirmation of information, and provide backup if one system fails.
- Support reconnaissance missions with other sorties (strike, EW, fighter escort, air refueling), as required.

In addition, specific planning factors include the threat, terrain, target acquisition, and meteorology.

### **Threats**

The status of enemy air defenses has a direct effect on air reconnaissance missions. A significant AAA threat may degrade visual reconnaissance due to a need for aircraft to stay above the threat altitude. The optimum altitude for unaided visual observation is 1200 to 1500 ft **AGL**. SEAD may be required to conduct air reconnaissance.

Planners must consider enemy SAMs, AAA, and air-to-air threats when evaluating risk and determining routes. Enemy SAMs are not considered a significant threat to a UAV because of its small radar cross section and low infrared radiation signature, but SAMs can be disastrous to other aircraft. Because of a UAV's slow speed, AAA is its greatest threat. **It** is also susceptible to jamming because it must maintain a radio up-link. Enemy air-to-air assets do not pose a great threat to the UAV because of its small size, but an air-to-air threat can impede the missions of other aircraft.

### **Terrain**

All reconnaissance systems must have LOS with the target area to be effective. Planners must assess the effects of mountains, defllade, and vertically developed terrain.

### **Target Acquisition**

The ideal target is in flat terrain, has a high contrast color from the background, and has a significant thermal difference from the surrounding area. A target that is well camouflaged and positioned can be difficult to detect no matter what reconnaissance platform is used.

### **Meteorology**

Weather is a limiting factor that aggravates other limiting factors. Bad weather in the target area makes identification and location difficult and limits the type of observation. Low ceilings and poor visibility decrease visual reconnaissance effectiveness as well as the resolution of photographic systems.

**Precipitation.** Visible moisture degrades optical and visual reconnaissance systems. A UAV is not an all-weather aircraft. Exposure to rain, ice, and snow can severely damage or destroy a UAV. Wind. UAVs, due to their lighter weight, are significantly more affected by wind than manned aircraft. The Pioneer UAV has a cross-wind limitation of 16 knots for takeoff and landing and a total wind component limitation of 30 knots in flight. The UAV currently under development will have a cross-wind limitation of 25 knots and a total wind component limitation of 30 knots in flight.

**Clouds, Haze, and Smoke.** In addition to affecting an aircrew's ability to conduct visual reconnaissance, these conditions also affect optical and infrared radiation systems in manned aircraft and UAVs.

**Daylight, Sun Angles, and Shadows.** The angle of the sun affects visual, TV, and FLIR observation in varying degrees. The quality of FLIR imaging decreases as the sun rises and reaches a point where a target can be seen visually. At this point the target cannot be detected by a FUR. Prior to sunset and just after sunrise, long shadows are cast by large terrain features and can obscure objects in their path. The ideal time to take photographs or observe a target is mid-morning or mid-afternoon. During these periods, shadows are cast long enough to add definition and dimension to a target.

### **Tasking Air Reconnaissance Missions**

Immediate requests for visual reconnaissance can be submitted directly to the DASC. Preplanned air reconnaissance requests are submitted using the JTARISR form. Preplanned requests are routed through the intelligence chain and consolidated by the senior intelligence section to improve coordination and reduce duplication. The senior intelligence section may be able to determine that the requested imagery is already available from another source. Once a decision is made to conduct an air reconnaissance mission, the tasking is placed on the ATO.

## Chapter 8

# Electronic Warfare

EW is any military action that involves the use of electromagnetic or directed energy to control the electromagnetic spectrum or to attack the enemy. Military forces depend on electronic equipment and the electromagnetic spectrum for communications and the detection, identification, and destruction of enemy forces. Therefore, the use of the electromagnetic spectrum is integral to operations and intelligence, and it is a critical element in the MAGTF's ability to counter the enemy's C<sup>2</sup> capability. If a force can selectively inhibit the enemy's use of the electromagnetic spectrum or exploit the electromagnetic spectrum to obtain information on the enemy while maintaining its own capability, it can maintain an important advantage over the enemy. EW is an integral part of command and control warfare, which also includes military deception, operations security, psychological operations, and C<sup>2</sup> protection. See MCDP 6, *Command and Control*; Joint Pub 3-51(S), *Electronic Warfare (U)*; MCWP 3-40.5, *Electronic Warfare*.

EW's three major subdivisions are electronic attack, electronic protection, and electronic warfare support. This chapter begins by defining the major subdivisions and addressing measures that are applicable to each subdivision. The chapter concludes with a discussion of airborne EW: its characteristics, the requirements for its effective employment, and available airborne assets.

### Electronic Attack

EA is the use of electromagnetic or directed energy to attack enemy personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying the enemy's combat capability. EA includes—

- Actions that prevent or reduce effective enemy use of the electromagnetic spectrum (e.g., jamming, electromagnetic deception).
- Employment of weapons that use either electromagnetic or directed energy as their primary destructive mechanism (e.g., lasers, radio frequency weapons, particle beams).

### Jamming

Electronic jamming affects enemy receivers by masking the signals it was designed to receive with more powerful signals. Because jamming can also impact friendly electronic emitters (e.g. radios, radars, data links), it normally requires centralized control authority. However, control authority can be delegated to lower commanders. In making the decision to use electronic jamming, commanders must carefully weigh the operational requirement against the possible restrictions or effects imposed on friendly systems and the resulting degradation of ES capabilities. MAGTF C<sup>2</sup> communications can be degraded if jamming is employed.

Jamming can warn the enemy that the MAGTF knows which frequencies he is using. The enemy can then change his frequencies. This makes further jamming difficult and ES less productive. Therefore, jamming for the purpose of merely harassing the enemy or supporting a minor operation may be counterproductive. Jamming, like all warfare techniques, is most effective when used against an enemy who is not prepared for it.

### Deception

Electronic deception uses electromagnetic energy to mislead the enemy's interpretation of information received by his electronic systems. It is normally conducted as part of a larger deception operation. Advances in electronic sensor technology and the speed of transmitting and processing make it difficult to execute large electronic deception operations successfully. An enemy with advanced technological capabilities is likely to discover large deception efforts unless they are planned in detail and adequately supported by personnel and equipment. To increase deception's chances of success, planners should define specific objectives that are limited in time and scope. Deception operations, like jamming, normally require centralized coordination and control. Missions are normally preplanned, but they may be immediate if opportunities for deconflicted, limited applications present themselves.

## Electronic Protection

EP involves the actions taken to protect personnel, facilities, and equipment from any effects of friendly or enemy employment of EW that could degrade, neutralize, or destroy friendly combat capability. Typically, the EP measures needed to protect friendly units from enemy EA and ES are a byproduct of proper communications planning. EP is further enhanced by the proper planning of noncommunications electronic equipment (e.g., radar, data links) usage. There are two types of EP: preventive and remedial.

### Preventive Electronic Protection

Preventive EP involves measures taken by commanders during planning. They include the selection of a scheme of maneuver that minimizes friendly electronic emissions that the enemy can intercept or disrupt using his ES and EA capabilities. This can be accomplished by devising a simple scheme of maneuver with few or no emissions (EMCON), by imposing radio silence, or by selecting avenues of approach that facilitate terrain masking. Preventive EP also includes measures used to minimize the vulnerability of friendly receivers to enemy jamming.

### Corrective Electronic Protection

Corrective EP involves measures taken by operators when the enemy jams their transmissions. The operator takes steps to optimize the performance of his equipment and to determine if the problem is his equipment or actual enemy activity. Possible solutions can include reorienting antennas, increasing power out, changing equipment, etc.

## Electronic Warfare Support

ES consists of actions tasked by, or under the direct control of, an operational commander to search for, locate, intercept, and identify sources of intentional and unintentional radiated electromagnetic energy for the purpose of immediate threat recognition. ES systems provide immediate threat recognition and a source of information for immediate decisions involving EA, EP, avoidance, targeting, and other tactical employment of forces. Examples of ES capabilities include radar warning equipment installed on tactical aircraft for self-defense, the receiver suite of the tactical jamming system of EW aircraft, and equipment used to determine the surface threat by submarines. To program ES equipment correctly, planners must have accurate information on the enemy electronic order of battle.

Data derived from ES can be rapidly disseminated as combat information, although the processing and evaluation time required to turn the raw data into useful information may vary. ES data can be used to produce signals intelligence, communications intelligence, and electronics intelligence. Tactical examples of ES information usage include use of directed energy weapons (EA) against targets of opportunity whose radar emissions were detected and employment of jammers (EP) in response to a displayed signal.

## Responsibilities

EW operations must effectively support combat operations. Therefore, planners must develop the EW plan, integrate it into the overall operational plan, and continually update it to reflect changes in the tactical situation. If the conduct of EW is not adjusted as the situation changes, ES can become degraded and EA can have an adverse effect on friendly command and control. EW must be coordinated at all levels, both internal and external, of the MAGTF.

ES and EA are executed by EW units. These units respond to taskings issued by supported commanders or higher headquarters. However, for self-protection missions, units do not depend on higher headquarters for employment authorization. EP is the responsibility of all users of electronic equipment.

## Airborne Electronic Warfare

In principle, planning and execution procedures for airborne EW are similar to those used for ground LW. The most significant difference between ground and airborne support requirements is time. The timeliness of airborne LW is critical in a fast-paced aviation operation. Characteristics of airborne EW include—

- Airborne EA activities conducted in direct support of other tactical aviation missions. They may support assigned mission aircraft, be part of a planned deception operation, or support other MAGTF operations.
- Airborne ES missions conducted by VMAQ EA-6B assets in general support of the MAGTF, as directed by the MAGTF commander.
- Special platforms that perform ES and/or EA in support of MAGTF operations requested through the JTF/theater commander.

## Requirements

To complete the assigned mission and survive, airborne EW platforms require the following:

**Protection From Enemy Air Defenses.** Aircraft that conduct ES and EA usually fly predictable paths with extended periods of stable, straight, and level flight. The aircraft's high priority for destruction by the enemy and its relative vulnerability to attack require that planners provide for its defense. Typically, this protection is provided by AAW aircraft.

**Proper Positioning.** Proper radial and elevation alignment between an LA platform and the supported OAS aircraft is required. This requires detailed liaison between the aircrews of the EW aircraft and the supported aircraft.

**Information Processing Capability.** The MAGTF commander must have highly-trained collection and analysis personnel at his disposal, and they must possess a clear understanding of the MAGTF'S LW needs. They are responsible for processing the raw data received from various sources into useful combat intelligence.

## Assets

**VMAQ.** VMAQs, using the EA-6B aircraft, are the only specialized Marine airborne EW units. Their primary mission is to conduct LW in support of FMF operations. They support the MAGTF in the following areas:



- EA support for strike force aircraft to prevent, delay, or interrupt detection and tracking by enemy early warning, acquisition, and fire control radars. LA operations may also be conducted against elements of a SAW system (e.g., missile seekers, missile beacons, target tracking/acquisition radars) to prevent effective engagements or increase miss distances.
- ES operations to develop and maintain electronic order of battle, including selected emitter parameters and locations of nonfriendly emitters. Additionally, aircraft ES capabilities may be employed to provide threat warnings for friendly aircraft, ground units, or ships.

Note: The data collected by the EA-6Bs is processed by the Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES). TERPES is an integrated, land-mobile, air-transportable, data processing system organic to VMAQs. Each TERPES has two shelters with equipment and software capable of receiving, processing, evaluating, and reporting electronic reconnaissance information and tactical jamming data.

Other Services. MAGTFs normally participate in joint or combined operations. Other Services or nations usually have airborne LW assets that also can support the MAGTF if proper coordination is performed. LW assets of other services include the U.S. Air Force EF-1 11, RC-135, and EC-130H (compass call) aircraft; U.S. Army LW aircraft and CEWI battalions; and U.S. Navy VAQ and VQ squadrons.

## Chapter 9

# Assault Support

Assault support is the use of aircraft to provide tactical mobility and logistic support to the MAGTF, movement of high priority cargo and personnel within the immediate area of operations, inflight refueling, and evacuation of personnel and cargo. Assault support gives the MAGTF commander the mobility to focus and sustain his combat power at decisive places and times. It allows the MAGTF commander to take full advantage of fleeting battlespace opportunities..

There are three levels of assault support: tactical, strategic, and operational. Operational assault support operations provide the link between the strategic and tactical levels. The MAGTF commander uses operational assault support to attain strategic objectives. The MAGTF's organic aviation capability allows the commander to project power well in advance of close operations in order to shape the battlespace. See MCWP 3-24, *Assault Support*.

### Assault Support Categories

#### Combat Assault Transport

Combat assault transport provides mobility and logistic support to the MAGTF. It is used to rapidly deploy forces, bypass obstacles, or redeploy forces to meet the enemy threat. Combat assault transport allows the MAGTF commander to rapidly build up his forces at a specific time and location.

#### Air Delivery

Air delivery is the transportation of equipment and supplies to FOBs or remote areas. Delivery can be accomplished with helicopters or loads can be air dropped from fixed-wing aircraft such as C-130. Air drop are normally employed when surface or helicopter transport can not be used due to range, closed lines of communication, lack of adequate airfields, prohibitive ground tactical situations, high tonnage, or reduced response time. The supported commander selects the drop zone using the following criteria:

- Drop zone is free of obstacles.
- Aircraft approach routes are not over enemy controlled territory.

- Flat terrain.
- Rectangular area with prevailing wind along the zone's long axis.
- Prominent terrain features.

The best drop zone is located close to cover and concealment. This allows materiel recovery, segregation, inventory, and preparation for distribution without exposing personnel to enemy observation or fire.

### **Aerial Refueling**

Marine KC-130 aircraft serve as airborne tankers for sir support aircraft. Aerial refueling allows Marine aircraft to conduct flight-ferrying operations, extend time on station, and extend mission range. In addition, aerial refueling aids in the recovery of damaged or low-fuel aircraft.

### **Air Evacuation**

Air evacuation is the transportation of personnel and equipment from FOBs or remote areas. This includes flight from area of operation to secure rear areas, medical evacuations, and retraction of forces. Transport helicopters and fixed-wing transport aircraft perform air evacuations.

### **Tactical Recovery of Aircraft and Personnel**

TRAP operations recover personnel and equipment while avoiding additional losses. TRAP is performed when the tactical situation prevents a normal search and rescue mission and when survivors and their locations are confirmed. TRAP operations require detailed planning and briefing of assigned aircrews. MAGTF aviation assets may perform limited self-supporting combat search and rescue support using the TRAP concept.

**Note:** Combat search and rescue is a secondary task that does not interfere with the MAGTF's primary Warfighting functions.

### **Air Logistics Support**

Fixed-wing aircraft perform air logistic support. These transport operations provide assault support to the MAGTF in much the same manner as helicopters. Air logistics support delivers troops, equipment, and supplies that exceed helicopter lift capabilities, to areas beyond helicopter range, or if surface transportation is slow or unavailable. For large-scale operations, limited MAGTF transport aircraft assets may be supplemented by requesting support from other service through the JFC.

## **Battlespace Illumination**

Fixed- or rotary wing aircraft can be used to illuminate the battle area by dispensing various types of flairs. Battlespace illumination may be visible or invisible to the naked eye and can last for a few minutes or several hours..

## **Mission Classification**

Assault support mission are classified as preplanned or immediate. Both types of support are delivered in response to specific requests via the ASR.

### **Preplanned Missions**

Preplanned missions are performed according to an agenda. Planning must begin far enough in advance to permit detailed mission coordination. Preplanned missions allow for more effective management of limited air assets. They are either scheduled or on-call. Scheduled missions are executed at specific times. Coordination requirements demand approval from each intermediate level of command. On-call missions are configured for a particular task and place in an appropriate ground/air alert readiness condition. The supported unit specifies the period of request support.

Of the two types of preplanned missions, on-call support is usually most effective in a dynamic environment. Scheduled air support requires that the requesting commander identify his requirements and set a specific time for the mission well in advance. This is often impossible on a fluid, ever changing battlespace. On-call missions allow the requesting commander to specify his requirements without setting a specific time.

Preplanned requests (both scheduled and on-call) originate throughout the echelons of the GCE and CSSE and proceed up the chain of command to the MAGTF air officer. At each command level, the air officer consolidates the requests and validates the need for aviation to support the request. Requests approved by the MAGTF air officer are forwarded to the Marine TACC for incorporation into the ATO. If a request is not approved or cannot be filled (insufficient assets), it is forwarded back to the originator with another type of support identified.

### **Immediate Missions**

Immediate missions meet requests that arise during battle and respond to situations that cannot be identified far enough in advance for detailed planning and coordination to occur. Response time, or the action cycle, begins with the request and ends with the execution. Response time is a prime

consideration. Urgency may require diverting aircraft from a planned mission to fill an immediate assault support request. While a diverted aircraft may not fit the exact mold for the desired type of configuration, the MAGTF's swift response to the request can exploit an enemy's weakness or maintain the momentum of the attack. Immediate mission request are handled by the MACCS. Mission details are coordinated and issued while aircraft are assigned and moving toward the area. Immediate air support requires extensive use of electronic communications for rapid tasking and coordination. This communication may be difficult in a high-intensity jamming environment.

Immediate requests are submitted via the tactical air request net to the DASC (or Marine TACC if control is afloat). However, if unable to contact the DASC on the Marine tactical air reconnaissance (TAR) net, any other means of communicating the request to the DASC is acceptable.

### **Planning Considerations**

Assault support assets are traditionally employed in general support of the MAGTF. However, assault support assets can be placed in direct support of MAGTF elements for a particular phase of an operations or a specified period of time. Planners must understand that there are trade offs when direct support is used. A major planning factor, and possible limitation, involves the logistical support requirements for the aviation assets placed in direct support. Commanders should consider the following when planning assault support operations.

### **AAW**

The success of an assault support operation depends on lack of prohibitive interference by enemy aircraft and SAWs. The level, scope, and time frame of air superiority required for success and survivability varies with the threat and nature of the planned assault support operation. Planners use threat levels to gauge the potential for mission success and the need to adjust AAW or the assault support mission concept of operations.

Planners should initially assess the ability of the assault support aircraft to defend itself. If assault support aircraft lack a sufficient, inherent AAW capability, planners can assign dedicated AAW assets to provide the necessary protection. There may also be a need to provide assault support aircraft with attached escort and/or detached escort. Attached escort aircraft maintain close contact with the assault force. The need to maintain this contact reduces the attached escort aircraft's speed and freedom of action. Attached escort aircrews may find themselves in a defensive posture at the start of an engagement.

Detached escort aircraft provide protection by clearing a path for the assault force and preventing the enemy from closing with the assault force. Detached escort allows aircrews to retain the initiative and more freedom of action. However, the assault force may suffer serious losses if attacked by enemy forces that evade the detached escort.

## **Deception**

Deception techniques can be used against opposing radars, communications intelligence sites, and other enemy assets. Effective deception draws the enemy's interest and forces away for the assault force and their intended objective. It reduces the enemy's ability to mass his forces against an assault force. To provide deception for the assault force, planners can-

- Vary flight profiles to simulate different types of missions.
- Use decoy aircraft or drones to pose a threat from a different direction than the actual threat.
- Use aircraft to make misleading transmissions to deceive enemy communications intelligence sites.
- Use EW techniques to present targeted enemy radars with false information.
- Use chaff to attract a radar operator's attention or deny radar discrimination in critical areas.

For deception to be effective, planners must understand and address the following:

- The enemy must see the deception and respond as predicted.
- The deception must appear to pose a credible threat.
- Possible enemy reaction should not result in increased danger to friendly units.
- The assault force should remain undetected.
- The risk to deception aircraft must be in proportion to the expected benefit.
- Deception, confusion, suppression, and target attack times must be disseminated, understood, and adhered to.
- Deception planning is an integral part of the assault force mission and should be coordinated with the total MAFTG deception effort.

## **Confusion**

Confusion can deny or delay the enemy's ability to analyze the assault force threat and to take appropriate action. Planners can produce confusion using EW, Chaff, aircraft maneuver,

deception, and concurrent ground operations to mask the assault force objectives.

#### Operations Security

OPSEC is the MAGTF commander's best defense against enemy intelligence gathering. The less information the enemy has concerning assault support operations, the easier it is to conduct successful deception and confusion. Planners must carefully analyze enemy capabilities in order to determine if OPSEC measures are adequate for the planned mission. See Joint Pub 3-54, *Joint Doctrine for Operations Security*. Planners must be aware that OPSEC for assault support missions may be inadvertently compromised by the use of-

- The same ingress and egress routes,
- The same frequencies, code words, and authentication procedures.
- Flight profiles that place assault support aircraft in enemy search or early warning radar coverage areas.
- Emissions from radios, radars, radar altimeters, or other electronic sources.

## Chapter 10

# Offensive Air Support

OAS is conducted against enemy installations, facilities, and personnel to directly assist in the attainment of MAGTF objectives by the destruction of enemy resources or the isolation of this military mission. The MAGTF commander shapes the battlespace by focusing combined arms against critical vulnerabilities. The destruction or neutralization of these targets creates the conditions for decisive action. The firepower, mobility, and flexibility provided by OAS are critical in establishing favorable conditions for deep, close, and rear operations. The MAGTF commander uses combined arms to create a dilemma for the enemy; if enemy forces move against MAGTF ground combat forces, they expose themselves to attack by OAS aircraft. See Joint Pub 3-09.3, *Joint Tactics, Techniques, and Procedures for Joint Close Air Support*; MCWP 3-23, *Offensive Air Support*; JP 3-09.3, *Joint Close Air Support and Close-In Fire Support*; and MCWP 3-23.2, *Deep Air Support*.

The principal effects created by OAS are neutralization and destruction. Neutralization renders areas, weapons, or enemy forces ineffective for a specified time. These missions provide temporary relief from hostile fires and can protect friendly forces during movement. Other neutralization missions can include attacks against installations or areas the enemy uses to support his combat activity. Destruction missions render enemy forces, equipment, supplies, and installations permanently unusable. Total destruction is difficult to achieve due to the number of sorties and amount and type of ordnance required. Destruction missions are normally restricted to high priority targets.

This chapter discusses categories of OSA and OAS mission classifications. It also addresses OAS planning considerations.

### **OAS Categories**

The supported unit's required degree of coordination determines the category of support provided. The two categories of OAS are CAS and DAS. The categories are not dictated by the type of aircraft. Attack helicopters as well as fixed-wing aircraft can conduct CAS and DAS..



### **Close Air Support**

CAS is air action against hostile targets that are in close proximity to friendly forces and require detailed integration of each air mission with the fire and movement of friendly forces. The supported commander requests and approves all CAS missions within his area of responsibility. CAS missions may be flown on either side of the FSCL,

### **Deep Air Support**

DAS is air action taken 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. However, DAS missions require varying degrees of coordination. DAS missions may be flown on either side of the DSCL. DAS tasks include air interdiction and armed reconnaissance.

### **Air Interdiction**

Air interdiction 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 briefed in advance.

### **Mission Classification**

There are two classifications for OAS missions; preplanned and immediate. Both are executed in response to specific requests via the JTAR.

#### **Preplanned Missions**

Preplanned missions are performed according to an agenda. Planning must begin far enough in advance to permit detailed mission coordination. Preplanned missions allow for more effective management of limited air assets. Preplanned missions are either scheduled or on-call.

Scheduled missions are executed at a specific time and aircrews are assigned a time-on-target. Scheduled mission provide effective coordination and economical use of aircraft and ordnance. They require approval from each intermediate level of command. Scheduled air support requires that the requesting commander identify a specific target or type of target and a specific time for the attack well in advance. This is often impossible in a fluid, ever changing battlespace.

On-call missions are configured for a particular target or type of target and placed in an appropriate ground/air alert readiness condition. The supported unit specifies the period of

required support. On-call missions allow the requesting commander to specify a target or area where specific targets are to be attacked in order to minimize required communications after launch.

**Note:** Preplanned on-call OAS offers planners some of the advantages found in both preplanned scheduled and immediate missions: the ability to plan in advance, yet be responsive and flexible at the same time.

Preplanned requests (both scheduled and on-call) originate throughout the echelons of the GCE and CSSE and proceed up the chain of command to the MAGTF air officer. At each command level, the air officer consolidates the requests and validates the need for aviation to support the request. Requests approved by the MAGTF air officer are forwarded to the Marine TACC for incorporation into the ATO. If a request is not approved or cannot be filled (insufficient assets), it is forwarded back to the originator with another type of support identified.

### **Immediate Missions**

Immediate missions meet request that arise during battle and respond to situations that cannot be identified far enough in advance for detailed planning and coordination to occur. Response time, or the action cycle, begins with the request and ends with the attack. Response time is a prime consideration. Urgency may require diverting aircraft from a preplanned mission to fill an immediate OAS request. While a diverted aircraft may not carry the optimum mix of ordnance, the MAGTF's swift response to the request can exploit an unexpected enemy weakness or maintain the momentum of the attack. Immediate mission requests are handled by the MACCS. Mission details are coordinated and issued while aircraft are assigned and moving toward the target. Immediate support requires extensive use of electronic communications for coordination. This communication may be difficult in a high-intensity jamming environment.

Immediate requests are submitted via tactical air reconnaissance net to the DASC (or Navy TACC if control is afloat). However, if unable to contact the DASC on the TAR net, any other means of communicating the request to the DASC is acceptable.

### **Planning Considerations**

The MAGTF is task-organized to exploit the combat power inherent in closely integrated air and ground forces. A large percentage of its combat power is provided by its organic aviation assets. It is , therefore, imperative that every effort be made to use

the MAGTF's limited aviation assets effectively. MAGTF effectiveness can be maximized if planners clearly understand the requirements for effective OAS and tailor their plans to meet the requirements.

### **Air Superiority**

The success of an OAS mission depends on the ability of the aircraft to prosecute the attack without prohibitive interference by enemy aircraft or air defense systems. Planners must gauge and apportion the proper amount of AAW support to protect an OAS mission.

### **SEAD**

SEAD allows the attacking aircrew to concentrate on accurate delivery of ordnance rather than reacting to enemy SAMs. It also gives the aircrew more latitude in selecting attack profiles. If SAMs can be suppressed by high-speed antiradiation missiles (HARMs), EA performed by EA-6Bs, or other means, the OAS aircraft can deliver its ordnance accurately from a higher altitude, which reduces the AAA threat. Planners must coordinate the ground-sourced and air-sourced SEAD for effective suppression to occur at the proper time.

### **Weather/Environment vs. Systems/Proficiency**

Planners must consider the effects of weather and environment (day/night) and balance them against the capabilities of the delivery platforms. For example, DAS strikes against a radar-significant target by F/A-18s may be more immune to weather interference than CAS delivered by AH-1Ws. With the advent of GPS-based marking and weapons delivery technologies, situations may develop where CAS can be delivered through a solid undercast by aircrews that never see the target in support of Marines that never see the CAS aircraft.

OAS planning must include a margin of system degradation and operator error. A common mistake of planners is to look at a static list of aircraft capabilities and base their plans on 100% capability. Planners must remember that sensors fail, aircrews make mistakes, and aircraft systems become degraded. No system can be counted on to perform as advertised all the time. If planners underestimate the effects of environmental factors, they can cause the loss of assets and lives. A point of balance between environment and technology must be assessed by planners. Planners who fail to make full use of new technologies and systems may pass up opportunities for success that might seem to be unattainable at first glance.

### **Targeting and Marking**

Planners must use all assets at their disposal to achieve effective targeting and marking: both deep and close operations. A MAGTF commander who designates the ACE as the main effort to shape the battlespace needs to emphasize and conduct deep operations. In deep operations, the required emphasis can include MAGTF aircraft searching the area of influence. Consistent, effective OAS, particularly CAS, also requires detailed planning for primary and backup target marking means.

### **Weaponry**

Planners evaluate the available weapons and delivery platforms and match them to the targets they are trying to kill. This matching process can be a challenging one of a variety of targets exist that must be serviced by limited assets. The use of *Joint Munitions Effectiveness Manuals* is essential in determining the ordnance loads required to achieve the desired effect and retain a degree of mission flexibility.

### **Flexible Control**

A responsive C<sup>2</sup> system is required to ensure that the proper OAS requester receives timely OAS support. Planners must integrate their OAS plans with the C<sup>2</sup> system. The use of TAC(A)s and FAC(A)s should be planned, if possible and tactically feasible, in order to provide maximum situational awareness of OAS aircrews.

## Appendix A

### Notional Rapid Planning Timeline

Time	Process	Command Element
	Receipt of mission	Acknowledge receipt, assemble battlestaff
0 + 05	Mission analysis	Mission precedence, implied tasking
0 + 10	Determine information	Enemy situation, environment
0 + 15	Initial staff orientation MAGTF commander's planning guidance	All staff personnel assembled _ Develop courses of action
	Courses of action brief MAGTF concept	Preparation of detailed plans
	Confirmation brief	
	Commander, time, mission, preparation rehearsals Final inspection staging force	
	Command and staff supervision	
	Commander and individual mission	Briefed by each appropriate staff
	Commander's intent and guidance, principal objectives	
	Review existing plans, modify plans	
	Finalize timeline, execution checklist	
	<b>ACE</b>	
	Acknowledge receipt, assemble battlestaff	
	Rapid planning cell activation, maintenance alerted	
	Crews assembled, map issue, planning	
	check air support element equipment, configure aircraft	
	Preflight aircraft, create SmartPac	
	Landing zones, routes, rendezvous points determined and submitted as SPINS	
	Load plan created, preparation for confirmation brief and flight brief	

Rehearsal of confirmation and flight briefs SmartPac completed, operations duty officer and weather briefer ready

Common/specific brief

Man aircraft

First launch

**(reverse  
blank)**

0

0

1

1

2

4

+ 20

+ 30

+ 00

+ 30

+ 00

+ 30

+ 00

+ 00  
5 + 30

6 + 00

## Appendix B

# Policy for Command and Control of USMC TACAIR in Sustained Operations Ashore

The Marine Air-Ground Task Force (MAGTF) commander will retain operational control of his 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 his air component commander, for air defense, long-range interdiction, and long-range reconnaissance. Sorties in excess of MAGTF direct support requirements will be provided to the Joint Force Commander for tasking through the 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 theater or joint force commander in the exercise of operational control, to assign missions, redirect efforts (e.g., the reapportionment and/or reallocation of any 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 his subordinate commanders to insure unity of effort in accomplishment of his overall mission, or to maintain integrity of the force.

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

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## Appendix C

# Employment Planning Checklists

The following checklists provide employment-planning considerations for each of the six functions of MAGTF aviation. They are designed to complement the planning information presented in Part II of this manual.

## CONTROL OF AIRCRAFT AND MISSILES

### Mission

- Specified tasks
- Implied tasks
- Based on MAGTF and ACE missions and commanders' intents

### Assumptions

#### Friendly Force Composition

- JFACC/ACA/AADC
- Joint/combined
- MAGTF
- MACCS
- Unique integration requirements

#### Threat

- Assess capabilities, limitations, doctrine, training and likely courses of action with respect to the friendly situation
- Air order of battle
  - Fighter
  - Attack
  - Helicopters
  - UAVs
- Ground order of battle
- Electronic warfare
- Reconnaissance
- Terrorist/unconventional

#### AOA/AO Description

- Size
  
- Airspace control area
- Air defense area
- Sectors of responsibility

#### Terrain and Weather

- Topography

- Masking effects
- Mobility/trafficability
- Vegetation/foilage
- Environmental effects on-
  - Communications
  - Radar
  - Personnel

#### Airspace Control

- Surveillance plan
  - Agency responsibilities
  
  - Radar contracts
  - RADCON plan
  - Identification authority
- Control of aircraft within airfid traffic area
- Control of aircraft after departing airfid traffic area
- Control of aircraft by terminal controllers
- Control of aircraft during recovery operations
- IPF/SIF requirements

#### Airspace and Air Defense Control Measures

- Destruction area (BDZs, MEZs, FEZs, JEZs, crossover zones)
- Airspace coordination areas
- Routing
- Control points
- Orbit points
- Additional airspace control measures
  - HIDACZ
  - LLTR
  - Coordinating altitude

- ROA/ROZ
- SAAFR
- Civil airways
- Lame duck procedures

### **Air Control**

- Engagement authority
- CAP and tanker control procedures
- Mode of control
- Rules of engagement (peacetime, transition, wartime)
  - Identification criteria
  - Weapons control status
  - Self-defense criteria
  - ROE changes for night operations
- States of alert

### **Air Direction**

- CAP and tanker management
- Launch and divert authority
- States of alert

### **Communications**

- Requirements
- Assets available
- Equipment and cryptographic compatibility
- Redundant architectures
- Critical information flow
- EMCON

### **Casualty Procedures (Vulnerability)**

- Agency
- Function
- Communications

### **Logistics**

- Resupply and sustainment
  - Ordnance
  - Fuel
  - Class IX
- Impact on plan for control of aircraft and missiles on logistical considerations and constraints

## ANTI-AIR WARFARE

### Missions

- Air defense
  - Active
  - Passive
- Offensive anti-air warfare
  - Preemptive anti-air warfare
  - SEAD
  - Local air superiority
- Threat assessment
  - Aircraft
  - Missiles
  - SAMs
  - AAA
  - EW
  - UAVs
- AAW assets available
  - RADCAP
  - HAWK
  - STINGER
  - VISCAP
  - OAS assets
  - Supporting assets (UAVs, EW, tanker, etc.)
  - Weapons
  - Command and control

### OAAW Considerations

- Fundamentals of OAAW
  - Locate
  - Destroy
  - Deceive
  - Intimidate
- Identification criteria/rules of engagement
- Integration
  - Airspace control means
  - System status

### Air Defense Considerations

- Air defense priorities
- Air surveillance picture/reaction time
- Principles of AAW
  - Destruction in depth
  - Mutual support
  - Centralized command/decentralized control
- Air defense employment principles
  - Mass
  - Mix
  - Mobility
  - Integration

## AIR RECONNAISSANCE

### **MAGTF Capabilities**

- Tradeoffs
- Systems available
- Secondary mission

### **UAV Characteristics**

- Size
- Airspeed
- Altitude
- Endurance
- Radius of action
- Sensors (day/night)
- Guidance

### **Threats**

- SAMS
- AAA
- EW
- Air-to-Air

### **Terrain**

- Target acquisition
- Sensor effects
- Line of sight

### **UAV Navigation**

- Routing/deconfliction
- Standoff observation
- Target location accuracy

### **Meteorology**

- Precipitation
- Wind
- Clouds/haze/smoke
- Sun angles/shadows

### **Mission Assignment**

- DS vs.GS
- Liaison

### **Tasking**

- JTAR/SR
- Consolidated at G-2/S-2
- Tasked by G-3/S-3

### **Tactical Applications**

- Battlefid surveillance
- Route/area reconnaissance
- Artillery/Naval gunfire spotting
- BDA
- Target acquisition/identification

### **UAV Intelligence Products**

- Report
- Videotape
- Real time data link
- Remote video terminal

### **Intelligence Product**

#### **Dissemination**

- Voice
  - GO/NO-GO criteria
- Remote video terminal with user
- Report/tape/data link

#### **Asset Location**

- Ground data terminal/ground control station
- Remote video terminal
- Operating fid
- Launch and recovery site
- Turnaround time
- Weak link

#### **Other Systems/Capabilities**

- F/A-18
  - Targeting FUR
  - LASER detector tracker/camera pod
- AV-8B
  - ARBS dual mode tracker
  - Night Attack NAVFLIR

## **ELECTRONIC WARFARE**

### **Enemy Defenses**

- ❑ Enemy order of battle
- ❑ Air defense integration
- ❑ Threat assessment

### **Meteorology**

- ❑ Night vs. day
- ❑ Weather
- ❑ Ducting

### **Terrain**

- ❑ Strike masking
- ❑ Jammer line of sight
- ❑ Multipath

### **EW Target Vulnerability**

- ❑ EA coverage and effectiveness
- ❑ EP capability

### **HARM Considerations**

- ❑ Numbers/platforms
- ❑ Prebriefed
- ❑ Targets of opportunity
  - Range known
  - Range unknown
  - Acquisition before launch
- ❑ Impact times

### **Force Requirements**

- ❑ EW mission requirements
- ❑ Organic assets
- ❑ Nonorganic assets
- ❑ EW asset protection

### **Navigation**

- ❑ Attack route and alignment
- ❑ Deception axis
- ❑ Detection and unmasking times

- ❑ Turn times
- ❑ Egress route and alignment

### **Formation**

- ❑ EW asset location
- ❑ EW asset protection
- ❑ Airspace deconfliction

### **Rules of Engagement**

- ❑ Prohibited and restricted frequencies
- ❑ Noncombatant nations
- ❑ Electromagnetic interference

### **Command and Control**

- ❑ Threat warning and reporting
- ❑ EW asset threat warning
- ❑ Divert and employment authority
- ❑ Nonorganic coordination
- ❑ Bugout procedures
- ❑ Return to support procedures

## ASSAULT SUPPORT

### Mission

- Stated
- Implied
- Scheme of maneuver
- Mission orders
- Overtasking/  
underutilization
- Night/day
- GO/NO-GO criteria

### Threat

- SAMS
- AAA
- EW
- Fixed-wing aircraft
- Helicopter
- Armor
- Artillery
- TAMPS**
- Suppression/  
neutralization/avoidance
- Support arms/escort
- Survivability equipment

### Terrain

- Routing
- Objective area/landing  
zones
- Command and control

### Meteorology

- Sun
- Temperature
- Humidity
- elevation
- Winds

- Visibility
- Light level
- Slower/lower

### Command and Control

- Chain of  
command/authority
- Critical information flow
- Alternate means
- MEZ

### CAS

- Asset location
- Integration
- Targeting

### Support

#### Requirements/Logistics

- Forward arming and  
refueling point
- Forward operating bases
- Helicopter support team
- Support asset (UAVs,  
escort, EW, etc.)

### KC-130

- Rapid ground refueling
- Battlefield illumination
- Emergency resupply
- C<sup>2</sup> integration

### Aerial Refueling

- Track
- Escort/CAP
- Fu required
- Assets
- C<sup>2</sup> integration
- Bugout

### DASC (A)

- Track
- Escort/CAP
- Time on station
- Aerial refueling
- C<sup>2</sup> integration

**TRAP**

- ❑ Assets/location
- ❑ TRAP zones
- ❑ Selected area for evacuation
- ❑ Communication
- ❑ Actions if downed
- ❑ Recovery site folders
- ❑ Isolated personn  
report/barter kit/blood  
chit
- ❑ Local area populace



## OFFENSIVE AIR SUPPORT

### Big Picture

- Scheme of maneuver
- Fire support plan
- ACE guidance

### OAS Missions

- DAS
  - Air interdiction
  - Armed reconnaissance
- CAS (Fixed- and rotary wing)

### Threat

- SAMS
- AAA
- Fighters
- EW

### Assets

- Force requirements
- External support
- Types, numbers, capabilities
- Location
- Turnaround times
- Surge rates
- Day/night

### Ordnance

- Type/numbers
- Probability of kill
- Standoff capability
- Carriage
- Loadout

### Support Assets

- Tankers
- Jammers
- Fighters
- SEAD
- UAVs

### Terrain

- Masking
- Navigation
- CPs, IPs, APs
- Target acquisition

### Weather

- Sun/moon angle
- Illumination
- Cloud layers
- Precipitation
- Visibility
- Temperature

### Navigation

- Systems
- Avenues of approach
- Defense along route
- DAS/CAS
- Minimum risk route

### Targeting

- Deliberate
- Reactive
- Acquisition
- Vulnerability
- Defenses
- Point/area
- Structure/type

## Appendix D

### MACCS Capabilities Chart

Agency/	Equipment/Characteristics Unit	Employment
<b>Marine</b>	UHF/VHF/HF/MUX/SATCOM <sup>1</sup> TACC	MEF/MEF (forward)
TAOC	TADIL-A, -B; NATO Link-i; JTIDS <sup>2</sup> UHF/VH F/HF/MUX/SATCOM <sup>1</sup>	MEF/MEF (forward)
	TADIL-A, -B, -C; NATO Link-i; ATDL-i; JTIDS <sup>2</sup> Radars: AN/TPS-59 (300 nmi) AN/TPS-63 (150 nmi)	
<b>DASC</b> (air support element)	UHF/VHF/HF/MUX/SATCOM <sup>1</sup>	MEF/MEF (forward)/MEU
MATCD (MATCD mobile team)	UHF/VHF/HF/MUX/SATCOM <sup>1</sup> TAD IL-B, -C	MEF/MEF (forward)/MEU
	Radars: AN/TPN-22 (10 nmi) AN/TPS-73/107 (60 nmi)  TACANS: AN/TPN-30 (10 nmi) AN/TRN-44 (130 nmi)	
	LAAD Stinger missile (5-7 nmi; 8-10,000 ft) batteries)/MEF (forward) (1 battery)/ Battery (limited to gunner visibility)	MEF (2 MEU (platoon/section)
	VHF/HF	Organized into 3  teams each (45 teams per battery)
platoons of 3 sections of 5		
	Radars: AN/UPS-3 (10 nmi; under 10,000 ft)	
	LAAM Hawk missile (20 nmi; 40,000 ft) Battery	MEF/MEF (forward)
	VHF/HF	Organized into 3  launchers each (54
missiles on rail per battery; 2 targets	ATDL-i, JTIDS <sup>2</sup>	each platoon can engage  simultaneously)
	Radars: <b>CWAR (3) (30 nmi) PAR (3) (40 nmi)</b> <b>HIPIR (6) (20 nmi)</b>	

**Notes:**

<sup>1</sup> Dependent on asset/channel availability.

<sup>2</sup> Planned capability.

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## Appendix E

# Concept of Employment Brief Format

### **Mission Overview**

- Enemy situation
  - Weather forecast
  - Friendly situation
- MAGTF mission
  - MAGTF scheme of maneuver
  - Significant concerns
  - ACE specified tasks
- Threat assessment and countertactics
  - Enemy offensive capabilities
  - Enemy defensive capabilities
- ACE implied tasks
- ACE broad sequence of events

### **Command and Control**

- Air defense priorities
- Available assets and locations
- Surveillance plan
  - Routing plan
- Destruction area
- Responsiveness to threat
- CAP management and control
- Identification/engagement authority
- Rules of engagement
  - Communication architecture
  - Critical information

### **Fixed-Wing Employment**

- Available assets and locations
- Sequence of events
- Mission assignments/allocation overview

### **Rotary Wing Employment**

- Available assets and locations
- Sequence of events
- Mission assignments/allocation overview

### **Issue Requiring ACE Approval**

- Launch, delay, divert, and abort authority as applicable for all six functions of MAGTF aviation.

- Reasonable assurance** Type of CAS control

### **Unresolved Issue Requiring ACE Guidance**

## Appendix F

# Confirmation Brief Format

### Mission Overview

- Enemy situation
- Weather brief
- Friendly situation
- MAGTF mission
  - MAGTF scheme of maneuver
  - Significant concerns
  - ACE specified tasks
- Threat assessment and countertactics
  - Enemy offensive capabilities
  - Enemy defensive capabilities
- ACE implied tasks
- ACE broad sequence of events

### Command and Control

- Threat assessment and countertactics
- Air defense priorities
- Available assets and locations
- Surveillance coverage and radar contracts
- Destruction area (BDZs, MEZs, FEZs, JEZs, crossover zones)
- Responsiveness to threat
- Orbit areas
- Routing (minimum risk route/tanker/fade/lame duck/IFF)
- CAP and tanker management and control
- Initial air defense warning condition
- Initial weapons control status
- Initial stages of alert (aircraft/ISAW)
- Rules of engagement
  - Identification authority
  - Engagement authority
  - Identification criteria
  - Commit criteria
  - Self-defense criteria
  - Night operations
  - Reasonable assurance Communications
  - Planned and exceptions
  - Critical information flow
  - Communications assignments
  - Cryptographic change times
- EMCON plan

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FMFM 5-70

### Delegation of authority

**Launch, delay, divert, and abort authority as applicable for all six functions**

## of MAGTF aviation

### Employment of Aviation Assets (fixed- and rotary wing)

Specified and implied tasks

Threat **assessment** and **countertactics**

**Available** assets and locations

Sequence of **events**

**Mission assignments/allocation**

### Functional Area Employment

AAW

**Offensive anti-air warfare**

**Air defense**

Air reconnaissance

**Visual**

**Multi-sensor**

**Electronic**

**Electronic warfare**

**Electronic attack**

**Electronic protection**

**Electronic warfare support Assault support**

**Combat assault transport**

**Aerial delivery**

Aerial refueling

**Air evacuation**

Logistical support

**Battlefield illumination**

**TRAP**

**Offensive air support**

**Deep air support (air interdiction and armed reconnaissance)**

**Close air support (fixed- and rotary wing)**

## Appendix G

# Aircraft Capabilities Chart

Type Comm/	Crew	Performance	Payload	Sensors/	Self Protection
		<b>Navigation</b>			
F/A-i 8 A/C (AM/FM)	1	Maximum level speed @ sea	13,700 lbs	Radar	2 UHF
F/A-i 8 D <sup>2</sup> (AM/FM)	2	level 550 kias	Air-to-air: Sparrow,	NAVFLIR	2 VHF
voice		Typical delivery speed: 500 kias	Sidewinder, AM RAAM, 20 mm gun	Targeting FLIR <sup>1</sup>	TADIL-C Secure
relay		Maximum endurance speed: 250 kias	Air-to-ground: MK-80	NVG <sup>1</sup>	
direc-		Time on station after 30 mm transit: 30-55 mm	Series/LGBs, 2.75/5" rockets, MK-20,	HARM seeker head	Radio
navigation		Radius of action: LLL 160 nmi HLH 360 nmi HHH 450 nmi	CBU-59/78, MK-77, Maverick, HARM, MK-50/60 series, Wall-eye I/III	Strike camera LST	tacan Automatic tion finder Inertial system
				ALQ-126	Radar
AV-8B 2 UHF (AM/FM)	1	Maximum level speed @ sea	8,000 lbs	Flares/chaff	NAVFLIR Radar <sup>3</sup>
(AM/FM)		level 500 kias	Air-to-air: Sidewinder	NAVFLIR <sup>4</sup>	2 VHF
voice		Typical delivery speed: 500 kias	25mm gun	NVG <sup>4</sup>	Secure
navigation		Maximum endurance speed: 230 kias	Air-to-ground: MK-80	ARBS optical laser tracker	tacan Inertial
		Time on station after 30 mm transit: 20-40 mm	Series/LGBs, 2.75/5" rockets, MK-20, CBU-59/78, MK-77,	Flares/chaff	system Radar <sup>3</sup>
EA-6B 2 UHF	4	Maximum level speed @ sea	Maverick, Sidearm	HARM	ALQ-99
		level 550 kias w/extended stores 515 kias Cruise speed 420 kias	Jamming pods Chaff	ALQ-1 26A Flares	1 VHF 1 HF

tanksChaff

AM/FM scanner  
@ 10K 265 kias

Maximum endurance speed: Drop

260 kiastacan

@ 20K

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me on station (2/200 nmi radius): 60 mm

Radius of action: 500 nmi

6 Maximum speed: 350 kias Cruise speed: 250 kias

Maximum endurance speed:

240 kias

Minimum speed: 105 kias

Time on station 13 + 00

Radius of action: 1000 nmi

Jet-assisted takeoff

2 Maximum speed: 190 kias Cruise speed: 130 kias

Maximum endurance speed:

72 kias

Time on station in CAS

configuration: 1 .8-2.4 hrs

Radius of action: 100 nmi

3/45 Maximum speed: 130 kias Cruise speed: 100 kias

Maximum endurance speed:

55-65 kias

Time on station 1 + 30 (30

+ 10 best case w/auxiliary



tanks)

Radius of action 89 nmi

Sidewinder

Hellfire

Sidearm

2.75/5" rockets

Fuel air explosive

20 mm turret gun

20 mm gun pod

1,400-1,800 lbs

6-13 FAX, 6 lifters

7.62mm

.50 caliber guns

2.75" rockets

**A**

warning

ALE-39

Infrared radiation countermeasure

Missile warning receiver

Search radar

IFF interrogator FLIR

ALE-39

Infrared radiation countermeasure Laser designator

Radar detector

CW warning receiver

Radar homing and warning

ALE-39

Infrared radiation countermeasure Radar detector

CW warning receiver

Communications jammer

Loudspeaker for psychological operations  
ing and

**2 UHF (AM/FM)**

2 VHF (AM/FM)

tacan

Automatic direction finder

FM homer

Radar beacon

UHF/NHF/HF

tacan

Automatic  
direction  
finder

loran

**P**  
communications package (3 additional radios: 1 UHF/2 VHF) for airborne command and control  
direction finder

Inertial navigation system  
E

KC-10

AH-1

UH-1  
 90,000 lbs  
 94 PAX, 74 liters  
 DASC(A)  
 Refueling mode:  
 58,000 lbs  
 Giveaway  
 Parachute flares

**MAGTF Aviation Planning**

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Type	Crew	Performance	Payload	Sensors/ Self Protection	
Navigation CH-46	3/45	Maximum speed: 145 kias Cruise speed: 120 kias Maximum endurance speed: 70-90 kias Time on station 1 + 30-3 + 30	2,000-4,000 lbs 10-18 FAX, 15 lifters 2, .50 caliber guns	Radar homing and warning ALE-39 Infrared radiation countermeasure Radar detector	1 UHF/NHF 1 UHF 1 HF tacan
CH-53D	4	Radius of action: 80-200 nmi Maximum speed: 130 kias Cruise speed: 120 kias Maximum endurance speed: 70 kias Time on station 3 + 00 (5 + 30 w/auxiliary tanks)	8,000 lbs 30 FAX, 24 lifters 2, .50 caliber guns Radar detector	Radar homing and warning ALE-39 Radar detector	1 UHF 1 VHF 1 HF tacan
CH-53E	4	Radius of action: 170 nmi Maximum speed: 150 kias Cruise speed: 130 kias	20,000 lbs 37-5 5 FAX, 24 lifters 2, .50 caliber guns Radar detector	Radar homing and warning ALE-39 Radar detector	1 UHF 1 VHF 1 HF

Pioneer UAV	N/A	Dash speed: 100 kts	75 lbs	Day sensor (TV camera)	tacan G band
link (PRI)		Cruise speed: 65 kts	Day sensor (TV camera)	FLIR	Up/down
(sec)		Maximum endurance @ cruise @ 5,000 ft: 5 hrs	FLIR		UHF uplink
company		Radius of action: 100 nmi			UAV
UHF/NHF/HF		Rolling takeoff: 210 m			has
		Pneumatic launch: 21 m			
		Rocket-assisted takeoff launch			
		Rolling recovery: 366 m			
		Arrested recovery: 130 m			

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Type      Crew

Hugin UVA<sup>6</sup> N/A

**Performance**

Dash speed: 110 kts Cruise speed: 90 kts

Maximum endurance:  
classified

Radius of action: classified

Rolling takeoff: 300 m

Rocket-assisted takeoff launch

Rolling recovery: 400 m

Arrested recovery: 70m

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Notes:

<sup>1</sup> FA/18 C/D only.

F/A-18D is two-seat variant. It also provides night attack (NVD), air reconnaissance, and air control and coordination.

~ Radar-equipped variant only.

~ Night attack variant only.

~ One additional crewman for NVD operations.

~ Follow-on replacement system for Pioneer UAV.

200 lbs

Day/night sensor

Airborne data relay

G band

Up/down link (PRI) Airborne data relay

UHF uplink (sec)

UAV company  
has UHFNHF/HF

**transmission characteristics** and standard **message formats at 5000 bits per second from a controlling unit to controlled aircraft. Information exchange can be one-way (controlling unit to controlled aircraft) or two-way. NATO's equivalent is Link 4. d. TADLL-J—A secure, high capacity, jam-resistant, nodeless data link which uses the Joint Tactical Information Distribution System (JTIDS) transmission characteristics and the protocols, conventions, and fixed-length message formats defined by the JTIDS Technical Interface Design Plan (TIDP). NATO's equivalent is Link 16. e. Army Tactical Data Link 1 (ATDL-1)---A secure, full-duplex, point-to-point digital data link utilizing serial transmission frame characteristics and standard message formats at a basic speed of 1200 bits per second. It interconnects tactical air control systems and Army or Marine tactical air defense oriented systems. f. Interim JTIDS Message Specification (IJMS)—A secure, high capacity, jam-resistant, nodeless interim message specification that uses the Joint Tactical Information Distribution System (JTIDS) transmission characteristics and the protocols, conventions, and fixed-length message formats defined by the DM5. (Joint Pub 14)2)**

**tactical level of war—The level of war at which battles and engagements are planned and executed to accomplish military objectives assigned to tactical units or task forces. Activities at this level focus on the ordered arrangement and maneuver of combat elements in relation to each other and to the enemy to achieve combat objectives. (Joint Pub 1-02)**

**target acquisition—The detection, identification, and location of a target in sufficient detail to permit the effective employment of weapons. (Joint Pub 1-02)**

**tasking—The process of translating the allocation into orders, and passing these orders to the units involved. Each order normally contains sufficient detailed instructions to enable the executing agency to accomplish the mission successfully. (NATO, Joint Pub 1-02)**

**terminal control—The authority to direct the maneuver of aircraft which are delivering ordnance, passengers, or cargo to a specific location or target. Terminal control is a type of air control. (FMFRP 0-14 under "Marine air command and control system")**

## U

**unmanned aerial vehicle—A powered, aerial vehicle that does not carry a human operator, uses aerodynamic forces to provide vehicle lift, can fly autonomously or be piloted remotely, can be expendable or recoverable, and can carry a lethal or nonlethal payload. Ballistic or semiballistic vehicles, cruise missiles, and artillery projectiles are not considered UAVs. (Joint Pub 1-02)**

## V

**vital area—A designated area or installation to be defended by air defense units. (Joint Pub 1-02)**

## W

**weapon engagement zone—In air defense, airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with a particular weapon system. Also called WEZ.**

(Joint Pub 1-02)

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**surface-to-air weapon**—A surface-launched weapon for use against airborne targets. Future developments in air defense systems may lead to the employment of weapons other than missiles. Examples include rockets, directed-energy weapons, and air defense guns. (FMFRP 0-14) Also called **SAW**.

**surveillance**—The systematic observation of aerospace, surface, or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic, or other means. (Joint Pub 1-02)

T

**tactical air command center (Marine TACC)**—The principal U. S. Marine Corps air command and control agency from which air operations and air defense warning functions are directed. It is the senior agency of the U. S. Marine air command and control system which serves as the operational command post of the aviation **combat element commander**. It provides the facility from which the aviation combat element commander and his battlestaff plan, supervise, coordinate, and execute all current and future air operations in support of the Marine air-ground task force. The tactical air command center can provide integration, coordination and direction of joint and combined air operations. Also called Marine TACC. (FMFM 5-60) (proposed modification to Joint Pub 1-02)

**tactical air control center**—The principal air operations installation (land- or ship-based) from which all aircraft and air warning functions of tactical air operations are controlled. (Joint Pub 1-02) Also called Navy TACC. US Navy only; US Air Force changed their TACC to AOC (air operations center).

tactical air control system—The organization and equipment necessary to plan, direct, and control tactical air operations and to coordinate air operations with other Services. It is composed of control agencies and communications-electronics facilities which provide the means for centralized control and decentralized execution of missions. (Joint Pub 1-02) Also called TACS. US Air Force TACS is “theater air control system.”

tactical air on center—An air operations installation under the overall control of the tactical air control center (afloat)/tactical air command center, from which aircraft and air warning service functions of tactical air operations in an area of responsibility are directed. (Joint Pub 1-02) Also called TADC.

tactical air officer (afloat)—The officer (aviator) under the amphibious task force commander who coordinates planning of all phases of air participation of the amphibious operation and air operations of supporting forces en route to and in the objective area. Until control is passed ashore, this officer exercises control over all operations of the tactical air control center (afloat) and is charged with: a. control of all aircraft in the objective area assigned for tactical air operations, including offensive and defensive air; b. control of all other aircraft entering or passing through the objective area; and c. control of all air warning facilities in the objective area. (Joint Pub 1-02) Also called TAO.

tactical air operations center—The principal air control agency of the U. S. Marine air command and control system responsible for airspace control and management. It provides real time surveillance, direction, positive control, and navigational assistance for friendly aircraft. It performs real time direction and control of all anti-air warfare operations, to include manned interceptors and surface-to-air weapons. It is subordinate to the tactical air command center. Also called TAOC. (proposed modification to Joint Pub 1-02)

tactical digital information link—A Joint Staff approved, standardized communication link suitable for transmission of digital information. Current practice is to characterize a tactical digital information link (TADIL) by its standardized message formats and transmission characteristics. TADILs interface two or more command and control or weapon systems via a single or multiple network architecture and multiple communication media for exchange of tactical information, a. TADIL-A— A secure, half-duplex, netted digital data link utilizing parallel transmission frame characteristics and standard message formats at either 1364 or 2250 bits per second. It is normally operated in a roll-call mode under control of a net **control station to exchange digital information among airborne, land-based, and shipboard systems. NATO’s equivalent is Link 11.** b. TADIL-B—A secure, full-duplex, point-to-point digital data link utilizing serial transmission frame characteristics and standard message formats at either 2400, 1200, or 600 bits per second. It interconnects tactical air defense and air control units. NATO’s equivalent is Link 11B. c. TADIL-C—An Unsecure, time-division digital data link utilizing serial **MAGTF Aviation Planning**

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means by an agency having the authority and responsibility therein. (Joint Pub 1-02) Also the tactical control of aircraft by a designated control unit, whereby the aircraft receives orders affecting its movements which immediately transfer responsibility for the safe navigation of the aircraft to the unit issuing such orders. (FMFRP 0-14 under “Marine air command and control system”)

power projection—The application of measured, precise offensive military force at a chosen time and place, using maneuver and combined arms against enemy forces.



(FMFRP 0-14)

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

## R

rear operations—Military actions conducted to support and permit force sustainment and to provide security for such actions. (FMFRP 0-14)

restricted operations area—Airspace of defined dimensions, designated by the airspace control authority, in response to specific operational situations/requirements within which the operation of one or more airspace users is restricted. (Joint Pub 1-02) Also called ROA. Also known as restricted operations zone (**ROZ**).

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

## S

sector—An area designated by boundaries within which a unit operates, and for which it is responsible. (Joint Pub 1-02, part 1 of a 2-part definition)

short-range air defense engagement zone—In air defense, that airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with short-range air defense weapons. It may be established within a low- or high-altitude missile engagement zone. Also called SHORADEZ. (Joint Pub 1-02, under weapon engagement zone)

Sidewinder—A solid-propellant, air-to-air missile with non-nuclear warhead and infrared, heat-seeking homing. Designated as AIM-9. (Joint Pub 1-02)

sortie—In air operations, an operational flight by one aircraft. (Joint Pub 1-02)

Sparrow—An air-to-air solid-propellant missile with nonnuclear warhead and electronic-controlled homing. Designated as AIM-7. (Joint Pub 1-02)

Stinger—A lightweight, man-portable, shoulder-fired, air defense artillery missile weapon for low altitude air defense of forward area combat troops. Designated as FIM-92A. (Joint Pub 1-02)

strategic air warfare--Air combat and supporting operations designed to effect, through the systematic application of force to a selected series of vital targets, the progressive destruction and disintegration of the enemy's war-making capacity to a point where the enemy no longer retains the ability or the will to wage war. Vital targets may include key manufacturing systems, sources of raw material, critical material, stockpiles, power systems, transportation systems, communication facilities, concentration of uncommitted elements of enemy armed forces, key agricultural areas, and other such target systems. (Joint Pub 1-02)

strategic level of war—The level of war at which a nation, often as a member of a group of nations, determines national or multinational (alliance or coalition) security objectives and guidance, and develops and uses national resources to accomplish these objectives. Activities at this level establish national and multinational military objectives; sequence initiatives; define limits and assess risks for the use of military and other instruments of national power; develop global plans or theater war plans to achieve those objectives; and provide military forces and other capabilities in accordance with strategic plans. (Joint Pub 1-02)

suppression of enemy air defenses—That activity which neutralizes, destroys, or temporarily degrades surface-based enemy air defenses by destructive and/or disruptive means. (Joint Pub 1-02) Also called SEAL).

surface-to-air guided missile—A surface-launched guided missile for use against air targets. (Joint Pub 1-02) Also called SAM.

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minimum-risk route—A temporary corridor of defined dimensions recommended for use by high-speed, fixed-wing aircraft that presents the minimum known hazards to low-flying aircraft transiting the combat zone. (Joint Pub 1-02) Also called MRR.

missile engagement zone—The airspace of defined dimensions within which the responsibility for engagement normally rests with missiles. Also called MEZ. MEZs may be designated within the missile intercept zone (MIZ).

missile intercept zone—That geographical division of the destruction area where surface-to-air missiles have primary responsibility for destruction of airborne objects. (Joint Pub 1-02) Also called MIZ.

mutual support—That support which units render each other against an enemy, because of their assigned tasks, their position relative to each other and to the enemy, and their inherent capabilities. (Joint Pub 1-02)

## N

naval surface fire support—Fire provided by Navy surface gun, missile, and electronic warfare systems in support of a unit or units tasked with achieving the commander's objectives. Also called NSFS. (Joint Pub 1-02)

## O

offensive air support—Those air operations conducted against enemy installations, facilities, and personnel to directly assist the attainment of MAGTF objectives by the destruction of enemy resources or the isolation of his military force. (FMFRP 0-14) Also called OAS.

offensive anti-air warfare—Those operations conducted against enemy air assets and air defense systems before they can be launched or assume an attacking role. Offensive anti-air warfare operations in or near the objective area consist mainly of air attacks to destroy or neutralize hostile aircraft, airfields, radars, air defense systems, and supporting areas. (FMFRP 0-14) Also called OAAW.

offensive counter air operation—An operation mounted to destroy, disrupt, or limit enemy air power as close to its source as possible. (Joint Pub 1-02)

operational control—Transferable command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority). Operational control may be delegated and is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Operational control normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions. Operational control does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training. Also called OPCON. (Joint Pub 0-2)

operational level of war—The level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or areas of operations. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives, sequencing events to achieve the operational objectives, initiating actions, and applying resources to bring about and sustain these events. These activities imply a broader dimension of time or space than do tactics; they ensure the logistic and administrative support of tactical forces, and provide the means by which tactical successes are exploited to achieve strategic objectives. (Joint Pub 1-02)

## P

passive air defense—All measures, other than active air defense, taken to minimize the effectiveness of hostile air action. These measures include deception, dispersion, and the use of protective construction. (Joint Pub 1-02)

positive control—A method of airspace control which relies on positive identification, tracking, and direction of aircraft within an airspace, conducted with electronic  
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The joint force air component commander's responsibilities will be assigned by the joint force commander (normally these would include, but not be limited to, planning, coordination, allocation, and tasking based on the joint force commander's apportionment decision). Using the joint force commander's guidance and authority, and in coordination with other Service component commanders and other assigned or supporting commanders, the joint force air component commander will recommend to the joint force commander apportionment of air sorties to various missions or geographic areas. (Joint Pub 1-02) Also called JFACC.

joint operation—An operation carried on by a force which is composed of significant elements of the Army, Navy or the Marine Corps, and the Air Force, or two or more of these Services operating under a single commander authorized to exercise unified command or operational control over joint

forces. Note: A Navy/ Marine Corps operation is not a joint operation.  
(FMFRP 0-14)

joint operations center—A jointly manned facility of a joint force commander's headquarters established for planning, monitoring, and guiding the execution of the commander's decisions. (Joint Pub 1-02) Also called

**Joc.**

## L

low-altitude missile engagement zone—In air defense, that airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with low-to medium- altitude surface-to-air missiles. Also called LOMEZ. (Joint Pub 1-02, under weapon engagement zone)

low level transit route—A temporary corridor of defined dimensions established in the forward area to minimize the risk to friendly aircraft from friendly air defenses or surface forces. (Joint Pub 1-02) Also called LLTR.

## M

maneuver warfare—A philosophy for action that seeks to collapse the enemy's cohesion and effectiveness through a series of rapid, violent, and unexpected actions which create a turbulent and rapidly deteriorating situation with which he cannot adequately cope. (FMFRP 0-14)

Marine air command and control system—A US

Marine Corps air command and control system which provides the aviation combat element commander with

the means to command, coordinate, and control all air operations within an assigned sector and to coordinate air

operations with other Services. It is composed of command and control agencies with communications-electronics equipment that incorporates a capability from manual through semiautomatic control. Also called MACCS. (proposed modification to Joint Pub 1-02)

military deception—Actions executed to deliberately mislead adversary military decisionmakers as to friendly military capabilities, intentions, and operations, thereby causing the adversary to take specific action (or inactions) that will contribute to the accomplishment of the friendly mission. The five categories of military deception are:

a. strategic military deception—Military deception planned and executed by and in support of senior military commanders to result in adversary military policies and actions that support the originator's strategic military objectives, policies, and operations. b. operational military deception—Military deception planned and executed by and in support of operational-level commanders to result in adversary actions that are favorable to the originator's objectives and operations. Operational military deception is planned and conducted in a theater of war to support campaigns and major operations. c. tactical military deception—Military deception planned and executed by and in support of tactical commanders to result in adversary actions that are favorable to the originator's objectives and operations. Tactical military deception is planned and conducted to support battles and engagements. d. Service military deception—Military deception planned and executed by the Services that pertain to Service support to joint operations. Service military deception is designed to protect

and enhance the combat capabilities of Service forces and systems. e. military deception in support of operations security (OPSEC)—Military deception planned and executed by and in support of all levels of command to support the prevention of the inadvertent compromise of sensitive or classified activities, capabilities, or intentions. Deceptive OPSEC measures are designed to distract foreign intelligence away from, or provide cover for, military operations and activities. (Joint Pub 3-58)

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forward operating base—An airfield used to support tactical operations without establishing full support facilities. The base may be used for an extended time period. Support by a main operating base will be required to provide backup support for a forward operating base. (FMFRP 0-14) Also called FOB.

## G

ground alert—That status in which aircraft on the ground/deck are fully serviced and armed, with combat crews in readiness to take off within a specified short period of time (usually 15 minutes) after receipt of a mission order. (Joint Pub 1-02) Also called strip alert.

ground controlled interception—A technique which permits control of friendly aircraft or guided missiles for the purpose of effecting interception. (Joint Pub 1-02) Also called Gd.

## H

**Hawk—A mobile air defense artillery, surface-to-air missile system that provides non-nuclear, low to medium altitude air defense coverage for ground forces.**

Designated as MIM-23. (Joint Pub 1-02)

**high-altitude missile engagement zone—In air defense, that airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with high altitude surface-to-air missiles. Also called HIIMEZ. (Joint Pub 1-02 under weapon engagement zone)**

high density airspace control zone—Airspace designated in an airspace control plan or airspace control order, in which there is a concentrated employment of numerous and varied weapons and airspace users. A high-density airspace control zone has defined dimensions which usually coincide with geographical features or navigational aids. Access to a high-density airspace control zone is normally controlled by the maneuver commander. The maneuver commander can also direct a more restrictive weapons status within the high-density airspace control zone. (Joint Pub 1-02) Also called **HIIDACZ**.

identification—The process of determining the friendly or hostile character of an unknown detected contact. (Joint Pub 1-02)

**identification, friend or foe—A system using electromagnetic transmissions to which equipment carried by friendly forces automatically responds, for example, by emitting pulses, thereby distinguishing themselves from enemy forces. (Joint Pub 1-02) Also called 1FF.**

interdiction—An action to divert, disrupt, delay or destroy the enemy's surface military potential

before it can be used effectively against friendly forces. (Joint Pub 14)2)

## J

**joint amphibious operation**—An amphibious operation **conducted by significant elements of two or more Services. (Joint Pub 1-02)**

**joint amphibious task force**—A temporary grouping of units of two or more Services under a single commander, organized for the purpose of engaging in an amphibious landing for assault on hostile shores. (Joint Pub 1-02)

Also called JATF.

**joint engagement zone**—In air defense, that **airspace of defined dimensions within which multiple air defense systems** (surface-to-air **missiles** and aircraft) are **simultaneously employed to engage air threats. (Joint Pub 1-02, under weapon engagement zone)** Also called JEZ.

**joint force air component commander**—The **joint force** air component commander derives authority from the **joint force commander who has the authority to exercise operational control**, assign missions, direct coordination among subordinate commanders, redirect and organize forces to ensure unity of effort in the accomplishment of the overall mission. The joint force commander will normally designate a joint force air component commander.

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

**electronic reconnaissance**—The detection, identification, evaluation, and location of foreign electromagnetic radiations emanating from other than nuclear detonations or radioactive sources. (Joint Pub 1-02)

**emission control**—The selective and controlled use of electromagnetic, acoustic, or other emitters

to optimize command and control capabilities while minimizing, for operations security (OPSEC): a. detection by enemy sensors. b. minimize mutual interference among friendly systems; and/or c. execute a military deception plan. (Joint Pub 1-02) Also called EMCON.

essential elements of information—The critical items of information regarding the enemy and the environment needed by the commander by a particular time to relate with other available information and intelligence in order to assist in reaching a logical decision. (Joint Pub 1-02) Also called EEL.

## F

fighter engagement zone—In air defense, that airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with fighter aircraft. Also called FEZ. (Joint Pub 1-02, under “weapon engagement zone”) FEZs may be designated within the *Mi*

fire support coordination center—A single location in which are centralized communications facilities and personnel incident to the coordination of all forms of fire support. (Joint Pub 1-02) Also called FSCC.

fire support coordination line—A line established by the appropriate ground commander to ensure coordination of fire not under the commander’s control but which may affect current tactical operations. The fire support coordination line is used to coordinate fires of air, ground, or sea weapons systems using any type of ammunition against surface targets. The fire support coordination line should follow well-defined terrain features. The establishment of the fire support coordination line must be coordinated with the appropriate tactical air commander and other supporting elements. Supporting elements may attack targets forward of the fire support coordination line without prior coordination with the ground force commander provided the attack will not produce adverse surface effects on or to the rear of the line. Attacks against surface targets behind this line must be coordinated with the appropriate ground force commander. (Joint Pub 1-02). Also called FSCL.

force sustainment—Capabilities, equipment and operations which ensure continuity, freedom of action, logistics support, and command and control. (FMPRP 0-14)

forward arming and refueling point—A temporary facility, organized, equipped, and deployed by an aviation commander, and normally located in the main battle area closer to the area of operation than the aviation unit’s combat service area, to provide fuel and ammunition necessary for the employment of aviation maneuver units in combat. The forward arming and refueling point permits combat aircraft to rapidly refuel and rearm simultaneously. (Joint Pub 1-02) Also called FABP.

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coordinating authority—A commander or individual assigned responsibility for coordinating specific functions or activities involving forces of two or more Military Departments or two or more forces of the same Service. The commander or individual has the authority to require consultation between the agencies involved, but does not have the authority to compel agreement. In the event that essential agreement cannot be obtained, the matter shall be referred to the appointing authority. Coordinating authority is a consultation relationship, not an authority through which command may be exercised. Coordinating authority is more applicable to planning and similar activities than to operations. (Joint Pub 0-2)

coordination—The action necessary to ensure adequately integrated relationships between separate organizations located in the same area. Coordination may include such matters as fire support, emergency defense measures, area intelligence, and other situations in which coordination is considered necessary. (FMFRP 0-14)

counter air—A US Air Force term for air operations conducted to attain and maintain a desired degree of air superiority by the destruction or neutralization of enemy forces. Both air offensive and air defensive actions are involved. The former range throughout enemy territory and are generally conducted at the initiative of the friendly forces. The latter are conducted near or over friendly territory and are generally reactive to the initiative of the enemy air forces. (Joint Pub 1-02)

crossover zone (crossover point)—That range in the air warfare area at which a target ceases to be an air intercept target and becomes a surface-to-air missile target. (Joint Pub 1-02) Weapons systems making engagements in this zone will normally be under positive control of the TAOC, *EWIC*, or airborne early warning aircraft.

## D

data link—The means of connecting one location to another for the purpose of transmitting and receiving data. (Joint Pub 1-02)

**deep** air support—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 movement of friendly forces is the qualifying factor. (FMFRP 0-14) Also called DAS.

deep operations—Military actions conducted against enemy capabilities which pose a potential threat to friendly forces. These military actions are designed to isolate, shape, and dominate the battlespace and influence future operations. (FMFRP 0-14)

destruction area—An area in which it is planned to destroy or defeat the enemy airborne threat. The area may be further subdivided into air intercept, missile (long-, medium-, and short-range), or antiaircraft gun zones. (Joint Pub 1-02)

detection—In surveillance, the determination and transmission by a surveillance system that an event has occurred. (Joint Pub 1-02, part 2 of a 3-part definition)

direct air support—Air support flown in direct response to a specific request from the supported unit. (FMERP 0-14)

direct air support center—The principal air control agency of the U. S. Marine air command and control system responsible for the direction and control of air operations directly supporting the ground combat element. It processes and coordinates requests for immediate air support and coordinates air missions requiring integration with ground forces and other supporting arms. It normally collocates with the senior fire support coordination center within the ground combat element and is subordinate to the tactical air command center. Also called DASC. (proposed)



modification to Joint Pub 1-02)

direct air support center (afrborne)—An airborne aircraft equipped with the necessary operations and communications facilities, and manned by the essential personnel, to function, in a limited role, as a direct air support center. Also called **DASC(A)**. (proposed modification to Joint Pub 1-02)

## E

electronic warfare--Any military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy. Also

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combatant commander—A commander in chief of one of the unified or specified combatant commands established by the President. (Joint Pub 1-02)

combat information center—The agency in a ship or aircraft manned and equipped to collect, display, evaluate, and disseminate tactical information for the use of the embarked flag officer, commanding officer, and certain control agencies. Certain control, assistance, and coordination functions may be delegated by command to the combat information center. (Joint Pub 1-02) Also called action information center; MC.

combat operations center—**The primary operational** agency required to control the tactical operations of a command that employs ground and aviation combat, combat support, and combat service support elements or portions thereof. The combat operations center continually monitors, records, and supervises operations in the name of the commander and includes the necessary personnel and communications to do the same. (FMFRP 0-14) Also called COC.

combined arms—The full integration of arms in such a way that in order to counteract one, the enemy must make himself vulnerable to another. (FMFM 1) The tactics, techniques, and procedures employed by a force to integrate firepower and mobility to produce a desired effect upon the enemy. (FMFRP 0-14)

combined operation—An operation conducted by forces of two or more allied nations acting together for the accomplishment of a single mission. (Joint Pub 1-02)

command—The authority that a commander in the Armed Forces lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources and for planning the employment of, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. **It** also includes responsibility for health, welfare, morale, and discipline of assigned personnel. (Joint Pub 0-2)

**command and control**—The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a

commander **in** planning, directing, coordinating, and controlling forces and **operations in the accomplishment of** the mission. (**Joint Pub 0-2**) Also called C<sup>2</sup>.

**command and control system**—The facilities, equipment, communications, procedures, and personnel essential to a commander for planning, directing, and controlling operations of assigned forces pursuant to the missions assigned. (Joint Pub 1-02)

**command and control warfare**—The integrated use of **operations security (OPSEC)**, military deception, **psychological operations (PSYOP)**, **electronic warfare (EW)**, and physical destruction, mutually **supported by intelligence**, to deny information to, influence, degrade, or destroy adversary command and **control capabilities**, while protecting friendly command and **control capabilities** against such actions. C<sup>2</sup>W applies across the operational continuum **and all levels of conflict** Also called C<sup>2</sup>W C<sup>2</sup>W is both offensive and defensive: a. counter (C<sup>2</sup>)—To prevent effective C<sup>2</sup> of adversary forces by denying information to, influencing, degrading, or destroying the **adversary C<sup>2</sup>** system. b. C<sup>2</sup> protection—To maintain effective command and **control of** own forces by turning **to friendly advantage or negating adversary efforts to** deny information to, influence, degrade, or destroy the friendly C<sup>2</sup> system. (Joint Pub 1-02)

**control**—Authority which may be less than full command exercised by a commander over part of the activities of subordinate or other organizations. (**Joint Pub 1-02**, part 1 of a 4-part definition)

**control of aircraft and missiles**—The coordinated **employment of facilities, equipment, communications, procedures, and personnel which allows the ACE commander to plan, direct, and control the efforts of the ACE** to support the accomplishment of the MAGTF's mission. (FMFRP 0-14)

**coordinating altitude**—A procedural airspace control method to separate fixed- and rotary-wing aircraft by determining an altitude below which fixed-wing aircraft will normally not fly and above which rotary-wing aircraft normally will not fly. The coordinating altitude is normally specified in the airspace control plan and may include a buffer zone for small altitude deviations. (Joint Pub 1-02)

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and/or geographic areas for a given period of time.  
(**Joint Pub 1-02**)

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

**area of influence**—**A geographical area wherein a commander is directly capable of influencing operations, by maneuver or fire support systems normally under the commander's command or control.** (**Joint Pub 1-02**)

**area of operations**—That **portion of an area of war necessary for military operations and for the administration of such operations.** Also called AO. (**Joint Pub 1-02**)

**B**

**base defense zone**—An air defense zone established around an air base and limited to the engagement envelope of short-range air defense weapons systems defending that base. Base defense zones have specific entry, exit, and identification, friend or foe procedures established. (Joint Pub 1-02) Also called BDZ.

**battlespace**—All aspects of air, surface, subsurface, land, space, and electromagnetic spectrum which encompass the area of influence and area of interest. (FMFRP 0-14)

**battlespace dominance**—The degree of control over the dimensions of the battlespace which enhances friendly freedom of action and denies enemy freedom of action. It permits force sustainment and application of power projection to accomplish the full range of potential missions. It includes all actions conducted against enemy capabilities to influence future operations. (FMFRP 0-14)

## C

**dose air support**—Air action by fixed- and rotary-wing aircraft against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces. (Joint Pub 1-02) Also called CAS.

**close operations**—Military actions conducted to project power decisively against enemy forces which pose an immediate or near term threat to the success of current battles and engagements. These military actions are conducted by committed forces and their readily available tactical reserves, using maneuver and combined arms. (FMFRP 0-14)

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

**combatant command**—A unified or specified command with a broad continuing mission under a single commander established and so designated by the President, through the Secretary of Defense and with the advice and assistance of the Chairman of the Joint Chiefs of Staff. Combatant commands typically have geographic or functional responsibilities. (Joint Pub 5-0)

**combatant command (command authority)**—Nontransferable command authority established by title 10 (“Armed Forces”), United States Code, Section 164, exercised only by commanders of unified or specified combatant commands unless otherwise directed by the President or the Secretary of Defense. Combatant command (command authority) cannot be delegated and is the authority of a combatant commander to perform those functions of command over assigned forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations, joint training, and logistics necessary to accomplish the missions assigned to the command. Combatant command (command authority) should be exercised through the commanders of subordinate organizations. Normally, this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Combatant command (command authority) provides full authority to organize and employ commands and forces as the combatant commander considers necessary to

**accomplish assigned missions. Operational control is inherent in combatant command (command authority). Also called COCOM. (Joint Pub 0-2)**

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**the** airspace control plan in consideration of Service component, host nation, and allied airspace control capabilities and requirements. (Joint Pub 1-02)

airspace control system—An arrangement of those organizations, personnel, policies, procedures, and facilities required to perform airspace control functions. (Joint Pub 1-02)

airspace coordination area—A block of airspace in the target area in which friendly aircraft are reasonably safe from friendly surface fires. (FMFRP 0-14) Also called ACA.

airspace management—The coordination, integration, and regulation of the use of airspace of defined dimensions. (Joint Pub 1-02)

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

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

air surveillance—The systematic observation of air space by electronic, visual or other means, primarily for the purpose of identifying and determining the movements of aircraft and missiles, friendly and enemy, in the air space under observation. (Joint Pub 1-02)

air threat levels—The conditions which relate to the enemy's air defense capability against airborne friendly aircraft. There are three levels of air threat: a. low. An air threat environment which permits combat operations and support to proceed without prohibitive interference. Associated tactics and techniques do not normally require extraordinary measures for preplanned or immediate support. b. medium. An air threat environment in which the specific aircraft performance and weapons system capability allow acceptable exposure time to enemy air defenses. This air threat environment restricts the flexibility of tactics in the immediate target/objective area. It is an environment in which the enemy may have limited radar and/or electro-optical acquisition capability at medium ranges, but the air defense system is not supported by fully integrated fire control systems. c. high. An air threat environment created by an opposing force possessing air defense combat power including integrated fire control systems and electronic warfare capabilities which would seriously diminish the ability of friendly forces to provide necessary air support. This air threat environment might preclude missions such as immediate CAS, as the requirement for effective radio communications and coordination may not be possible. (FMFRP 0-14)

allocation (air)—The translation of the apportionment into total numbers of sorties by aircraft type available for each operation/task. (Joint Pub 1-02)

aLlounent—The temporary change of assignment of tactical air forces between subordinate

commands. **The** authority to allot is vested in the commander having combatant command (command authority). (Joint Pub 1-02)

amphibious objective area—A geographical area, delineated in the initiating directive, for purposes of command and control within which is located the objective(s) to be secured by the amphibious task force. This area must be of sufficient size to ensure accomplishment of the amphibious task force's mission and must provide sufficient area for conducting necessary sea, air, and land operations. (Joint Pub 1-02) Also called AOA.

antiair warfare—A US Navy/US Marine Corps term used to indicate that action required to destroy or reduce to an acceptable level the enemy air and missile threat. It includes such measures as the use of interceptors, bombers, anti-aircraft guns, surface-to-air and air-to-air missiles, electronic attack, and destruction of the air or missile threat both before and after it is launched. Other measures which are taken to minimize **the effects of** hostile air action are cover, concealment, dispersion, deception (including electronic), and mobility. (Joint Pub 1-02) Also called AAW.

antiair warfare commander—The antiair warfare commander is the antiair warfare agent of the commander, amphibious task force. He is responsible for AAW of the amphibious task force in a particular region, (the amphibious objective area), and during its movement to, and arrival in, the amphibious objective area. Also called AAWC.

apportionment (air)—The determination and assignment of the total expected effort by percentage and/or by priority that should be devoted to the various air operations

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## Section II. Definitions

### A

active air defense—Direct defensive action taken to nullify or reduce the effectiveness of hostile air action. It includes such measures as the use of aircraft, air defense weapons, weapons not used primarily in an air defense role, and electronic warfare. (Joint Pub 1-02)

air control—The authority to effect the maneuver of aircraft. The elements of air control are: air control agency, air controller, airspace control, operational control, positive control, procedural control, radar control, and terminal control. (FMFRP 0-14 under "Marine air command and control system") Air control is the authority to direct the physical maneuver of aircraft in flight or to direct an aircraft or SAW unit to engage a specific target. (FMFM 5-60)

air control agency—An organization possessing the capability to exercise air control. (FMFRP 0-14 under "Marine air command and control system")

air defense—All defensive measures designed to destroy attacking enemy aircraft or missiles in the Earth's envelope of atmosphere, or to nullify or reduce the effectiveness of such attack. (Joint Pub 1-02)

air defense area—A specifically defined airspace for which **air defense must be** planned and provided. (Joint Pub 1-02, part 1 of a 2-part definition.)

air defense sector—A geographical subdivision of an air defense region. (Joint Pub 1-02)

air defense warning conditions—A degree of air raid probability according to the following code. The term air defense division/sector referred to herein may include forces and units afloat and/or deployed to forward areas, as applicable. (extract from Joint Pub 1-02)

air direction—The guidance and supervision which a commander employs to focus his resources on mission accomplishment. Air direction occurs as a sequence of the following activities: apportionment, allocation, tasking, and fragmentary order. (FMFIRP 0-14 under “Marine air command and control system”) The authority to regulate the employment of air resources (aircraft and SAW units) to maintain a balance between their availability and the priorities assigned for their usage. (FMFM 5-60)

air intercept zone—A subdivided part of the destruction area in which it is planned to destroy or defeat the enemy airborne threat with interceptor aircraft. (Joint Pub 1-02) The air intercept zone (AJZ) may be divided into fighter engagement zones (FEZ). Also called AIZ.

air interdiction—Air operations conducted to destroy, neutralize, or delay the enemy’s military potential before it can be brought to bear effectively against friendly forces at such distance from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required. (Joint Pub 1-02)

air reconnaissance—The acquisition of intelligence information by employing visual observation and/or sensors in air vehicles. (Joint Pub 1-02)

airspace control in the combat zone—A process used to increase combat effectiveness by promoting the safe, efficient, and flexible use of airspace. Airspace control is provided in order to prevent fratricide, enhance air defense operations, and pennit greater flexibility of operations. Airspace control does not infringe on the authority vested in commanders to approve, disapprove, or deny combat operations. Also called combat airspace control; airspace control. (Joint Pub 1-02)

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

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

airspace control sector—A subelement of the airspace control area, established to facilitate the control of the overall area. Airspace control sector boundaries normally coincide with air defense organization subdivision boundaries. Airspace control sectors are designated in accordance with procedures and guidance contained in

## **MAGTF Aviation Planning**

unmanned aerial vehicle ultrahigh frequency Unified Action Armed Forces

### **VHF**

VMAQ

VMFA (A~

V/STOL

WEZ

very high frequency

Marine tactical electronic warfare squadron Marine fighter attack (all weather) squadron

vertical/short takeoff and landing

weapon engagement zone

UAV

### **UHF**

UNAAF

**H-5**

**H4**

**F  
M  
F  
M  
5-  
70**

night vision device

night vision goggle

offensive anti-air warfare offensive air support other intelligence requirements operational control operations security

pulse repetition interval

radar control rear area operations center reconnaissance-capable configuration of C-135 aircraft rules of engagement restricted operations area restricted operations zone

SAAFR

SAAWC

**SAC**

SAM

**SATCOM**

**SAW**

SEAD

**SW**

**SORTIEALOT**

**SPINS**

**sWo**

**TAC(A)**  
**TACC**

**~can**  
**TACOPDAT**  
**TADIL**  
**TAMPS**  
**TAOC**  
**TAR**  
**TAWO**  
**The**  
**TERPES**

**TRAP**

standard-use Army aircraft flight route sector anti-air warfare coordinator  
senior air coordinator surface-to-air missile satellite communications  
surface-to-air weapon suppression of enemy air defenses selective  
identification feature sortie allotment  
special instructions senior watch officer

tactical air coordinator (airborne) tactical air control center (USN) tactical  
air command center (USMC) tactical air navigation system tactical  
operational data tactical digital information link tactical aviation mission  
planning system tactical air operations center tactical air reconnaissance  
tactical air watch officer track data coordinator  
Tactical Electronic Reconnaissance Processing and Evaluation System  
tactical recovery of aircraft and personnel

**NVD**  
**NVG**

**OAAW**  
**OAS**  
**OIR**  
**OPCON**  
**OPSEC**

**PRI**

**RADCON**  
**RAOC**  
**RC-135**  
**ROE**  
**ROA**  
**ROZ**



joint engagement zone joint force air component commander joint force commander Joint Operation  
 Planning and Execution System joint tactical air strike request joint tactical air  
 reconnaissance/surveillance request joint targeting coordination board joint tactical information  
 distribution system joint task force

knots indicated airspeed aerial refueling/transport aircraft (Hercules) knots

low altitude air defense light antiaircraft missile pounds  
 landing force laser guided bomb low-low-low low level transit route long-range aid to navigation  
 line of sight laser spot tracker

Marine air command and control system Marine air control group Marine air-ground task force  
 Marine air traffic control detachment medical evacuation Marine expeditionary force mission,  
 enemy, terrain and weather, troops and support available-time available Marine expeditionary  
 unit missile engagement zone minute  
 millimeter  
 multichannel radio

North Atlantic Treaty Organization navigation forward looking infrared naval expeditionary force  
 noncombatant evacuation operation nautical mile naval surface fire support

**JEZ**

JFACC

**PC**

JOPES

JTAR

JTAR/SR

JTCB

JTIDS

**JTF**

kias

**KC-130**

ks

LAAD

LAAM

lbs

**LF**

**LGB**

LLL  
LLTR  
loran  
LOS  
LST

**MACCS**  
**MACG**  
MAGTF  
**MATCD**  
**MEDEVAC**  
**MEF**  
**METP-T**

**MEU**  
**MEZ**

mm  
mux

**NATO**  
NAVFLIR  
NEF  
NEO  
nun  
NSFS

**H-2**

**DAS**  
**DASC**  
**DASC(A)**  
**EA**  
**EA-6B**  
**EC-130**  
EEI  
EF-1 11  
**EMCON**  
EP  
**ES**  
**EW**  
EW/C

deep air support  
**direct** air support center  
direct air support center (airborne)  
electronic attack  
all-weather electronic attack aircraft (Prowler)  
electronic warfare-capable configuration of **C-130** aircraft  
essential elements of information  
electronic warfare-capable configuration of C-135 aircraft  
emission control  
electronic protection  
electronic warfare support  
electronic warfare  
early warning/control

.F/A-18  
**FAC**  
**FAC(A)**  
**FEZ**  
**FFCC**  
FUR

all weather, fighter/attack aircraft (Hornet)  
forward air controller  
forward air controller (airborne)  
fighter engagement zone  
force fires coordination center  
forward looking infrared

**FMFM 5-70**

<b>FMF</b>	Fleet Marine Force
<b>FMFM</b>	Fleet Marine Force manual
<b>FOB</b>	forward operating base
<b>P05</b>	future operations section
<b>P5CC</b>	fire support coordination center
<b>FSCL</b>	fire support coordination line
<b>ft</b>	feet

<b>GCE</b>	ground combat element
<b>GPS</b>	<b>global</b> positioning system
<b>HARM</b>	high-speed antiradiation missile
<b>HF</b>	high frequency
<b>HHH</b>	high-high-high
<b>HIDACZ</b>	high density airspace control zone
<b>HLH</b>	high-low-high
<b>HQ</b>	headquarters
<b>has</b>	hours

<b>IFF</b>	identification, friend or foe
<b>LILR</b>	in-extremis hostage rescue
<b>IWO</b>	intelligence watch officer

## **Appendix H**

# **Glossary**

## **Section I. Acronyms**

**AAA**  
**AADC**  
**AAW**  
**ACA**  
**ACE**  
**ACO**  
**ACP**  
**ADC**  
**AGL**  
**AH-1W**  
**ALRSUPREQ**  
**ALLOREQ**  
**AO**  
**AOA**  
**ARBS**  
**ASC**  
**ASC(A)**  
**ASR**  
**ASWO**

**ATDL-1**  
**ATF**  
**ATO**

BDZ

C-130

**C<sup>2</sup>**

CAP

CAS

CATF

CEWI

CINC

**CLF**

**COs**

**CP**

CSSE

antiaircraft artillery area air defense commander antiair warfare airspace control authority aviation  
combat element airspace control order airspace control plan air defense coordinator above ground  
level attack helicopter (Super Cobra) air support request allocation request area of operations  
amphibious objective area angle rate bombing system air support coordinator assault support  
coordinator (airborne) assault support request assault support watch officer Army tactical data  
link-i amphibious task force air tasking order

base defense zone

cargo transport aircraft (Hercules) command and control combat air patrol close air support  
commander, amphibious task force combat electronic warfare and intelligence commander in  
chief commander, landing force current operations section control point  
combat service support element

## Appendix I

### References and Related Publications

#### 1. Allied Tactical Publications (ATPs)

- 8 Doctrine for Amphibious Operations
- 33 NATO Tactical Air Doctrine
- 40 Doctrine and Procedures for Airspace Control in the Combat Zone

#### 2. Joint Publications (Joint Pubs)

- 0-2 Unified Action Armed Forces (UNAAF)
- 1-02 Department of Defense Dictionary of Military and Associated Terms
- 3-0 Doctrine for Joint Operations
- 3-01.2 Joint Doctrine for Theater Counterair Operations
- 3-01.3 Joint Doctrine for Air Defense from Overseas Land Areas (to be consolidated with Joint Pub 3-01.2)
- 3-01.4 Joint Tactics, Techniques, and Procedures for Joint Suppression of Enemy Air Defenses (J-SEAD)
- 3-01.5 Doctrine for Joint Theater Missile Defense
- 3-01.6 Joint Tactics, Techniques, and Procedures for Joint Air Defense Operations/Joint Engagement Zone (JADO/JEZ) (under development)
- 3-02 Joint Doctrine for Amphibious Operations
- 3-02.1 Joint Doctrine for Landing Force Operations
- 3-09 Doctrine for Joint Fire Support (under development)
- 3-09.3 Joint Tactics, Techniques, and Procedures for Joint Close Air Support (under development)
- 3-51(S) Electronic Warfare in Joint Military Operations (Ii)
- 3-52 Doctrine for Joint Airspace Control in the Combat Zone
- 3-54 Joint Doctrine for Operations Security
- 3-55.1 Joint Tactics, Techniques, and Procedures for Unmanned Aerial Vehicles
- 3-56.1 Command and Control for Joint Air Operations
- 3-56.23 Tactical Command and Control Procedures for Joint Operations—Joint Interface Operational Procedures—Air Control/Air Defense Procedures for Joint Operations (the current 3-56.23 will be incorporated into the new Joint 3-56.1, *Command and Control for Joint Air Operations*)
- 3-56.24 Tactical Command and Control Planning Guidance and Procedures for Joint Operations—Joint Interface Operational Procedures—Message Text Formats
- 6-01 Series Tactical Digital Information Link (TADLL) Series Message Standards
- 1-2

F  
M  
F  
M  
5-

### 3. Navy Publications

#### Naval Warfare Publications (NWPs)

10-1-2 1  
 22-2  
 32(C)  
 55/9-ASH!  
 FMEM 5-35  
 Antiair Warfare Commander's Manual  
 Supporting Arms in Amphibious Operations  
 Antiair Warfare (U)  
 Assault Support Helicopter Tactical Manual, Vol. 1, (Rev. F)

#### Navy/Marine Departmental Publications (NAVMC)

Joint Users Handbook for Message Text Formats

#### Naval Doctrine Test Publications (NDTP)

Joint Force Air Component Commander Organization and Processes

#### Miscellaneous

Navy and Marine Corps White Paper, dated September 1992,.. *From the Sea: Preparing the Naval Service for the*

*21st Century*

### 4. Marine Corps Publications

#### Fleet Marine Force Manuals (FMFMs)

Warfighting  
 Marine Air-Ground Task Force Rear Area Security  
 Fire Support in MAGTF Operations  
 Fire Support Coordination by MAGTF Command Elements  
 Command and Control  
 Command and Staff Action  
 MAGTF Intelligence Operations  
 Unmanned Aerial Vehicle (UAV) Company Operations  
 Surveillance, Reconnaissance, and Intelligence Group (under development)  
 Signals Intelligence Electronic Warfare Operations (U)  
 Communications  
 Electronic Warfare in Joint Military Operations (under development)  
 Marine Air-Ground Task Force Aviation (under development)  
 Organization and Function of Marine Aviation

Air Reconnaissance  
Assault Support  
Offensive Air Support  
Close Air Support and Close-in Fire Support  
Deep Air Support  
Suppression of Enemy Air Defenses  
Antiair Warfare  
Employment of the Light Anitaircraft Missile Battalion (under development)  
Employment of the Low Altitude Air Defense Battalion  
2800

3-56.1

1

2-6

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2-7-1

3

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5-60	Control of Aircraft and Missiles
6-18	Techniques and Procedures for Fire Support Coordination
6-21	Tactical Fundamentals of Helicopterborne Operations
7-12	Electronic Warfare
7-13	Military Deception
7-22	Tactical Fundamentals for Aviation in Cold Weather Operations
7-27	Desert Operations
7-30	Counterinsurgency (under development)
7-31	Special Operations (under development)

**Fleet Marine Force Reference Publications (FMFRP5)**

0-14	Marine Corps Supplement to the DOD Dictionary of Military and Associated Terms
1-11	Fleet Marine Force Organization—1992
5-54	Small Arms Defense Against Air Attack
5-71	MAGTF Aviation Planning Documents (under development)
5-85	Marine Aviation Equipment and Systems
14-4	Evolving Doctrine for Landing Forces in Year 2010
15-5	Electronic Warfare in Combined Arms
15-6	Strategic and Operational Military Deception: US Marine Corps and the Next Twenty Years

### **Operational Handbook (OH)**

5-5A	Employment of the Light Antiaircraft Missile Battalion—Hawk
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### **Miscellaneous**

	EWTG Pac ACE Staff Planning Text
	MAWTS-1 Battlestaff Planning and Briefing Text
	MAWTS-1 Combat Mission Planning Text
	MAWTS-1 Control of Aircraft and Missiles Text
	MAWTS-1 Joint Operations and the JFACC Text
	MAWTS-1 OAS Planning and Execution Text
	MAWTS-1 OAS Planning Considerations Text
	MAWTS-1 Rapid Response Planning Text
	MAWTS-1 Six Functions of Marine Aviation Text
	MSTP Course Materials

## **5. Air Force Manual (AFM)**

2-7	Tactical Air Force Operations—Tactical Air Control Systems (TACS)
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## **6. Army Field Manuals (FMs)**

1-60	Airspace Management and Army Air Traffic in a Combat Zone
100-42	US Air Force/US Army Airspace Management in the Area of Operations

54

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## **7. Multicommand Manual (MCM)**

3-1, Vol 2 (5)	Threat Reference Guide and Countertactics (U)
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ANNEX ~~N~~ W (Air Operations) to OPORD \_\_\_\_\_ (U)

According to MCWP 5-1 and CJCSM 3122.03 Air Operations has been moved from ANNEX N under the old format to Annex W.

Ref: (a)MCWP 5-1, Marine Corps Planning Process  
(b)CJCSM 3122.03, Joint Operation Planning and Execution system  
Volume II Planning Formats and Guidance.

Time Zone:

1. ( ) GENERAL

Discuss briefly the overall objective as assigned in the references above. This discussion should involve some observations concerning the nature of the individual references.

a. ( ) Purpose. State the general purpose of the annex--to outline the specific uses of the aviation elements and control measures needed. Specific individual aviation subjects will be covered in more detail in various appendixes to ANNEX W.

b. ( ) Mission. State the mission of the aviation unit(s) involved in the operation, as deduced from the task assignments contained in the higher level OPLANS (references) . This statement will be general in nature. Specifics will be contained in the various appendixes.

2. ( ) CONCEPT OF AIR OPERATIONS

This statement is general in nature, but includes the salient points of how the commander intends to employ aviation. It will dovetail with, and respond to, the overall OPLAN in its projected activities and sequence of events. A concept of operations should always include the broad outline of a commander's assumptions or intent regarding not only his plans, but generally how he hopes to effect those plans.

3. ( ) CONDUCT OF AIR OPERATIONS

This statement should introduce the subsequent appendixes, which will provide the details the conduct of the air operation. It also provides any information that is essential, but doesn't fit in elsewhere. Each of the following subparagraphs (3a through 3i) should contain a brief statement concerning the operation plan, and refer the reader to the appropriate appendix for specific

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information.

- a. ( ) Air Defense/AAW.
- b. ( ) OAS.
- c. ( ) Assault Support.
- d. ( ) Reconnaissance/Surveillance.
- e. ( ) Supplementary Air Operations.
- f. ( ) Aircraft Armament.
- g. ( ) Air Command and Control.
- h. ( ) Air Communications.
- j. ( ) Air Movement Plan/Flight Ferry.
- k. ( ) Aircraft Schedules.
- l. ( ) Air Tasking.

4.( ) ADMINISTRATION AND LOGISTICS

a. ( ) Administration. Comments will vary based on the situation but will probably contain administrative instructions, as well as a reference to Annex Y (Reports). One should keep in mind that this portion of ANNEX W deals with administrative matters involving air operations only, and has nothing to do with personnel.

b. ( ) Logistics. Some general observations may be in order here concerning the sources of support and logistics chain of supply from user to provider. But the reader should be referred to Annex D (Logistics/CSS) for a full treatment of the subject.

5.( ) COMMAND AND CONTROL

As was the case in paragraph 3, the originator of this paragraph should make any appropriate general remarks that touch upon the subject matter, but should also refer the reader to the appendixes of this annex that deal with the specifics: Air Control, the ATO, and Air Communications.

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APPENDICES:

- 1 Air Defense/Antiair Warfare
- 2 Offensive Air Support
- 3 Assault Support
- 4 Reconnaissance/Surveillance Plan
- 5 Supplementary Air Operations
- 6 Aircraft Armament
- 7 Air Control
- 8 Air Communications
- 9 Air Movement Plan/Flight Ferry
- 10 Aircraft Schedules
- 11 Air Tasking

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APPENDIX 1 (Air Defense/Antiair Warfare) to ANNEX W (Air Operations) to OPOD  
(U)

Ref: (a) Maps: Koolora, AMS Series V9-75, 1:50,000, Sheets 2540-I, 2640-I, II, III, IV  
(b) CTF 15 Operation Order 2-7  
(c) CTF 13 Operation Order 1-7  
(d) MCWP 3-22, Antiair Warfare

Time Zone:

1. ( ) SITUATION

a. ( ) Enemy Forces

- (1) ( ) Annex B (Intelligence)
- (2) ( ) Current intelligence summaries are issued.

b. ( ) Friendly Forces

- (1) ( ) Area air component will support TF 15.
- (2) ( ) Attack Carrier Striking Force (TF 13) will cover and support TF 15.
- (3) ( ) Amphibious Task Force (TF 15) conducts antiair warfare for the amphibious task force enroute to and in the objective area until control is passed ashore.
- (4) ( ) ANNEX W (Air Operations).

2. ( ) MISSION

Participate in AAW protection of the amphibious objective area as required by TF 15 and be prepared to assume control of AAW operations when directed. The priority for air targets is given to the "Starflyer" and low altitude attack aircraft.

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3. ( ) EXECUTION

a. ( ) Concept of Operations. TF 15 provides aircraft, AA missiles, and control facilities for the conduct of AAW operations as directed by the CTF 15 until control is passed ashore. Landing force AAW elements establish the landward extension of amphibious task force AAW area as rapidly as possible to prevent enemy air from interfering with operations in objective area. An air surveillance screen with early warning units lands immediately following assault elements to operate necessary air control agencies and is followed by the rest of the anti-aircraft missile batteries and aircraft squadrons. Two anti-aircraft missile batteries are landed as soon as possible to establish vital, destruction, and surveillance areas. When control is passed ashore, CTF 15 assigns to CTF 19 additional means to conduct AAW. CTF 19 assigns all AAW means and delegates authority for coordination and control to CTG 19.2.

b. ( ) 5th Marine Aircraft Wing (TG 19.2)

(1) ( ) Provide AAW means for the conduct of AAW operations as directed by CTF 15 until control is passed ashore.

(2) ( ) Establish air warning and control facilities ashore in the force beachhead. Prepare to assume control of AAW operations on order.

(3) ( ) Establish anti-aircraft missile units ashore initially to provide AAW protection for the beaches, and subsequently to provide balanced area protection of the vital area.

(4) ( ) Be prepared to provide AAW support of subsequent operations in contiguous areas.

c. ( ) Coordinating Instructions

(1) ( ) AAW procedures: Tab A (Detailed Concept of Operations) and references Cc), (d), and Ce)

(2) ( ) Sectors of responsibility and locations of AAW means overlay: Tab B (Sectors of Responsibility and Locations of AAW Agencies Overlay).

(3) ( ) Air raid warnings: Tab C (Sector Scramble Procedures) and Tab D (Air Defense Warning procedures).

(4) ( ) Anti-aircraft missile and aircraft coordinating procedures: Tab E (Anti-aircraft Missiles and Aircraft Coordination Procedures).

(5) ( ) Combat air patrol: Tab F (Combat Air Patrol).

(6) ( ) Anti-aircraft missiles instructions: Tab G (Anti-aircraft Missiles Instructions)

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- (7) ( ) AEW instructions: Tab H (Airborne Early Warning Instructions).
- (8) ( ) Data link procedures: Tab J (Data Link/Manual Crosstel]. procedures)
- (9) ( ) Offensive AAW: Tab K (Offensive AAW) and Appendix 2 (Offensive Support).
- (10) ( ) Passive air defense: Tab L (Passive Air Defense Measures) .
- (11) ( ) AAW reports and codes: Tab M (AAW Reports and Codes).
- (12) ( ) Air traffic control procedures: Appendix 10 (Aircraft Schedules) .
- (13) ( ) Electronic attack, electronic protection, and electronic warfare support in accordance with Appendix 3 (Electronic Warfare), Annex C (Operations)
- (14) ( ) Aircraft conditions of readiness: ANNEX W (Air Operations) or references (d) or (e).
- (15) ( ) The progressive passing of air control ashore will be done in five phases in accordance with anti-air warfare appendix to reference (b) and when directed by CTF 15.

4. ( ) ADMINISTRATION AND LOGISTICS

Administrative Plan 1-7

5. ( ) COMMAND AND CONTROL

a. ( ) Command Relationships

(1) ( ) CTF 15 controls all AAW operations within the task force AAW area until control of air operations is passed ashore. CTF 15 is exercised through KINGMAN (TACC afloat) on automatic gain control (AGC)

(2) ( ) The commander landing force (TF 19) establishes the landward extension of task force AAW area and assumes command of all AAW operations when control is passed ashore. Landing force aviation (TG19.2) operates shore-based AAW system under operational control of CTF 15 until control of air operations is passed ashore. Control then reverts to the commander, landing force (TF 19); landing force aviation (TG 19.2) control exercised through TALLBOY (TACC/TADC ashore) located at 718342.

b. ( ) Control. Annex K (Command and Control Systems), Annex\_\_ (Communications) reference (b), and reference (f).

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TABS:

- A - Detailed Concept of Operations (Omitted)
- B - Sectors of Responsibility and Locations of AAW Agencies Overlay (Omitted)
- C - Sector Scramble Procedures
- D - Air Defense Warning procedures
- E - Antiaircraft Missiles and Aircraft Coordination Procedures
- F - Combat Air Patrol (Omitted)
- G - Antiaircraft Missiles Instructions
- H - Airborne Early Warning Instructions (Omitted)
- J - Data Link/Manual Crosstell Procedures
- K - Offensive AAW (Omitted)
- L - Passive Air Defense
- M - AAW Reports and Codes (Omitted)

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TAB C (Sector Scramble Procedures) to APPENDIX 1 (Air Defense/Antiair Warfare) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_(U)

Ref:

Time Zone:

1. ( ) The TACC will have launch authority, however, launch authority may be delegated to the TAOC for specific missions, periods of time, or unconditionally, depending on the situation. Launch authority may be granted via the daily ATO, voice communications, or message traffic. When a "strip alert" or "on-call" air defense mission is requested or directed, the following format will be used:

- a. ( ) "Scramble mission number (last four digits)."
- b. ( ) "Vector (initial sector) for CAP (name)/Bogey."
- c. ( ) "Contact (call sign) on Button (Color Code of Frequency)"

The Flight duty officer (FDO) that launches the mission will report back the time, the mission launched, and any variations from the ATO.

2. ( ) Aircraft based at FOB will receive the scramble order from the FDO. The FDO will receive the order over the ATC hotline from either the TACC or TAOC.
3. ( ) Aircraft based at LZ Bluebird will receive the scramble order from the FDO, who will receive it from the DASC via a secure voice VHF net between the DASC and the forward site of the AV-8s.
4. ( ) Aircraft communicating with air control elements will perform action(s) (e.g., investigate, engage, etc.) as directed by the weapons controller/air intercept controllers.
  - a. ( ) Commands to air control units will be in accordance with the following:

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<u>Command Order</u>	<u>Action Required</u>
Engage	Directs or authorizes units and weapon systems to fire on a designated target.
Cease Engagement	Directs units to stop the firing sequence against a designated target
Hold Fire	Emergency order used to stop firing. Missiles already in flight must be prevented from intercepting, if technically possible.

b. ( ) Aircraft experiencing loss of communications with control facilities will break off the engagement (exercise only)

c. ( ) Aircraft detected and identified as hostile will be engaged by fighter/missile systems as determined by the appropriate air defense authority. Normally, breakoff fighter interceptors will be accomplished prior to penetration of established missile engagement zones

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TAB D (Air Defense Warning Procedures) to APPENDIX 1 (Air Defense/Anti-air Warfare) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_(U)

Ref:

Time Zone:

1. ( ) PROCEDURES FOR THE DECLARATION OF AIR DEFENSE WARNING CONDITIONS

The declaration of air defense warning conditions will be accomplished using the following procedures:

a. ( ) The ACE commander or his designated representative will establish and disseminate warning conditions to subordinate air defense commanders via data link or the appropriate voice net. A subordinate air defense commander may establish a higher air defense warning condition for his area of responsibility commensurate with his assessment of the tactical situation. The air defense warnings are defined as follows:

Yellow highlights indicate text that was in the original FMFM 5-71, but is not in the current 3-22 or other appropriate service/joint doctrine related to Air defense.

WARNING	AUDIO SIGNAL	MEANING
RED	One long yelping blast lasting approximately 1 minute. (Corresponding NBC signal is one constant tone).	Attack by hostile aircraft or missiles is imminent or in progress. Take cover or evasive action, activate aircraft dispersal plans, bring AAW units to maximum readiness posture.
YELLOW	Three yelping blasts, each lasting approx 2 seconds (no corresponding NBC signal).	Attack by hostile aircraft or missiles is probable. Update defensive positions, be prepared to activate emergency dispersal plans, post aircraft lookouts, upgrade AAW units to alert posture.
WHITE	Signal will be passed by voice or data (NBC signal for all clear is six blasts, 5 seconds each)	Attack by hostile aircraft is improbable. Determine and report casualties and damages, execute damage control plans and procedures.

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TAB E (Antiaircraft Missiles and Aircraft Coordination Procedures) to APPENDIX 1  
(Air Defense/Anti-air Warfare to ANNEX W (Air Operations) to OPORD \_\_\_\_\_(U)

Ref:

Time Zone:

1. ( ) Missile Engagement Zone (MEZ)

a. ( ) The MEZ is formed by the area of the 25nm radius circle originating at MCALF Bogue (34 deg 42'N, 77 deg 02W) extending from the surface to FL400. This MEZ will be divided into two sections, the landward and seaward, with the division along the Intracoastal Waterway.

(1) ( ) The landward sectors will normally be in "Weapons Hold" status. This does not supersede the SAW units right to self-defense. All aircraft should avoid flying a profile that would be indicative of a hostile threat. Flight routes should be planned perpendicular to an imaginary line extending from the aircraft's position to that of the Hawk and remain in the landward sector.

(2) ( ) The seaward sector will normally be in a "Weapons Free" status. No aircraft may transit this sector except when experiencing an emergency situation that requires direct routing to an airbase. In this situation, the aircrew will request the TAOC to clear the route with the Hawk unit. NORDO aircraft requiring direct routing will proceed to the ATO designated 'Emergency Hawk Reentry Point' at 10,000 MSL, perform the ATO designated turn in holding (starboard or port) and then continue directly to the airbase. "Emergency Hawk Reentry Points" will be selected from the following list and published in the daily ATO:

NAME	LAT/LONG	NKT CUT	ALTITUDE
INDIA	34 <sup>0</sup> 22'N, 770201W	220/40	9,000
SWEDEN	34 <sup>0</sup> 18N, 77~13'W	210/40	9,000
SCOTLAND	34 <sup>0</sup> 17'N, 770011W	191/38	9,000
AUSTRIA	34 <sup>0</sup> 18'N, 76043 <sup>1</sup> W	185/37	9,000
FRANCE	34 <sup>0</sup> 22'N, 76043W	173/34	9,000
EGYPT	34 <sup>0</sup> 27'N, 76038 <sup>1</sup> W	161/30	9,000

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Normal traffic will follow the procedures in Appendix 4 (Reconnaissance and Surveillance Plan) to Annex W (Air Operations)

2. ( ) Joint Engagement Zone (JEZ)

a. ( ) The JEZ is formed by the radial zones 25 nmi to 35 nmi from MCALF Bogue (34042 'N, 770021W).

b. ( ) Engagements within the JEZ will only occur when directed by the TAOC. In the event that it becomes necessary to disengage fighters in the pursuit of hostile aircraft, pilots will execute a hard ascending turn to an outbound heading when directed to disengage by the TAOC.

c. ( ) Aircraft are requested to avoid the seaward sector of this zone unless under TAOC control or on the Emergency Hawk Reentry route.

3. ( ) Fighter Engagement Zone (FEZ)

a. ( ) The FEZ begins at the outer boundary of the MEZ and continues to the limits of the destruction area.

b. ( ) Air defense aircraft guided by radar surveillance units will attempt destruction of ORANGE attack aircraft in the FEZ. ORANGE escort aircraft are secondary targets.

c. ( ) Unless the tactical situation dictates otherwise, fighter engagements are broken off prior to penetrating the MEZ. Aircraft under TAOC control in hot pursuit entering into the JEZ will continue the engagement until directed to terminate by the TAOC. The TAOC must actively coordinate with Hawk units anytime penetration of the seaward sector of the MEZ is contemplated. Hostile aircraft, even though engaged by friendly aircraft, will be engaged within 20 km (12 nmi) of the center of the MEZ by SAW fire units unless specifically prohibited by the TAOC.

4. ( ) LAAD

Teams will be positioned to provide point defense of critical facilities, positions, and units in the vital area as designated by the ACE Commander.

5. ( ) Weapon Control Command

Tab B to this appendix defines weapons control commands.

6. ( ) Combat Air Patrol (CAP) Stations

CAPs are established to give the aircrews and air controllers common points of reference in the hemisphere from which the threat is expected to approach. Missions may be assigned a CAP station on the ATO for initial coordination. Once under control of the TAOC, missions may be

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reassigned stations as the situation develops. Aircraft will orient their orbits to maximize their surveillance capabilities to augment low-level coverage of their sector.

<u>NAME</u>	<u>LAT/LONG</u>	<u>NKT CUT</u>
MIKE	33 <sup>0</sup> 57 ' N, 77 <sup>0</sup> 05 'W	196/60
ANDY	33 <sup>0</sup> 58 ' N, 77 <sup>0</sup> 51'W	186/56
RONNIE	34 <sup>0</sup> 02 ' N, 76 <sup>0</sup> 38 'W	174/55
IVAN	34 <sup>0</sup> 09 ' N, 76 <sup>0</sup> 26 'W	161/51
NATHAN	34 <sup>0</sup> 17 ' N, 76 <sup>0</sup> 16'W	148 /4 8
EDDY	34 <sup>0</sup> 27 ' N, 76 <sup>0</sup> 10 'W	135/45

Air defense aircraft transiting to CAP stations will generally proceed via direct routing to assigned CAP stations with hand-off to Bonnie Sue (TAOC-6) prior to entering W-122. Air defense aircraft arriving will proceed via overland route to Wilmington, then to assigned CAP station after handoff to TAOC-6 remaining outside the seaward sector of the MEZ. Aircraft will RTB in a similar manner notifying TAOC-6 at least 10 minutes prior to anticipated departure time for processing of return flight plan routing.

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TAB G (Antiaircraft Missiles Instructions) to APPENDIX 1 (Air Defense/Antiair Warfare) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_(U)

Ref:

Time Zone:

1. ( ) AIR DEFENSE WEAPONS CONTROL

The following control procedures apply specifically to the type of air defense weapons system indicated:

2. ( ) SURFACE-TO-AIR

a. Weapons control status within the missile engagement zone will be specified and disseminated by the ACE commander or his designated representative. Subordinate air defense commanders may temporarily impose a more restrictive weapons control status on local defense weapons within their assigned areas of responsibility and immediately notify the TAOC of all local changes in the weapons control status. Each command order that follows indicates the degree of fire control that may be imposed upon fire units in receipt of a valid order (voice of command message)

“”Weapons Free”, “Tight”, and “Hold” updated to reflect definitions in MCWP 3-22, *Antiair Warfare*.

<u>Command Order</u>	<u>Action Required</u>
Weapons Free	Fire at any target not positively identified as friendly.
Weapons Tight	Fire only at targets positively identified as hostile in accordance with prevailing target identification criteria.
Weapons Hold	Do not fire except in self-defense or in response to a formal fire control order.

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The below commands do not currently exist in the MCWP 3-22, however they are in JP 3-01, *Joint Doctrine for Countering Air and Missile Threats*. The original FMFM 5-71 included several other commands, which are not defined in either our service or joint doctrine.

<u>Command Order</u>	<u>Action Required</u>
Engage	Directs or authorizes units and weapon systems to fire on a designated target.
Cease Engagement	Directs units to stop the firing sequence against a designated target
Hold Fire	Emergency order used to stop firing. Missiles already in flight must be prevented from intercepting, if technically possible.

(2) ( ) Those SAW units experiencing a loss of communications with higher echelons will, revert to autonomous operations and will adhere to the following:

(a) ( ) Any SAW unit experiencing loss of all communications with authorized command and control elements is authorized to establish SAW status as deemed necessary and engage hostile targets.

(b) ( ) Weapons control status will be in accordance with the following:

- ( ) If in free, revert to tight.
- ( ) If in tight, remain in tight.

3. ( ) SAFETY

No provision of this document will be construed to violate basic safety practices. All persons are responsible for exercising good judgment to preclude any unsafe situation.



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TAB J (Data Link/Manual Crosstell Procedures) to APPENDIX 1 (Air Defense/Antiair Warfare) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_(U)

Ref:

Time Zone:

1. ( ) GENERAL

The ACE commander will expect to be provided a real-time display of the tactical situation. He will also demand timely situation reports regarding air support missions, fighter and missile engagements, hostile aircraft destroyed, missiles expended, and missiles remaining. It is essential that the flow of information is timely and accurate. Digital data information must be continuous and reliable. To ensure this the operating procedures in this Tab should be adhered to.

2. ( ) DATA LINK PROCEDURES

a. ( ) Unless otherwise directed, establish communications for maintenance coordination one hour before operator sitdown.

b. ( ) During exercise periods, TAOC5 conduct continuous surveillance, identification, and classification of all targets in their sector. Tracks must be continuously updated with all available information via data link. In particular, the weapons and fuel status of air defense assets must be accurately reported and maintained on the link. Tanker fuel state will reflect giveaway fuel in thousands of pounds (A/C state in hundreds).

c. ( ) Be prepared to conduct link operations on TADIL A or B or both as directed by the interface coordination unit. Loss of a line path to a unit may require the reconfiguration of links to maintain data flow to all participants. Untimely responses to requests to establish additional links seriously degrades the capability for rapid link reconfiguration. Any time a unit experiences a degradation of its link capabilities, it should inform the interface coordination unit and TACC immediately and note it in the remarks portion of the MACCS status report. (Annex Y [Reports])

d. ( ) When ATDL-1 is not operational, TAOC5 must enter and update fire unit positions and status. TAOC-6 must also enter DASC position.

e. ( ) The status of fighter and missile fire unit engagements should be clearly indicated by pairing lines. Successful engagements by fighters or missiles should be followed by an engagement effective switch action from the TAOC.

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f. ( ) TADIL-C. TAOC5 will establish links with all BLUE Marine F/A-18s as they are entering the air defense sector. Initial vector for the "bogey" will be provided via data link. The success of TADIL-C will be reported in the daily situation report by mission number.

3. ( ) MANUAL CROSSTELL PROCEDURES

a. ( ) Manual crosstell will be passed in Cartesian coordinates between TAOC and Hawk. Polar coordinates (in degrees magnetic) will be used between LAAD elements and from TAOC to TACC. The following POLAR applies:

POLAR	NAME	LAT/LONG
Coast Guard Station	"ZEBRA"	34 <sup>0</sup> 38'N, 77 <sup>0</sup> 06 W

b. ( ) Crosstell Format. Standard crosstell procedures facilitate rapid exchange of track data among air defense agencies. The following format will be used:

- (1) ( ) Track classification (e.g., "Hostile", "Unknown", "Friendly").
- (2) ( ) Track designator (e.g., "TK #21").
- (3) ( ) Position (e.g., "ZEBRA 140/25").
- (4) ( ) Cardinal heading (e.g., "NORTHWEST").
- (5) ( ) Raid size (e.g., "one", "few", "many").
- (6) ( ) Mode IV (e.g., "positive/negative Mode IV").

4. ( ) COORDINATION

a. ( ) All specific coordinating instructions and link parameters will be passed in the OPORD.

b. ( ) Identification criteria are as follows:

(1) ( ) Friendly Criteria (In Priority)

(a) ( ) All aircraft squawking Mode IV IFF/SIF.

(b) ( ) Aircraft specifically under the control of TAOC and cleared through the MEZ or adhering to established flight plans.

(c) ( ) Aircraft flying overland MEZ with appropriate Mode IV and/or under control of TAOC/DASC.

CLASSIFICATION

(d) ( ) Aircraft flying the “Emergency Hawk Reentry” Profile.

(2) ( ) Hostile Criteria (In Priority)

(a) ( ) Not squawking Mode IV, greater than 250 kts and approaching the vital area.

(b) ( ) Aircraft designated hostile by TAOC.

(c) ( ) Aircraft within the MEZ committing a hostile act. (i.e., standoff jammer or a direct threat to an HAWK battery/LAAD element)

(d) ( ) Aircraft bearing the military insignia or having the configuration of aircraft employed by a known enemy nation.

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TAB L (Passive Air Defense) to APPENDIX 1 (Air Defense Operations) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

1. ( ) GENERAL

Units in the I MEF sector will use passive air defense measures to the fullest extent possible to limit the effects of enemy air action. These measures will include cover, concealment, camouflage, deception, dispersion, and protective construction.

2. ( ) CONCEPT

The Headquarters commandant will coordinate all phases of passive air defense employment and execution to include evaluation of post attack damage control reporting readouts. The air defense coordinator's responsibilities will include, but not be limited to making airborne checks of passive air defense measures, coordinating engineer support, and directing the deception plan.

3. ( ) CONDUCT

a. ( ) 2nd LAAM Bn construct alternate Hawk sites to provide for mobility within the vital area.

b. ( ) 2nd LAAM Bn construct dummy Hawk sites.

c. ( ) Squadron commanders will implement and monitor all possible dispersal measures.

d. ( ) All aircraft will be fully fueled when left on the flight line.

e. ( ) Where possible after engine run ups or flights, the aircraft will be covered with radiation resistant netting to reduce the IR signature.

f. ( ) Personnel will be thoroughly briefed as to the passive actions to be taken during each of the air defense alert conditions.

g. ( ) Engineer support will be made available to assist in the construction of revetments and shelters as appropriate to afford protection to aircraft during maintenance and other periods of

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downtime.

h. ( ) Employment of aircraft decoys will be done wherever possible.

i. ( ) Decoy communications, to include deceptive communications, will be planned and conducted on an as required basis.

4. ( ) LOGISTICS

Annex D will be provided by the engineers.

a. ( ) Netting will be extensive and a continuous effort.

b. ( ) Decoys will be fabricated by all units.

c. ( ) Natural cover and concealment will be maintained.

5. ( ) COORDINATING INSTRUCTIONS

a. ( ) Priorities for reporting visual aircraft sightings will be:

(1) ( ) Hostile and unknown aircraft.

(2) ( ) Friendly air defense aircraft.

(3) ( ) Friendly attack aircraft.

(4) ( ) Other friendly military aircraft.

(5) ( ) Friendly civilian aircraft.

(6) ( ) Routine track coordination.

b. ( ) Automated data links will be established to exchange air surveillance information where possible and in accordance with Tab E to this Appendix.

c. ( ) Manual plotting and crosstell information will be used in the event of data link failure and between nonautomated systems.

d. ( ) Air defense operations reports will be submitted in accordance with Appendix 1 to ANNEX W (omitted) to this OPORD.

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APPENDIX 2 (Offensive Air Support) to ANNEX W (Air Operations) to OPOD \_\_\_\_\_  
\_\_\_\_ (U)

Ref: Maps (Should have military grid reference system.)

Time Zone:

1. ( ) GENERAL

This appendix addresses the delivery of ordnance against enemy installations, facilities and personnel to directly assist the attainment of MAGTF objectives.

2. ( ) CONCEPT

Delineate concept of offensive air support (numbers of sorties available for preplanned and alert missions, number of aircraft in normal flight, integration with other fire support means, types of targets to be assigned CAS, etc.)

3. ( ) CONDUCT

a. ( ) Priorities. Address means/methods for establishing priorities in assigning targets to OAS aircraft and in assigning air support to specific units.

b. ( ) Air Requests

(1) ( ) Preplanned. Address method of processing preplanned OAS requests at appropriate level.

(2) ( ) Immediate. Address method for processing immediate OAS requests at this command level; be it requesting or authorizing and ordering.

c. ( ) Air Control Procedures. In accordance with Tab A to this appendix.

d. ( ) FAC(A) Procedures. In accordance with Tab B to this appendix.

e. ( ) BDA Reporting Procedures. In accordance with Tab C to this appendix.

f. ( ) Target Marking for Air Attack. In accordance with Tab D to this appendix.

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g. ( ) Aircraft Alert Status

(1) ( ) Alert Conditions for OAS Aircraft:

CONDITION	STATUS	ARMAMENT
-----------	--------	----------

(2) ( ) Alert Stations for Aircraft. Define airborne alert stations.

h. ( ) Aircraft Armament

(1) ( ) Loads as specified by daily fragmentary orders. Unless otherwise stated, all loads include full internal armament.

(2) ( ) Pilots include numbers of each type of ordnance carried when making armament reports.

(3) ( ) Armament codes in accordance with Tab A to Appendix 6 to this annex.

i. ( ) Attack Limitations. Provide specific guidance for air attacks reflecting enemy anti-air threat, anticipated weather interference, terrain clearance minimums for night operations, etc., as appropriate.

4. ( ) LOGISTICS AND ADMINISTRATION

a. ( ) Logistics. Designate source of supply for beacons, laser designators, landing zone marking lights, panels, marking smoke, etc., as appropriate.

b. ( ) Administration. Address consolidation and forwarding of preplanned air requests, BDA reports, etc., as appropriate. Aircraft availability and schedules in accordance with Appendix 1 to this annex.

5. ( ) COMMAND AND CONTROL

a. ( ) Command Relationships. Define authority to request, approve, countermand, modify, and/or divert offensive air support missions. Refer to Annex J.

b. ( ) Control Relationships. Refer to Annex K.

\_\_\_\_\_/s/\_\_\_\_\_  
/s/

\_\_\_\_\_(Name)\_\_\_\_\_  
(Name)

\_\_\_\_\_(Rank, Service)\_\_\_\_\_  
Rank, Service)

\_\_\_\_\_(Position)\_\_\_\_\_  
(Position)

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OFFICIAL

\_\_\_\_\_/s/\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_(Name)\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_(Rank, Service)\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_(Position)\_\_\_\_\_  
\_\_\_\_\_

TABS:

- A - Air Control Procedures
- B - Forward Air Controller (Airborne) Procedures
- C - Battle Damage Assessment Reporting Procedures
- D - Target Marking for Air Attack
- E - General Instructions and Safety Procedures
- F - Air Interdiction and Armed Reconnaissance

DISTRIBUTION: Annex Z (Distribution)

SAMPLE



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TAB A (Air Control Procedures) to APPENDIX 2 (Offensive Air Support) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

1. ( ) GENERAL

Air control procedures are provided for guidance to appropriate agencies in the air control chain. Primary emphasis will be placed on control during the delivery phase of the evolution.

2. ( ) CONCEPT

a. ( ) Sequencing. Control sequencing will be from DASC to terminal controller (FAC, FACEAI) back to DASC.

b. ( ) Briefing. Pilots will be briefed on missions by DASC while inbound to target area utilizing mandatory items for OAS as depicted on Enclosure (1) to Tab A to this appendix. Remainder of items, as appropriate, will be briefed by the terminal controller. Additionally, FAC5 and FAC(A)s will brief pilots on wind conditions, flight or navigation hazards, and target marking methods, and will repeat such items briefed by DASC as appropriate.

c. ( ) Orbit Points. Define orbit points for OAS aircraft or refer to Tab C, Appendix 7 to this annex. State agency authorized to clear aircraft from orbit point to target.

d. ( ) Contact Points. Define position at which mission leader makes initial radio contact with the forward air controller.

3. ( ) CONDUCT

a. ( ) Target Marking. In accordance with Tab D to this appendix.

b. ( ) Marking Friendly Positions. Friendly positions will be marked by panel, smoke, mirror, light, etc. Under no circumstances will pilots deliver ordnance when the position of friendly forces is in question.

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c. ( ) Delivery

(1) ( ) Methods. Establish the authority for determining fusing selections, dive angles, number of drops per run, number of runs, etc.

(2) ( ) Clearance. Establish methods to be used to clear aircraft to drop ordnance.

(3) ( ) Corrections. Delivery correction methods must be defined (normally in meters on a clock code relative to the run-in line) . If the enemy threat dictates multiple run-in headings, an alternate must be provided.

d. ( ) Exit Routes. Self-explanatory.

4. ( ) LOGISTICS AND ADMINISTRATION

a. ( ) Logistics.

b. ( ) Administration. BDA reports in accordance with Tab C to this appendix.

5. ( ) COMMAND AND CONTROL

a. ( ) Command (Annex J)

b. ( ) Control (Annex K)

ENCLOSURES:

- 1 - Joint Tactical Air Strike Request Form
- 2 - Forward Air Controller Party Instructions
- 3 - CAS Briefing Forms

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ENCLOSURE 1 (Joint Tactical Air Strike Request Form) to TAB A (Air Control Procedures) to  
 APPENDIX 2 (Offensive Air Support) to ANNEX W (Air Operations) to  
 OPORD \_\_\_\_\_ (U)

Ref: JP 3-09.3 (Editor note: original file <http://www.dior.whs.mil/forms/DD1972.PDF>)

JOINT TACTICAL AIR STRIKE REQUEST				See Joint Pub 3-09.3 for preparation instructions.	
SECTION I - MISSION REQUEST					DATE
1. UNIT CALLED	THIS IS	REQUEST NUMBER	TIME	SENT BY	
2. PREPLANNED: <input type="checkbox"/> A PRECEDENCE	<input type="checkbox"/> B PRIORITY		TIME	RECEIVED BY	
IMMEDIATE: <input type="checkbox"/> C PRIORITY					
3. TARGET IS/NUMBER OF					
<input type="checkbox"/> A PERS IN OPEN	<input type="checkbox"/> B PERS DUG IN	<input type="checkbox"/> C WPNS/MG/RR/AT	<input type="checkbox"/> D MORTARS, ARTY		
<input type="checkbox"/> E AAA ADA	<input type="checkbox"/> F RKTS MISSILE	<input type="checkbox"/> G ARMOR	<input type="checkbox"/> H VEHICLES		
<input type="checkbox"/> I BLDGS	<input type="checkbox"/> J BRIDGES	<input type="checkbox"/> K PILLBOX, BUNKERS	<input type="checkbox"/> L SUPPLIES, EQUIP		
<input type="checkbox"/> M CENTER (CP, COM)	<input type="checkbox"/> N AREA	<input type="checkbox"/> O ROUTE	<input type="checkbox"/> P MOVING N E S W		
<input type="checkbox"/> Q REMARKS					
4. TARGET LOCATION IS					CHECKED BY
<input type="checkbox"/> A (COORDINATES)	<input type="checkbox"/> B (COORDINATES)	<input type="checkbox"/> C (COORDINATES)	<input type="checkbox"/> D (COORDINATES)		
<input type="checkbox"/> E TGT ELEV	<input type="checkbox"/> F SHEET NO.	<input type="checkbox"/> G SERIES	<input type="checkbox"/> H CHART NO.		
5. TARGET TIME/DATE					
<input type="checkbox"/> A ASAP	<input type="checkbox"/> B NLT	<input type="checkbox"/> C AT	<input type="checkbox"/> D TO		
6. DESIRED ORD/RESULTS					
<input type="checkbox"/> B DESTROY	<input type="checkbox"/> C NEUTRALIZE	<input type="checkbox"/> D HARASS/INTERDICT			
7. FINAL CONTROL					
<input type="checkbox"/> A FAC/RABFAC	<input type="checkbox"/> B CALL SIGN	<input type="checkbox"/> C FREQ			
<input type="checkbox"/> D CONT PT					
8. REMARKS					
1. IP _____			9. EGRESS _____		
2. HDNG _____ MAG _____ OFFSET: L/R _____			THE FOLLOWING MAY BE INCLUDED IN THE "REMARKS", IF REQUIRED:		
3. DISTANCE _____			BCN-TGT _____ MAG _____ BCN GRID _____		
4. TGT ELEVATION _____ FEET MSL			BCN-TGT _____ METERS TGT GRID _____		
5. TGT DESCRIPTION _____			BCN ELEVATION _____ FEET MSL		
6. TGT LOCATION _____					
7. MARK TYPE _____ CODE _____					
8. FRIENDLIES _____					
SECTION II - COORDINATION					
9. NSFS	10. ARTY	11. AIO/G-2/G-3			
12. REQUEST APPROVED	13. BY	14. REASON FOR DISAPPROVAL			
DISAPPROVED					
15. RESTRICTIVE FIRE/AIR PLAN		16. IS IN EFFECT			
<input type="checkbox"/> A IS NOT IN EFFECT	<input type="checkbox"/> B NUMBER	<input type="checkbox"/> A (FROM TIME)	<input type="checkbox"/> B (TO TIME)		
17. LOCATION		18. WIDTH (METERS)	19. ALTITUDE/VERTEX		
<input type="checkbox"/> A (FROM COORDINATES)	<input type="checkbox"/> B (TO COORDINATES)		<input type="checkbox"/> A (MAXIMUM/VERTEX)	<input type="checkbox"/> B (MINIMUM)	
SECTION III - MISSION DATA					
20. MISSION NUMBER	21. CALL SIGN	22. NO. AND TYPE AIRCRAFT	23. ORDNANCE		
24. EST/ACT TAKEOFF	25. EST TOT	26. CONT PT (COORDS)	27. INITIAL CONTACT		
28. FAC/FAC(A)/TAC(A) CALL SIGN/FREQ	29. AIRSPACE COORDINATION AREA	30. TGT DESCRIPTION	*31. TGT COORD/ELEV		
32. BATTLE DAMAGE ASSESSMENT (BDA) REPORT (USMTF INFLTREP)					
LINE 1/CALL SIGN _____		LINE 4/LOCATION _____			
LINE 2/MSN NUMBER _____		LINE 5/TOT _____			
LINE 3/REQ NUMBER _____		LINE 6/RESULTS _____			
REMARKS _____				* TRANSMIT AS APPROPRIATE	

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PREVIOUS EDITION MAY BE USED.

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ENCLOSURE 2 (Forward Air Controller Party Instructions) to TAB A (Air Control Procedures) to APPENDIX 2 (Offensive Air Support) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref: (a) MCWP 3-23  
(b) JP 3-09.3

Time Zone:

1. ( ) GENERAL

FAC parties serve as extensions of the air control system to advise and assist the ground commander on air support operations.

2. ( ) CONCEPT

FAC parties will be employed as instructed by the ground commander.

3. ( ) CONDUCT

a. ( ) Air Requests

(1) ( ) Preplanned. Preplanned requests will be submitted to \_\_\_\_\_ via \_\_\_\_\_ using \_\_\_\_\_ method.

(2) ( ) Immediate. Immediate requests will be submitted directly to the DASC on the TAR net. Battalion, regiment, and division TACP's will monitor and approve by remaining silent and countermand or modify by \_\_\_\_\_.

(3) ( ) Format. Close air support requests will be submitted in accordance with the format provided in Enclosure 1 to Tab A to this appendix. Forms will be completed in accordance with instructions contained in reference (a)

b. ( ) Armament Codes. Armament codes in accordance with Tab A to Appendix 2 to this annex will be used for all air support requests and briefings.

c. ( ) Marking Friendly Positions. Ensure that friendly positions/locations are clearly marked as defined in accordance with instructions contained in references (a) and (b) or Tab A to this appendix.

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d. ( ) Air Control Procedures. In accordance with Tab A to this appendix.

e. ( ) Target Marking Procedures. In accordance with Tab D to this appendix. Msn# - Mission Number. The mission number is assigned to a flight by the TACC. The mission number will be used as the flight's call sign.

Ord - Ordnance Code. The ordnance code denotes what weapons and fuzing are carried in the flight.

Route. The route is the routing assigned to the flight for the entire mission. It is given in coded control points.

Abort. The abort code is the single action or word that the FAC or FAC(A) can use to stop ordnance release from an aircraft in the attack. Assuming that the pilot has chosen "Alpha" as the abort authentication codeword, and abort call from a terminal controller would be: "(callsign) abort alpha, abort alpha, abort alpha."

C.P. Call - Contact Point Call Sign. The contact point call sign is the call sign for the agency to be contacted at the contact point.

Freq U/V/H - Frequency UHF, VHF-FM, High Frequency. The frequency is the one to be used for communications at the contact point. A frequency will be given for each type of radio the fragged aircraft possesses.

C.P. Code - Contact Point Code. One of three will be given at the contact point: Cont indicates that mission should be continued as planned; Chg indicates there is change to the basic mission; CNX indicates the need for this mission no longer exists; Other is for other codes applicable to the current tactical situation.

Hdg - Heading. The heading is given in degrees magnetic. It is the heading from the IP to the target. Left or right (L/R) indicates offset direction if restriction exists. The offset direction indicates the side of the ip to target line on which the attack aircraft is cleared to maneuver/position himself to attack.

Dist - Distance. The distance is from the IP to a point on the target. The distance is always given in nautical miles (nmi) down to tenths. For example, 12.3 nmi would be spoken as "Twelve Point Three".

Tgt Elev - Target Evaluation. The target elevation is always in feet above mean sea level (ft. MSL)

Tgt Desc. - Target Description. The target description is brief and general. Its function is to help the pilot anticipate visual cues for target acquisition.

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Mark. The type of mark that will be given, be it smoke, photo, flash or laser. If a code or color is to be incorporated it will be given.

Friendlys. The friendly position will be given in cardinal headings from the target (north, south, east, west) . The distance of friendlys from the target will be given in meters.

Threat/Hazard/Weather. Any known enemy antiair weapons that can possibly engage friendly attack aircraft during the course of the mission. Any known friendly fire or terrain features that may limit the attack. Target winds and altimeter setting if known.

TOT - Time On Target. TOT is the time, local, assigned to the flight to have bombs on target in a no communications environment. Because of ease of coordination of mark and other supporting fires when operating on a universal clock, TOT is the preferred method over TTT.

Time to Target (TTT). The number of minutes and seconds to ordnance on target. When communication is available, this ensures the necessary coordination between the FAC and the strike aircraft. This time is given by the FAC so that he may ensure proper coordination with other supporting arms/ground elements, and be in position to mark the target. The time is followed by the word "MARK" to ensure time synchronization between the terminal controller and the strike aircraft. If the time given by the FAC cannot be met, the flight leader must respond with earliest time capable of ordnance delivery. The FAC must then initiate another time to target hack. It is understood that the terminal controller is responsible to have the mark on target 20-30 seconds prior to the bombs on target time. For example: The FAC says "eight plus three zero, mark". If unacceptable, the flight leader says "negative, ten plus zero minimum". The FAC then reexamines the situation and says "eleven plus two zero mark". The flight leader says "Roger".

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ENCLOSURE 3 (CAS Briefing Form - 9 Line) to TAB A (Tactical Air Control Procedures) to  
APPENDIX 2 (Offensive Air Support) to ANNEX W (Air Operations) to  
OPORD \_\_\_\_\_(U)

Ref:

Time Zone:

Do not transmit line numbers. Units of measure are standard unless otherwise specified. Lines 4, 6 and any restrictions are mandatory read-back items. JTAC may request read-back of additional items as required.

“JTAC: \_\_\_\_\_, this is \_\_\_\_\_  
(aircraft call sign) (JTAC)  
Type \_\_\_\_\_ Control \_\_\_\_\_”  
(1, 2, or 3)

1. IP/BP: “ \_\_\_\_\_ ”  
(IR/BP to target)

2. Heading: “ \_\_\_\_\_ ” Offset: L/R \_\_\_\_\_

3. Distance: “ \_\_\_\_\_ ”  
(IP-to-target in nautical miles/BP-to-target in meters)

4. Target elevation: “ \_\_\_\_\_ ” (in feet MSL)

5. Target description: “ \_\_\_\_\_ ”

6. Target location: “ \_\_\_\_\_ ”  
(latitude/longitude or grid coordinates or offsets or visual)

7. Type mark: “ \_\_\_\_\_ ” Code: “ \_\_\_\_\_ ”  
(WP laser, IR) (actual code)

8. Location of friendlies: “ \_\_\_\_\_ ”  
(from target, cardinal directions and distance in meters)  
Position marked by: “ \_\_\_\_\_ ”

9. “Egress: \_\_\_\_\_ ”  
(cardinal direction and/or control point)

Remarks (As appropriate): “ \_\_\_\_\_ ”

Laser to target line: “ \_\_\_\_\_ (degrees)”

Time on Target (TOT): “ \_\_\_\_\_ ”

Time-to-Target (TTT): “Stand by \_\_\_\_\_ Plus \_\_\_\_\_, Hack.”  
(Minutes) \_\_\_\_\_ (Seconds) \_\_\_\_\_

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TAB B (Forward Air Controller CAirborneJ Procedures) to APPENDIX 2 (Offensive Air Support) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref: (a) MCWP 3-23  
(b) JP 3-09.3

Time Zone:

1. ( ) GENERAL

FACs serve as extensions of the air control system to control air strikes in support of the ground commander. They may also control artillery and naval gunfire if conditions warrant such assistance.

2. ( ) CONCEPT

FAC(A)s employment to be outlined. Normally, they shall be used to assist the TACP's in controlling airstrikes against targets that cannot be observed by ground FACs. They may also serve as extensions of the TACC in the control of airstrikes beyond the FSCL. Numbers airborne and range of operations must be outlined.

3. ( ) CONDUCT

a. ( ) Air Requests. Air requests generated by FAC(A)s will normally be immediate requests. Although FAC(A)s may control both immediate and preplanned missions, preplanned requests are normally generated from the analysis of the FAC(A) debrief rather than direct requests submitted by the FAC(A).

(1) ( ) Priorities. Establish guidance for the assignment of priorities to air requests submitted by FAC(A)s.

(2) ( ) Submission. Establish method of submitting immediate air requests by FAC(A)s (normally through DASC if in direct support of GCE).

(3) ( ) Format. Offensive air support requests will be submitted in accordance with the format provided in Enclosure 1 to Tab A to this appendix. Forms will be completed in accordance with the instructions contained in reference (a)

b. ( ) Armament Codes. Armament codes in accordance with Tab A to Appendix 6 to this

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Annex will be used for all air support requests and briefings.

c. ( ) Marking Friendly Positions. Ensure that friendly positions/locations are clearly marked in accordance with instructions contained in references (a) and (b) or Tab A to this Appendix. If targets are greater than meters from nearest friendly positions, then friendly positions need not be specifically defined or marked.

d. ( ) Air Control Procedures. In accordance with Tab A to this Appendix.

e. ( ) Target Marking Procedures. In accordance with Tab A to this Appendix.

f. ( ) BDA Reporting Procedures. In accordance with Tab C to this Appendix.

g. ( ) Air Raid Warnings. Monitor TAR net for air defense warning conditions. (Local action and dissemination of information in accordance with Appendix 1 [AAW] to ANNEX W [Air Operations])

h. ( ) Coordinating Instructions

(1) ( ) External. Fire support coordination will be in accordance with Tab F to Appendix 2 to this Annex.

(2) ( ) Internal. Ground commander provides instructions for coordination of his air fire support with his organic weapons such as mortars, etc.

4. ( ) LOGISTICS AND ADMINISTRATION

5. ( ) COMMAND AND CONTROL

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TAB C (Battle Damage Assessment Reporting Procedures) to APPENDIX 2 (Offensive Air Support) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U

Ref:

Time Zone:

1. ( ) GENERAL

BDA reports will be made in conjunction with all OAS missions to provide a means of assessing the need for additional fire on the target.

2. ( ) CONCEPT

BDA reports will be provided by the terminal controller to the flight leader for each close air support mission. The flight leader, in turn, provides the report to the appropriate air control agency (DASC or TACC) as required. In the case of DAS (no terminal controller), BDA will be provided by the flight leader.

3. ( ) CONDUCT

a. ( ) Evaluation. Upon completion of air strikes, controllers/flight leaders will make evaluations of damage inflicted on enemy forces.

b. ( ) Reporting

(1) ( ) By terminal controllers. (Prescribe report channels for each, i.e., to pilots, DASC, TACC, ground commander, etc).

c. ( ) Items Reported. Each report will evaluate or identify the following:

(1) ( ) Target (number, coordinates, and type)

(2) ( ) Time (on and off target)

(3) ( ) Ordnance expended. Self-explanatory.

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(4) ( ) Target damage. (Completely/partially destroyed/neutralized, unknown, etc.. Terms to be utilized must be defined herein)

(5) ( ) Enemy action. (None to heavy, type weapons, ground or air, etc.. Terms to be utilized must be defined herein)

(6) ( ) Remarks. Self-explanatory.

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TAB D (Target Marking for Air Attack) to APPENDIX 2 (Offensive Air Support) to ANNEX  
N (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

1. ( ) GENERAL

Target marking for air attack is necessary to ensure accuracy of delivery and safety of friendly forces.

2. ( ) CONCEPT

Define the concept for the marking of close air support targets. The methods and timing outlined must recognize the enemy threat and reaction capabilities as well as the means available to friendly forces.

3. ( ) CONDUCT

a. ( ) Target Designation

(1) ( ) Map Coordinates. Give degree of coordinates (8-digit) definition required, maximum safe distance from friendly forces for use of this method, etc.

(2) ( ) Geographic Location. Distance and direction from a known landmark or natural feature, also called reference point method. Define limits for this type control.

(3) ( ) Panel Method. Panels displayed in a "T" aligned with the target along the run-in line so that the pilot overflies panels on run-in to target. Define dimensions and/or restrictions to use.

(4) ( ) Observing and Directing. FAC "talking pilot in." This involves corrections in the run-in to target.

b. ( ) Target Marking

(1) ( ) Artillery. Define types of marking methods and request procedures.

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(2) ( ) Naval Surface Fire Support. Define types of marking methods and request procedures.

(3) ( ) Air. Define types of marking to be used.

(4) ( ) Mortars. Define types of marking methods and request procedures.

(5) ( ) Tanks. Define types of marking methods and request procedures (of particular importance in motorized/mechanized operations)

(6) ( ) Machine Guns. Intersecting fires of particular value in dusk or night operations. Define methods to be used.

(7) ( ) Illumination. Define types of illumination to be used and request procedures.

(8) ( ) Laser Designation. In accordance with Enclosure 1 to this Tab.

c. ( ) Coordination. Define coordination of marking means with air support aircraft to ensure safety.

4. ( ) LOGISTICS AND ADMINISTRATION

a. ( ) Logistics.

b. ( ) Administration.

5. ( ) COMMAND AND CONTROL

a. ( ) Command. Annex J.

b. ( ) Control. Annex K.

ENCLOSURES:

1 - Laser Designator Instructions (Omitted).

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TAB E (General Instructions and Safety Procedures) to APPENDIX 2 (Offensive Air Support) to ANNEX W (Air Operations) to OPOD \_\_\_\_\_ (U)

Ref: (a) FM 101 Series, Joint Munitions Effectiveness Manuals

Time Zone:

1. ( ) GENERAL

Coordination of fire support means is a necessity to preserve assets and provide for the safety of friendly forces, thus enabling the massing of firepower effectively and efficiently.

2. ( ) CONCEPT

Offensive air support must be coordinated with other fires; not only for safety purposes but also to ensure the proper application of sufficient force without piecemealing fires on a given target or over expending ordnance.

3. ( ) CONDUCT

a. ( ) Target Evaluation. Evaluation of the target to establish requirements for the amount of ordnance required should be conducted in accordance with appropriate JMEMs (reference [a]).

b. ( ) Altitude Separation. Define any altitude restrictions or separations to be used by aircraft en route within the target areas (must be coordinated with guidance provided to helicopters, FAC[A] aircraft, etc)

c. ( ) Route Separations. Define route restrictions or separations to be used by aircraft en route within the target areas.

d. ( ) BINGO Requirements. Identify BINGO fields and fuel, for OAS and FAC(A) aircraft as appropriate.

e. ( ) Weather. Provide instructions on adjustments to be made for weather factors, such as criteria for changing to armament for low-level delivery, penetration, and departure procedures, etc.

f. ( ) Troop Safety. Establish criteria for closest proximity to friendly troops for the

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delivery of each type of ordnance.

g. ( ) Fire Support Coordination. Briefly recap methods to be used for coordination by appropriate agencies within the command (TACP, FAC(A), DASC, etc) to resolve potential or actual fire support (to include mortars) conflicts. Fire support coordination line for initial stages of operation is shown in Enclosure 1 of this Tab. Airspace coordination area guidance for pilots and air controllers is contained in Enclosure 2 to this Tab.

4. ( ) LOGISTICS AND ADMINISTRATION

5. ( ) COMMAND AND CONTROL

ENCLOSURES:

1 - Fire Support Coordination Line

2 - Airspace Coordination Area Procedures

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ENCLOSURE 1 (Fire Support Coordination Line) to TAB E (General Instructions and Safety Procedures) to APPENDIX 2 (Offensive Air Support) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

1. ( ) GENERAL

The fire support coordination line (FSCL) is a line established by the appropriate ground commander to ensure coordination of fire not under the commander's control but which may affect current tactical operations. It is used to coordinate fires air, ground, or sea weapons systems using any type of ammunition against surface targets.

2. ( ) CONCEPT

The FSCL should follow well-defined terrain features. The establishment of the FSCL must be coordinated with the appropriate tactical air commander and other supporting elements. Supporting elements may attack targets forward of the FSCL without prior coordination with the ground force commander provided the attack will not produce adverse surface effects on or to the rear of the line. Attacks against surface targets behind this line must be coordinated with the appropriate ground force commander.

3. ( ) CONDUCT

a. ( ) Prescribing the FSCL. Describe the means for establishing the FSCL and for disseminating the trace of the FSCL.

b. ( ) Trace of the FSCL. The trace of the FSCL will be defined for each day that aircraft schedules are published in Appendix 10 to this annex. (The trace should be descriptive and easily transferable to maps used in the cockpit. Thus, it will read "from coordinates NE along Swamp River to the bridge at coordinates hence N along Highway 100 to the railroad/highway junction at coordinates, continuing w along the railway to the rail tunnel at coordinates then SW along the ridge line terminating at coordinates) . The hour at which the new trace is to become effective must also be indicated.

(1) ( ) Pre-D-day.

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- (2) ( ) D-day.
- (3) ( ) D+1.
- (4) ( ) D+2.

c. Coordination. Coordination instructions are to be written (for the appropriate command issuing this enclosure) to define the means by which air attacks conducted short of the FSCL will be coordinated with the ground commander and other supporting arms.

- (1) ( ) Air-ground coordination.
- (2) ( ) Air-artillery coordination.
- (3) ( ) Air-NGF coordination.

4. ( ) LOGISTICS AND ADMINISTRATION

a. ( ) Logistics.

b. ( ) Administration.

5. ( ) COMMAND AND CONTROL

a. ( ) Command.

b. ( ) Control.

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ENCLOSURE 2 (Airspace Coordination Area Procedures) to TAB E (General Instructions and Safety Procedures) to APPENDIX 2 (Offensive Air Support) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

1. ( ) GENERAL

Airspace coordination areas (ACAs) are safety measures for friendly aircraft established in areas that are reasonably safe from friendly surface-delivered fires.

2. ( ) CONCEPT

Define the conceptual use of the airspace coordination areas.

3. ( ) CONDUCT

a. ( ) Establishment. Define the authority, means, and method for establishing the ACA5.

(1) ( ) Authority. Who will establish. Who will advise.

(2) ( ) Means. The ACAs will be put into effect and disseminated by (normally the FSCC)

(3) ( ) Method. Describe the method to be used to establish these safety measures. A helicopter lane may become incorporated as a formal ACA when in use. However, the size will be enlarged if the operational concept includes fixed-wing aircraft as escorts for the helicopter assault aircraft. In all cases, the methods must provide for ease of identification by the pilots in the cockpit enabling them to stay within or outside of the prescribed area. For formal ACA5, entry and exit considerations must be part of the plan. Informal ACAs, likewise, must provide easily identifiable terrain features for the aircrew.

b. ( ) Control. The agency controlling the affected areas (normally the same as that agency used as the means for establishing them) must be given (or give) guidance as to the times the prescribed restrictions are effective and how this will be incorporated into the air operations of landing force aviation.

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c. ( ) Coordination. The details of coordination between concerned agencies and the aircraft, artillery, NGF, and other affected fire support means must be delineated.

4. ( ) LOGISTICS AND ADMINISTRATION

a. ( ) Logistics.

b. ( ) Administration.

3. ( ) COMMAND AND CONTROL

a. ( ) Command.

b. ( ) Control.

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TAB F (Air Interdiction and Armed Reconnaissance) to APPENDIX 2 (Offensive Air Support) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref: As appropriate

Time Zone:

1. ( ) AIR INTERDICTION

In keeping with the purpose and concept of interdiction, a plan is likely to be formulated that will employ the deep strike capability of aircraft. Rail lines, roads, bridges, or any of the lines of communication that connect the AOA with potential supply areas will probably need to be interdicted. Assignments of aircraft and armament will be in response to the target and perhaps its location, and can only be determined when the specifics of a situation are known. This section will discuss situation-specific considerations and instructions for the conduct of air interdiction missions in support of the operation, and complement the air interdiction overlay.

2. ( ) ARMED RECONNAISSANCE

The purpose of armed reconnaissance is to locate and attack targets of opportunity in assigned general areas or along communication routes. Additionally, useful intelligence can be obtained from the aircrews who fly these missions. This section provides information to guide the conduct of armed reconnaissance missions for the operation. It is also complemented by the armed reconnaissance overlay.

ENCLOSURES:

- 1 - Air Interdiction Overlay
- 2 - Armed Reconnaissance Route Overlay

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ENCLOSURE 1 (Air Interdiction Overlay) to TAB F (Air Interdiction and Armed Reconnaissance), to APPENDIX 2 (Offensive Air Support), to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

1. ( ) This paragraph and any subsequent subparagraphs will contain a brief discussion of the interdiction mission to be flown as well as introduce and describe the interdiction overlay that will be attached. The overlay itself will show routes to be flown, points of interdiction, the location of any friendly forces in the area, and the location of any known potential threats to the aircraft and crew.

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ENCLOSURE 2 (Armed Reconnaissance Route Overlay), to TAB F (Interdiction and Armed Reconnaissance), to APPENDIX 2 (Offensive Air Support), to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref: As appropriate

Time Zone:

1. ( ) This and any necessary subsequent paragraphs will contain a brief discussion of the armed reconnaissance mission to be flown as well as an introduction and description of the armed reconnaissance route overlay that will be attached. The overlay itself will show the routes to be flown, the targets that the air crew might expect to encounter, the position(s) of any friendly forces, the area, and the location of any known potential threat to the aircraft/aircrew.

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APPENDIX 3 (Assault Support) to ANNEX W (Air Operations) of OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

1. ( ) GENERAL

a. ( ) The employment of helicopters, based on landing force requirements, will include command and control, assault escort, troop/logistics lifts, reconnaissance, search and rescue (SAR), medical evacuation (MEDEVAC) reconnaissance team insert/extract, and TAC(A) support.

b. ( ) Helicopters supporting this operation will operate initially from assigned shipping and will be prepared to phase ashore as directed.

c. ( ) Strict adherence to air control instructions and assigned routes will be maintained.

d. ( ) Helicopters will operate, to the greatest extent possible, in formations that provide mutual support and SAR coverage.

2. ( ) AIR AOA/GEOGRAPHIC REFERENCE POINTS

a. ( ) The Air area of operations (Air ADA) is described in Appendix I, Annex C of this order.

3. ( ) ASSAULT HELICOPTERS

a. ( ) Assault helicopters, especially those unescorted, will remain in sufficient proximity of each other so as to be capable of providing mutually supporting suppressive fire.

b. ( ) Escorted helicopters receiving ground fire will so state, and after identifying their position in the flight will identify targets for escort aircraft. Targets will be identified by reference to clock code and distance, predominant terrain feature, or by any other clear, expeditious means.

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4. ( ) COMMAND AND CONTROL HELICOPTERS

a. ( ) UH-1N helicopters will be utilized in the command and control mission to the greatest extent possible.

5. ( ) ARMED ESCORT HELICOPTERS

a. ( ) Armed escort helicopters are not considered a means of fire support but have the primary mission of ground fire suppression for escorted helicopters.

b. ( ) TOW-equipped COBRA helicopters and other gunships may be assigned fire-support missions unrelated to helicopter escort.

c. ( ) Armed escort helicopters may attack targets designated by the controlling agencies, the assault plan, friendly elements or escorted assault helicopters. Coordination will be effected by the escort leader with the HDC/DASC and affected friendly ground element prior to firing.

d. ( ) Targets of opportunity will be coordinated with the affected/responsible ground commander and the HDC/DASC prior to opening fire.

e. ( ) Appropriately designated escort helicopter pilots may perform TAC(A) functions. Non-TAC(A) designated pilots will not control CAS strikes except in tactical emergencies.

f. ( ) When assigned as primary, the mission of the helicopter escort is paramount.

6. ( ) SAR/MEDEVAC HELICOPTERS

a. ( ) SAR/MEDEVAC procedures will be in accordance with 2d MAW SOP. Although dedicated SAR/MEDEVAC aircraft will always be on alert or airborne, all pilots will be prepared to perform SAR/MEDEVAC missions at any time.

7. ( ) ALERT CONDITIONS:

a. ( ) Condition 1: 5 minutes

b. ( ) Condition 2: 15 minutes

c. ( ) Condition 3: 30 minutes

d. ( ) Condition 4: 60 minutes

8. ( ) HELICOPTER AVAILABILITY

a. ( ) Tab H of this appendix lists helicopter availability.



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9. ( ) CONTROL MEASURES

a. ( ) Reference (a) lists the following control ships:

- Primary Control Ship-USS MOUNT WHITNEY (LCC-20) -
- Alternate Control Ship-USS TARAWA (LH.A-1)
- Primary HDC-USS TARAWA (LHA-1)
- Alternate HDC-USS SAIPAN (LHA-2)
- Primary MEDEVAC Recovery Ship (1)-USS IWO JIMA (LPH-2)
- Primary MEDEVAC Recovery Ship (2)-USS GUADALCANAL (LPH-7)

b. ( ) HDC will control all helicopter operations while air control is afloat. Aircraft inbound to the land OA will be handed off to the DASC at the wave rendezvous point while air control is ashore. Aircraft approaching ship's control areas will be passed to a land/launch frequency.

c. ( ) Ship's control area is defined by a 5-mile radius from the ship up to but not including 2,000 feet above the surface.

10. ( ) APPROACH AND RETIREMENT PROCEDURES

a. ( ) Routes and Reference Points

(1) ( ) Tab L of this appendix depicts the helicopter approach and retirement lanes.

(2) ( ) Designated helicopter lanes are 1,000 meters wide. All aircraft are expected to fly well to the right of the route centerline.

b. ( ) Landing Zones

(1) ( ) Tab A of this appendix lists the helicopter landing zones.

(2) ( ) Authority to change from primary to alternate LZs will be governed by paragraph 3205, FMFM 3-3, Helicopterborne Operations.

c. ( ) En Route Procedures

(1) ( ) Aircraft will be assigned wave rendezvous altitudes by HDC. Upon receipt of clearance, aircraft will depart the rendezvous point (RP) and descend to minimum altitude prior to reaching the departure point (DP). Aircraft will cross the DP at minimum altitude and operate at minimum altitude while in the helicopter lanes.

(2) ( ) Minimum altitude is defined as the lowest safe altitude at which the helicopter can be flown.

(3) ( ) Aircraft can expect to utilize primary helo lanes inbound and alternate helo

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lanes outbound during the initial helicopter assaults. If the primary lanes are closed due to enemy fire, aircraft will utilize the alternate lanes for both approach and retirement. -

(4) C) Aircraft are expected to utilize the helicopter lanes for all flights. Express clearance must be received from HDC/DASC for MEDEVAC aircraft to proceed outside of published helicopter lanes.

d. ( ) Helicopter Control

(1) C) TAC(A) and ASC(A) will be designated by the air tasking order. Performance of mission is governed by the applicable SOP.

(2) C) Flight leaders will establish positive two-way communications with HDC/DASC between the RP and the DP. If communications are not established, hold at the DP, left-hand turns, pattern length depending upon size of the flight, until clearance to proceed is obtained.

(3) ( ) LZ touchdown and take-off, assigned check points, feet wet/dry, and RIO procedures will be in accordance with NATOPS.

(4) ( ) Assigned RD frequency will be maintained, unless otherwise directed, until reaching IP or reporting LZ in-sight if terminal control facility (TG) and/or control agency is available at the LZ; e.g., landing zone control team, ASC(A), etc. If there is no terminal control, maintain HDC/DASC frequency. En route information will be provided by HDC/DASC.

e.() Communications

(1) C) Daily changing frequency and call sign assignments will be in accordance with wing SOP.

(2) ( ) In-flight report formats will be in accordance with NATOPS.

(3) ( ) Maintain radio silence and use covered nets to the maximum extent possible.

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f. ( ) Coordinating Instructions

(1) C ) Weather minimums for this operation will be set by CATF. Weather minimums for routine operations are:

Day: 500 feet/1 Mile Night: 1000 feet/3 Miles

(2) C ) Pilots experiencing adverse, marginal, or unforecast weather which threatens safety of flight will immediately notify CATF/CLF.

(3) ( ) Requests for helicopter support will be forwarded via the helicopter request net utilizing 2 MEF SOP.

(4) C ) Use of smoke will be in accordance with Appendix 2, ANNEX W.

\_\_\_\_\_  
/s/

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
Rank, Service)

\_\_\_\_\_  
(Position)

OFFICIAL

\_\_\_\_\_  
/s/

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
Rank, Service)

\_\_\_\_\_  
(Position)

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TABS:

- A - Helicopter Landing Zones (Overlay) (Omitted)
- B - Helicopter Control and Procedures
- C - Assault Support Request Form
  - Encl 1 - Sample Assault Support Request Form
  - Encl 2 - Instructions for Use of the Assault Support Request Form
- D - Helicopter Escort Procedures (Omitted)
- E - Countermechanized Procedures (Omitted)
- H - Helicopter Availability Table
- J - Heliteam Wave and Serial Assignment Table
- K - Helicopter Employment and Assault Landing Table
- L - Helicopter Landing Diagram

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TAB B (Helicopter Control and Procedures) to APPENDIX 3 (Assault Support) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref: (a) MCWP 3-31.5 Ship to Shore Movement

Time Zone:

1. ( ) GENERAL

- a. ( ) Identify HCS, HDC, TAC(A), ASC(A), and alternates as appropriate. b. ( ) Define control responsibilities of airborne agencies.
- c. ( ) Identify approving authority for tactical, administrative, logistic, and utility helicopter requests.

2. ( ) HELICOPTER OPERATIONS

- a. ( ) Delineate land/launch procedures or refer to SOPs, NATOPs etc.
- b. ( ) Establish rendezvous altitudes, departure point altitudes, airspeeds, etc.
- c. ( ) Provide RTO instructions at appropriate checkpoints.
- d. ( ) Given guidance regarding HDC reports to HCS on progress of assault waves.
- e. ( ) Establish procedures for processing LF requests until control is passed ashore.
- f. ( ) Establish flight following and coordination procedures.
- g. ( ) Identify SACC coordination measures.
- h. ( ) Fuel and maintenance status reporting procedures.

3. COMMAND AND CONTROL

- a. ( ) Provide or make appropriate reference regarding IFF/SIF mode/code assignments.

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- b. ( ) Provide/launch communication frequencies and guidance.
- c. ( ) Identify command channels between control agencies and between ships.

4. PROCEDURES

Outline the procedures for the accomplishment of the vertical assault.

- a. ( ) Helicopter availability in accordance with Tab H of this Appendix.
- b. ( ) Helicopter landing zones, approach and retirement lanes, and navigation/ checkpoints in accordance with Tab L of this Appendix.
  - (1) ( ) Altitudes to the landing zone.
  - (2) ( ) Altitudes from the landing zone.
  - (3) ( ) special instructions regarding landing zone traffic (i.e., external loads will be delivered to landing site Green in LZ \_\_\_\_\_ to facilitate handling and provide access to trafficable terrain)
- c. ( ) Landing zone identification methods.
- d. ( ) MEDEVAC/SAR procedures composition, providing agency, station, and casualty receiving and treatment ships.
- e. ( ) Fire support.

5. ( ) CONTROL MEASURES

- a. ( ) Helicopter control instructions in accordance with paragraphs 2 and 3.
- b. ( ) Change of landing zones and approach and retirement lanes.
  - (1) ( ) Approving authority.
  - (2) ( ) Request channels.
- c. ( ) Establish weather criteria for conduct of operations.
- d. ( ) Instructions for changing landing sequence.
- e. ( ) Criteria for termination of the troop lift and reversion to normal operations.

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TAB C (Assault Support Request Form) to APPENDIX 3 (Assault Support) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

1. ( ) Mission requests of both the preplanned and immediate type may originate at any echelon of the landing force/MAGTF. The same request form should be used by the requesting unit, the controlling agency, and the helicopter unit. The assault support request form has been developed to satisfy both immediate and preplanned mission needs. It also ensures standardization among all elements of the landing force when they submit or process an assault support request.

a. ( ) When submitting a preplanned request, the form will be completed in its entirety. To expedite an immediate mission request, only the items necessary for decision and execution will be completed and forwarded to the air control agency. Those items are numbered (1) through (6) below. Additional items (7) through (16) will be provided to the pilot upon initial contact with the requester.

- (1) ( ) Requester's identification.
- (2) ( ) Mission precedence.
- (3) ( ) Type of mission.
- (4) ( ) Mission description.
- (5) ( ) Landing zone coordinates.
- (6) ( ) Landing zone communications.
- (7) ( ) Landing zone description, especially enemy positions.
- (8) ( ) Landing zone marking.
- (9) ( ) Direction from which the helicopter should approach the landing zone.
- (10) ( ) Possible obstacles in the approach path.

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- (11) ( ) Direction from which enemy fire is most likely.
  - (12) ( ) When enemy fire was last received.
  - (13) ( ) Positions of any suspected heavy caliber automatic weapons.
  - (14) ( ) Directions in which aircraft is cleared to fire if enemy fire is received.
  - (15) ( ) Location of nearest friendly positions (direction north, south, etc) and distance from landing zone.
  - (16) ( ) Size of the defensive perimeter from the landing zone.
- b. ( ) Enclosure (1) and (2) are examples of the assault support request form and the instructions for the use of this form. These instructions will be used by all agencies in completing the form.

ENCLOSURES:

- 1 - Sample Assault Support Request Form

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ENCLOSURE 1 (Sample Assault Support Request Form) to TAB C (Assault Support Request Form) to APPENDIX 3 (Assault Support) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref: MCWP 3-24

Time Zone:

ASSAULT SUPPORT REQUEST FORM				DATE	
SECTION I — MISSION REQUEST				SENT	BY
1. UNIT CALLED	THIS IS		REQUEST NUMBER		
2. REQUEST FOR	3. MISSION CATEGORIES		4. TYPE MISSION		
A. HELICOPTER	PREPLANNED:		A. TACTICAL		
B. FIXED-WING	A. PRECEDENCE _____		B. ADMINISTRATIVE		
	B. PRIORITY _____				
	C. IMMEDIATE:				
	C. PRIORITY _____				
5. MISSION IS			6. PAYLOAD IS		
A. ASSAULT TRANSPORT	G. TRAP		A. TROOPS		
B. LOGISTICAL SUPPORT	H. SAR		B. EXTERNAL CARGO (WT) _____		
C. AIR EVACUATION	I. ILLUMINATION		C. INTERNAL CARGO (WT/CU) _____		
D. CASEVAC	J. SPECIAL OPS				
E. AERIAL DELIVERY	K. OTHER		LARGEST ITEM (LxWxH) _____		
F. C2					
7. INSTRUCTIONS					
PICKUP TIME COORDINATES LZ TIME COORDINATES					
A. _____					
B. _____					
C. _____					
D. _____					
8. LZ DESCRIPTION					
A. WIND DIRECTION/VELOCITY _____		B. ELEVATION _____ (FT MSL)			
C. SIZE _____		D. OBSTACLES _____			
E. FRIENDLY POS _____		DIR/DIST _____			
F. ENEMY POS _____		DIR/DIST _____			
G. LAST FIRE RECEIVED TIME/TYPE _____		DIR/DIST _____			
9. LZ WILL BE A. UNMARKED 10. LZ MARKED WITH A. PANELS B. SMOKE C. FLARES					
B. MARKED WITH COLOR _____ D. MIRROR _____ E. LIGHTS F. NAVAID G. _____ OTHER _____					
11. COMMUNICATIONS A. PICKUP ZONE CALL SIGN _____ / FREQUENCY (COLOR CODE) _____					
B. LZ CALL SIGN _____ / FREQUENCY (COLOR CODE) _____					
12. REMARKS				ACKNOWLEDGE	
				BN/REGT	
				DIVISION	
				OTHER	
SECTION II COORDINATION					
13. NSFS					
16. ESCORT/AERIAL REFUELING A. REQUESTED B. ASSIGNED					
C. NO/TYPE A/C _____ D. CALL SIGN _____					
E. COMMUNICATIONS _____ F. ARMAMENT _____					
17. REQUEST		18. BY		19. REASON FOR DISAPPROVAL	
APPROVED _____ DISAPPROVED _____					
20. RESTRICTIVE FIRE/AIR PLAN			21. IS IN EFFECT		
A. IS NOT _____ B. NUMBER _____			A. (FROM TIME) _____ B. (TO TIME) _____		
22. LOCATION			23. WIDTH (METERS)		24. ALTITUDE/VERTEX
A. _____ B. _____			A. _____ B. _____		MAX/VERTEX MINIMUM
(FROM COORDINATES) (TO COORDINATES)					
SECTION III MISSION DATA					
25. MISSION NUMBER		26. CALL SIGN		27. NO/TYPE AIRCRAFT	
28. EST/ACT TAKEOFF		29. ETA/ATA			
30. MISSION CANCELLED/DIVERTED A. CANCELLED B. DIVERTED BY:					
31. TERMINATE REQUEST A. GO/NO GO DTG _____ B. WHEN COMPLETED _____					

## CLASSIFICATION

32. MISSION RESULTS				ACKNOWLEDGE	
A. COMPLETE					
B. INCOMPLETE					
C. OTHER					
SECTION I MISSION REQUEST					
1. UNIT CALLED			THIS IS		REQUEST NUMBER
2. REQUEST FOR A. HELICOPTER B. FIXED-WING					
3. MISSION CATEGORIES					
A. PREPLANNED:PRECEDENCE		B. PRIORITY			
C. IMMEDIATE:PRIORITY					
4. MISSION TYPE A. TACTICAL B. ADMINISTRATIVE					
5. MISSION IS					
A. ASSAULT TRANSPORT			B. LOGISTICAL SUPPORT		C. AIR EVACUATION
E. AERIAL DELIVERY			F. C2		G. TRAP
I. ILLUMINATION			J. SPECIAL OPS		K. OTHER
6. PAYLOAD IS					
A. TROOPS			B. EXTERNAL CARGO/WT		
C. INTERNAL CARGO WT/CU			LARGEST ITEM (LxWxH)		

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TAB H (Helicopter Availability Table) to APPENDIX 3 (Assault Support) to ANNEX ~ (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

HELICOPTER UNIT AND DESIGNATION	NUMBER OF AIRCRAFT	FIRST TRIP 90% (1)	OTHER TRIPS 75% (1)	MODEL	CARRIER	DECK LAUNCH	PAX	CARGO	REMARKS
HMM-163 (as assigned)	12	10	9	Ch-46	LPH-2 LHA-1	7(2)	15	4,000	All external lift capable
HMH-463 (as assigned)	18	16	13	CH-53D	LPH-2 LHA-1	4(2) 9(2)	35	8,000	Equipped with aircraft recovery slings.
HML-267 (as assigned)	24	21	18	UH-1N	LPH-2 LHA-1	7(2) 9(2)	5	1,000	10 armed with GAU-2B/A

Note: (1) These percentages may vary from operation to operation.  
 (2) These figures represent maximum deck launch capabilities from these ships. Actual available launch capability may vary with each operation.

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TAB J (Heliteam Wave and Serial Assignment Table) to APPENDIX 3 (Assault Support) to ANNEX W (Air Operations) to OPOD \_\_\_\_\_ (U)

Ref:

Time Zone:

WAVE	HELITEAM FLIGHT SERIAL	UNIT	PERSONNEL	SUPPLIES AND EQUIPMENT	PERSONNEL WEIGHT	EQUIPMENT WEIGHT	TOTAL WEIGHT
1	ANVIL 101 356-1*	1ST SQD, 1ST PLT, CO E 1ST MG TM, 1ST MG SQD, WPNS PLT WPNS PLT PLT SOT, 1ST PLT CORPSMAN	11 3 1 1 16 17	1 M60 MG (24*) MG AMMO (80#)	3840	104	3944
	ANVIL 102 356-2	2D SQD, 1ST PLT, CO E PLT CMDR, 1ST PLT MSGR/RADIO OP, 1ST PLT 1ST 60 MM MaRT SQD, WPNS PLT CORPSMAN	11 1 1 1 3 1 17	1 AN/PRO 77 (22#) 1 60 MM MORT (45#) MORT AMMO (40#)	4080	107	4187
	ANVIL 103 356-3	3D SQUAD(-), 1ST PLT, CO E FAC PARTY, H&S CO 1ST TM, 1ST AT ASLT SQD, DRAGON PLT	6 5 2 13	1 AN/PRO77 (22#) 1 AN/PRO75 (10*) 1 AN/PRO104 (10*) 1 M47 DRAGON (31*) 2 DRAGON FDS (50#)	3220	123	3343

The heliteam flight serial is as follows:  
 ANVIL Heliteam squadron radio call sign  
 101 Heliteam wave number  
 101 Heliteam position in the wave  
 356-1 Troop unit serial assignment number  
 356-1 Troop Unit heliteam number

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TAB K (Helicopter Employment and Assault Landing Table) to APPENDIX 3 (Assault Support)  
 to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

WAVE	HELICOPTER UNIT & FLIGHT #	#/MODEL a/C	FROM CARRIER (ORIGIN)	TO REPORT (LAOD)	LOAD TIME	LAUNCH	LAND TIME	LZ	LS	TROOP UNIT, EQUIPMENT, AND SERIAL EXTERNAL LOADS
1 <sup>ST</sup>	ANVIL-1	6 CH-46E	LPH-2	LPH-2	H-30	H-26	H-HR	OAK	RED	COA(-) SER 101
1 <sup>ST</sup>	FORGE-1	6 CH-46E	LPH-7	LPH-2	H-20	H-16	H-HR	OAK	BLUE	CO A(a) SER 102
2 <sup>ND</sup>	SWIFT-2	9 CH-46E	LHA-3	LHA-3	H-15	H-11	H+5	OAK	RED	CO B(-) SER 105
1 <sup>ST</sup>	ANVIL-3	5 CH-46E	LPH-2	LPH-2	H-24	H-28	H-44	OAK	RED	ELMS CO A LIWC W/DRAG SER 103
	FORGE-3	4 CH-46E	LPH-7	LHA-3	H-24	H-28	H-44	OAK	BLUE	ELMS CO C, SER 110
4 <sup>TH</sup>	BIG BOY-4	6 CH-46E	LHA-3	LHA-3	H+38	H+42	H+52	OAK	RED	ELMS CO B, LIWC W/DRAG SER 111

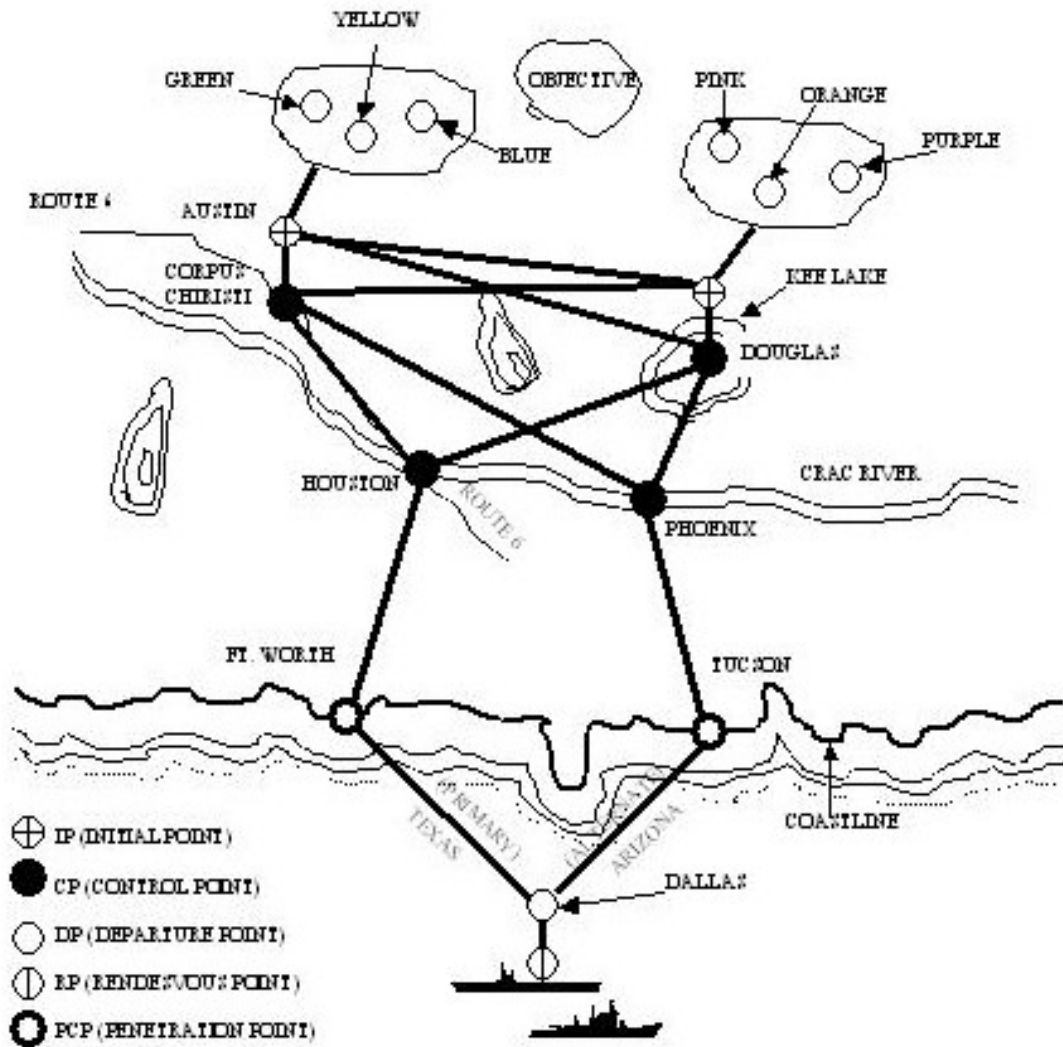
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TAB L (Helicopter Landing Diagram) to APPENDIX 3 (Assault Support) to ANNEX W  
Operations) to OPORD \_\_\_\_\_(U)

Ref:

Time Zone:



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APPENDIX 4 (Reconnaissance and Surveillance Plan) to ANNEX W (Air Operations) to

OPORD \_\_\_\_\_(U)

Ref: (a) Maps and photographs as required

Time Zone:

1. ( ) The following visual aerial reconnaissance and surveillance missions have been preplanned:

Msn #	Area Specific of Route Search	Type AC	Frequency and Duration	Remarks
1	Area ( _____ to _____ to _____ to _____ )	VMFA (AW)	Daily, commencing D-day - BMNT to EENT	Report every activity as obtained
2	Route (Rt 134 from _____ to _____ )	VMFA (AW)	Daily, commencing D-day - BMNT to EENT	Report every movement.
3	Specific (Middletown)	VMFA (AW)	Daily, commencing D-2. Once every 4 hours BMNT to EENT	Report every activity as obtained, with emphasis on HQ 8th MRD

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\_\_\_\_\_/s/\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_(Name)\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_(Rank, Service)\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_(Position)\_\_\_\_\_  
\_\_\_\_\_

OFFICIAL  
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\_\_\_\_\_

\_\_\_\_\_(Name)\_\_\_\_\_  
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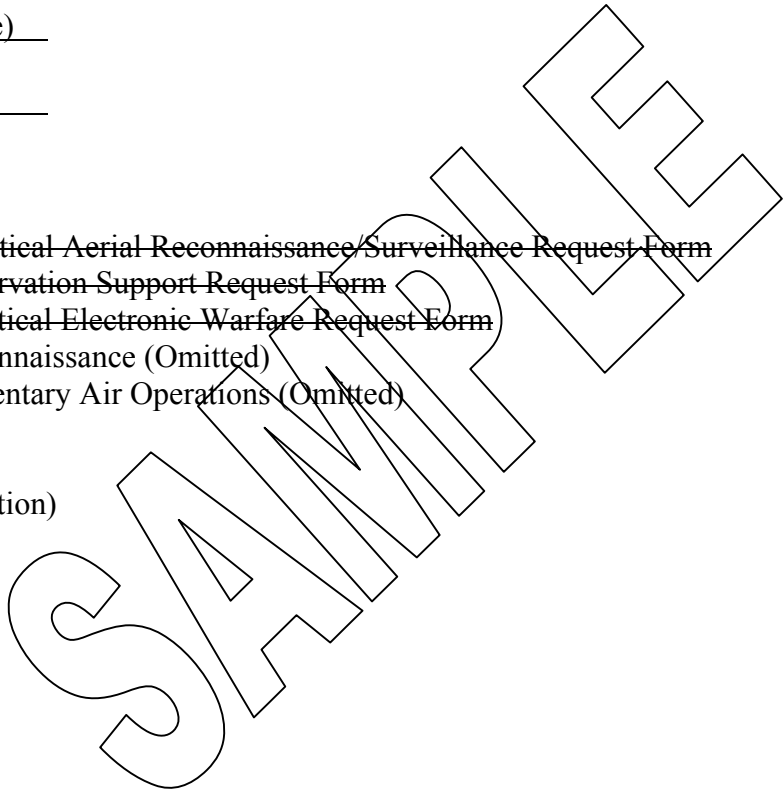
\_\_\_\_\_(Rank, Service)\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_(Position)\_\_\_\_\_  
\_\_\_\_\_

TABS:

- ~~A - Joint Tactical Aerial Reconnaissance/Surveillance Request Form~~
- ~~B - Air Observation Support Request Form~~
- ~~C - Joint Tactical Electronic Warfare Request Form~~
- D - Air Reconnaissance (Omitted)
- E - Supplementary Air Operations (Omitted)

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Annex Z (Distribution)





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Recommend TAB A be deleted as the JCS Pub 12. Vol II (establishing document) was cancelled and no subsequent pubs establish the form. The CJCSM 6120.05 (31 March 2000) references the AIRREQRECON (a voice only report) and points the reader to the Joint Tactical Air Strike Request for format. Subject to Maj Pylant's input about how MAG 12 requested reconnaissance in OIF.

~~TAB A (Joint Tactical Aerial Reconnaissance/Surveillance Request Form) to APPENDIX 4 (Reconnaissance and Surveillance Plan) to ANNEX W (Air Operations) to OPOD \_\_\_\_\_ (U)~~

Ref:

~~Time Zone:~~

~~JOINT TACTICAL AIR RECONNAISSANCE/SURVEILLANCE REQUEST~~

~~(SEE JCS PUB 12. VOL II, FOR INSTRUCTIONS FOR PREPARATION)~~

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Recommend deleting this tab. Form was not carried over to the MCWP 3-26 Air  
Reconnaissance from the FMFM 5-10.

Tab B (Air Observation Support Request Form) to APPENDIX 4 (Reconnaissance and  
Surveillance Plan) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref: ~~(a) FMFM 5-10~~

Time Zone:

FOR FIELD USE ONLY

ADDRESSEE: (CALL SIGN) \_\_\_\_\_ THIS IS: (CALL SIGN) \_\_\_\_\_

1. Mission: \_\_\_\_\_ A. Immediate \_\_\_\_\_ B. Preplanned \_\_\_\_\_ C. Unit Training

2. Map: \_\_\_\_\_ A. AMS V795 California 1:50,000 Sheet 2550 IV

3. Surveillance: ~~Las Pulgas Canyon Between Baslone Road and BH~~ \_\_\_\_\_ 1700 1830  
(Boundaries) \_\_\_\_\_ (Time Limits)

4. Reconnaissance:

\_\_\_\_\_ A. Area \_\_\_\_\_ (Boundaries) ~~N/A~~ \_\_\_\_\_ (Times)

\_\_\_\_\_ B. Specific \_\_\_\_\_ (Coordinates) ~~N/A~~

\_\_\_\_\_ C. Route \_\_\_\_\_ (From) 575846 \_\_\_\_\_ (To) 623898

~~\_\_\_\_\_ D. Contact (Unit) H 3-27 (Coord) 618891 (Time) 17161SfebXX~~

5. Supporting Arms: ~~N/A~~ \_\_\_\_\_ A. Arty Air Obs \_\_\_\_\_ B. NGF Air Spot \_\_\_\_\_ C. FAC(A)

6. Special: \_\_\_\_\_ A. Comm Relay \_\_\_\_\_ B. Movement Cover  
\_\_\_\_\_ C. Helicopter Escort \_\_\_\_\_ D. Other

7. Mission Objective: ~~To maintain surveillance of Las Pulgas Canyon and conduct route  
reconnaissance of the Las Pulgas road at dusk.~~

8. Execution: \_\_\_\_\_ A. DTG support is desired: 18 1700-1830 Feb 19XX  
\_\_\_\_\_ B. DTG support value is lost: 18 1800 Feb 19XX

9. Liaison: \_\_\_\_\_ A. Is not required \_\_\_\_\_ B. Is required

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C. ~~Liaison contact is: Requesting Unit~~

~~10. Coordinating Instructions:~~

~~Friendly troops in outpost at 622875~~

~~Friendly roadblock at 612883~~

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Recommend removing this form. Does not exist in the MCWP 3-26 Air, JP 3-51 Joint Doctrine for Electronic Warfare or CJCSM 3200. This form like the Joint Tactical Air Reconnaissance Request was established in the JCS pub 12 vol II which no longer exists. Even if this form were current it has questionable utility at the user level.

~~TAB C (Joint Tactical Electronic Warfare Request Form) to APPENDIX 4 (Reconnaissance and Surveillance Plan) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)~~

Ref:

Time Zone:

:

~~JOINT TACTICAL ELECTRONIC WARFARE REQUEST FORM~~

~~NOTE: Joint Pub 12, Tactical Command and Control Procedures for Joint Operations, has instruction on the proper completion of this form.~~

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APPENDIX 5 (Supplementary Air Operations) to ANNEX W (Air Operations) to  
OPORD \_\_\_\_\_(U)

Ref:

Time Zone:

1. ( ) GENERAL

a. ( ) Supplementary air operations encompass missions that may be the normal functions of MAGTF aviation but which may be required. description of the types of supplementary operations required will be provided in this appendix. More detailed information for each applicable type air operation will be provided in Tabs. not come under A general be included in of supplementary

b. ( ) This appendix is a "catch all" device to ensure that all requirements are covered. Its contents are dictated by the nature and scope of the overall operation. The following list shows some supplementary air operations that may need to be addressed:

- (1) ( ) Aerial refueling
- (2) ( ) Combat search and rescue (CSAR)
- (3) ( ) Emergency defense of the amphibious task force (EDATF)
- (4) ( ) Passenger and cargo movement

\_\_\_\_\_/s/\_\_\_\_\_  
 \_\_\_\_\_  
 (Name)  
 \_\_\_\_\_  
 Rank, Service)  
 \_\_\_\_\_  
 (Position)

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 Rank, Service)  
 \_\_\_\_\_  
 (Position)

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APPENDIX 6 (Aircraft Armament) to ANNEX W (Air Operations) to OPORD \_\_\_\_ (U)

Ref:

Time Zone:

1. ( ) GENERAL

a. ( ) This plan provides an armament code to be used in the assignment of aircraft weapons loading and pilot reports for ordnance loading. Weapons and fuzing codes are listed in Tab A to this Appendix.

b. ( ) Aircraft will be loaded according to aircraft schedules. Deviation should be immediately passed to the CATF.

c. ( ) After completion of each mission, the flight leader will report ordnance expenditure, damage assessment, and enemy intelligence of immediate tactical importance to the controlling agency.

2. ( ) Armament fixed fuze settings will be designated by aviation units according to anticipated target application. Fuze settings selected while airborne designated in the following order of priority by the:

- a. ( ) Forward air controller.
- b. ( ) Forward air controller (airborne).
- c. ( ) Tactical air coordinator (airborne)
- d. ( ) Tactical air director, through the air support coordinator.
- e. ( ) Flight leader.

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\_\_\_\_\_  
/s/

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
Rank, Service)

\_\_\_\_\_  
(Position)

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\_\_\_\_\_  
/s/

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
Rank, Service)

\_\_\_\_\_  
(Position)

TAB:

A - Aircraft Ordnance Codes

B - Target/Aircraft/Load Matrix (Omitted)

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TAB A (Aircraft Ordnance Codes) to APPENDIX 6 (Armament) to ANNEX W (Air Operations)  
to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

1. ( ) Experience has shown that it is expedient to establish armament codes to designate not only individual weapons, but specific aircraft ordnance mixes as well. Such codes provide both a modicum of secrecy and an economy of language that is especially important in aviation; radios are tied up for relatively shorter periods of time when flights check in ordnance codes to FACs or TAC(A)s rather than by specific numbers and types of ordnance. It is also much easier for planners to call for an ordnance mix by a coded word. Once a planner knows the nature of the target or the probable target, he consults his tables of available ordnance and the Joint Munitions Effectiveness Manuals (JMEMs) and designates the appropriate load for the aircraft.
2. ( ) List aviation ordnance codes and loads to be used in the air tasking order (ATO)

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APPENDIX 7 (Air Control) to ANNEX W (Air Operations) to OPOD \_\_\_\_\_ (U)

Ref: (a)

Time Zone:

1. ( ) SITUATION

a. ( ) General. Provide a summary statement of the situation that describes the airspace/air control requirements of the operation. Of particular concern are any unique factors that require special attention from the aircrews or air controllers.

b. ( ) Enemy. information that capabilities and Refer to the basic plan and Annex B and include any additional could affect the prosecution of LFA missions. Estimate enemy probable actions to interfere with friendly air control means.

c. ( ) Friendly. Refer to the basic plan and ANNEX W and include any existing air control forces other than those tasked in this appendix that have an air control capability, either as an assigned mission or as an inherent capability.

d. ( ) Definitions. Define, as necessary, air control terms used for procedures, capabilities, agencies and equipment to ensure that users of the air control forces are familiar with the support to be provided.

(1) ( ) Air Control Action taken by personnel using radio, radar, or other means external to an aircraft to maneuver that aircraft in relation to another object.

(2) ( ) Air Controller. An individual especially trained for and assigned the duty of the control (by use of radio, radar, and other means) of such aircraft as may be allotted to him for operation within his area.

(3) ( ). Air Control Agency. An organization possessing the capability for air control and/or air direction while maintaining a corresponding capability to coordinate such control and direction with other similar agencies.

(4) ( ) Airspace Control. A process used to increase combat effectiveness by promoting the safe, efficient and flexible use of airspace. Airspace control is provided in order to prevent fratricide, enhance air defense operations~ and permit greater flexibility of operations. Airspace control does not infringe on the authority vested in commanders to approve, disapprove, or deny

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combat operations.

(5) ( ) Terminal (Air) Controller. An air controller located at or near the scene of an aircraft mission to assist assigned aircraft completing the purpose of the mission. Terminal control does not extend to internal weapon systems operation.

e. ( ) Assumptions. List any assumptions not reflected in the basic plan or Annex W which are applicable to specific air control procedures.

2.( ) CONCEPT OF OPERATIONS

Refer to the basic plan and Annexes C and M for the overall concept of LFA operations.

3.( ) EXECUTION

a. ( ) Conduct of Air Control Operations. Provide the necessary detailed instructions to cover all aspects of air control to flight operations not described elsewhere in this Appendix. Attention may be directed to other annexes, if appropriate, for specialized operations or particular aspects of the operation; e.g., Appendix 3 to Annex R is helicopter control procedures during the ship-to-shore movement. Attention may also be directed to other appendixes in this annex. The intent of this paragraph is to tie together all air control procedures and preclude omission of instructions not appropriate to other appendixes. These instructions should be of universal concern to aircrews and air controllers and should not be tailored to a particular community. Subordinate unit OPLAN5/OPORD5 will provide for those specific instruction of less than wide concern.

b. ( ) Tasks of Friendly Forces. Provide the identification of air control agencies services provided by friendly forces involved in air operations in which Marine aircraft will participate. For example:

	Agency	OP Date	Services
(1) ( )	XXAFRC	Present	Fit Follow Interceptor C + L.
(2) ( )	CTF AEW XX3 SAR	D-20 D-25	Fit Follow Interceptor C + L. Appendix 6 to Annex C to Ref (a).
(3) ( )	CTF HDC XXX4	D-10	Appendix 3 to Annex R.

c. ( ) Tasks of Subordinate Units: Provide an information paragraph to identify subordinate air control agencies that are operational listing dates, times and services provided. This information reflects specific tasking that has been accomplished in the basic plan and the annex. For example:

Agency	CLASSIFICATION OP Date	Services
(1) ( )MCCG-XX TAOC	D+5 D+7	Fit Follow Interceptor Control
(2) ( )MAG-XX ASC(A) FAC(A)	D-day D-day	Appendix 11 Appendix 2
(3) ( )MWSG-XX TAC(A) FAC(A)	D-day D-day	Tab E Appendix 2

d. ( ) Coordinating Instructions. The following categories of instructions are considered appropriate for this paragraph.

(1) ( ) Airspace Priorities. Provide the MAGTF commander's priorities for the use of airspace. Included will be relative priorities for the functional missions; e.g., air defense versus close air support, emergency criteria, agencies, or staff members vested with authority to set or change mission priorities, instructions for conflict resolution, and other priority information.

(2) ( ) Airspace Utilization. Provide identification of the various agencies responsible for aircraft clearances and their areas of responsibility. Check-in frequencies and call signs are included. Also see Appendixes 8 and 14.

(3) ( ) Air Defense. See Appendix 1.

(4) ( ) Fire Support Coordination. See Appendix 2.

(5) ( ) Close Air Support. See Appendix 2.

(6) ( ) Air Traffic Control. See Appendixes 8, 12, and 14.

(7) ( ) Adjacent Agencies. Identify any peculiar or unique information required from either aircrews or air controllers by other air control elements of the JTF. Other portions of this OPLAN will discuss the details of inter-agency relationships. This paragraph is intended strictly to identify what information requirements are significant to non-ATF air control agencies.

(8) ( ) Miscellaneous. Identify any unique air control requirements not included in the preceding. References may be made to Appendixes 9, 10, 11, and 12. For example, peculiar requirements for missions in support of indigenous forces could be included here.

#### 4. ( ) ADMINISTRATION AND LOGISTICS

a. ( ) Administration. See Basic Plan.

b. ( ) Logistics. See Basic Plan/Annex D.

#### 5. ( ) COMMAND AND CONTROL

a. ( ) Control

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(1) ( ) Annex K, Command and Control Systems.

(2) ( ) Appendix 8, Air Communications.

b. ( ) Identification Procedures

(1) ( ) Tab F, Report In/Out Procedures.

(2) ( ) Tab H, IFF/SIF Procedures.

(3) ( ) Tab E, Entry/Exit Procedures and Orbit Points.

c. ( ) Command Relationships. Annex J.

\_\_\_\_\_/s/\_\_\_\_\_  
 \_\_\_\_\_(Name)\_\_\_\_\_  
 \_\_\_\_\_Rank, Service)\_\_\_\_\_  
 \_\_\_\_\_(Position)\_\_\_\_\_

OFFICIAL  
 \_\_\_\_\_/s/\_\_\_\_\_  
 \_\_\_\_\_(Name)\_\_\_\_\_  
 \_\_\_\_\_Rank, Service)\_\_\_\_\_  
 \_\_\_\_\_(Position)\_\_\_\_\_

TABS:

- A - Airspace Control (Omitted)
- B - Estimate of Air Control Agencies (Omitted)
- C - Airspace Control Circuit Diagram
- D - Air Control Agencies Location Overlay (Omitted)
- E - Entry/Exit Procedures and Orbit Points
- F - Report In/Out Procedures
- G - Terminal Control Procedures
- H - IFF/SIF Procedures
- J - Air Tasking Procedures (Omitted)
- K - TAC(A) procedures
  - Reports (Omitted)

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TAB C (Airspace Control Circuit Diagram) to APPENDIX 7 (Air Control) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

LEGEND

- C--Net Control
- X- -Guard
- 0--When Required
- R- -Copy
- L- -Relay
- Y--Net Control When Directed

TASK ORGANIZATION

TASK ORGANIZATION	NUMBER	
Commander Joint Task Force	CJTF-.2	X
TACC	CTF-1	C
TACC	CTF-4	U
TADC	CTF-5	X

CLASSIFICATION

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TAB E (Entry/Exit Procedures and Orbit Points) to APPENDIX 7 (Air Control) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_(U)

Ref: (a) Combatant Commander's OPLAN \_\_\_\_\_  
(b) CJTF OPLAN \_\_\_\_\_

Time Zone:

1. ( ) GENERAL

Provide general directive instructions for the AOA and reference the pertinent AOA instructions. Other general instructions, such as positive air control requirements, are stated.

2. ( ) CONCEPT

See reference (b)

3. ( ) CONDUCT

Describe the procedures to enter/exit the AOA airspace area and assign responsible agencies. Included, but not limited to, are the following:

- a. ( ) Designated air control agencies.
- b. ( ) Airspace and altitude separation.
- c. ( ) Clearance requirements.
- d. ( ) Minimum altitudes.
- e. ( ) Approach and retirement procedures in the AOA.
  - (1) ( ) IFR procedures.
  - (2) ( ) VFR procedures.
  - (3) ( ) Reports.

4. ( ) ADMINISTRATION AND LOGISTICS

See Basic Plan/Annex D.

ENCLOSURE:

1 - Entry/Exit, Control, Holding, and Orbit Points

Page Number

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ENCLOSURE 1 (Entry/Exit, Control Holding and Orbit Points) to TAB E (Entry/Exit Procedures and Orbit Points) to APPENDIX 7 (Air Control) to ANNEX W (Air Operations) to OPOD \_\_\_\_\_(U)

Ref:

Time Zone:

1. ( ) CONTROL POINTS

Name	Location	Purpose	TACAN
Brandy	XXN/XX - XXW	Control/Hold	151/36 to 46
Cognac	XXN/XX - XXW	Entry/Exit	040/37 to 67

SAMPLE

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TAB F (Report In/Out Procedures) to APPENDIX 7 (Air Control) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_(U)

Ref:

Time Zone:

1. ( ) RIO INFORMATION

Information required for reporting in/out (RIO) is stated according to the mission. All aircraft report in to the TACC when entering, departing, or operating within the objective area, except when directed to report directly to a subordinate control agency. When pilots have completed their mission, they check out with the same agency or agencies. These reports, referred to as reporting in/out information, are maintained by the concerned control agencies until the pilot has checked out and the information has been recorded. RIO information will vary in content depending on the aircraft mission and control agency concerned. Similarly, information transmitted to the pilot upon reporting in will depend on his mission and the control agency involved. Each major air control center maintains current status information on appropriate preplanned, ground alert, and airborne aircraft. RIO information comprises an essential part of this status information vital to the success of the MACCS.

2. ( ) CALL SIGNS AND FREQUENCIES

The following is hereby promulgated:

	Agency	Call Sign	Frequency
a. ( ) CTFXX2	TACC	BRONCO	XXX.XX
	CRC	-----	-----
b. ( ) CTFXX4	TACC	-----	-----
	HDC	-----	-----
c. ( ) CTFXX5	TADC	-----	-----
	TAOC	-----	-----



CLASSIFICATION

3. ( ) INITIAL CONTACT PROCEDURES

a. ( ) As soon as practical after take-off, mission aircrews establish initial contact with the appropriate en route control element. The following minimum information will be provided:

- (1) ( ) Flight call sign.
- (2) ( ) Mission number.
- (3) ( ) Time airborne.
- (4) ( ) Number and type of aircraft (if different from tasking order)
- (5) ( ) Position-geographical point/range and bearing from navigational aid

(NAVAID) /fix.

(6) The following information will be included, as appropriate, or when directed.

- (a) ( ) Ordnance
- (b) ( ) Control point coordinates/NAVAID fix.
- (c) ( ) Final control call sign and frequency.
- (d) ( ) Target information.
- (e) ( ) Estimated time-over-target or time-over-control point.

b. ( ) The control facility will:

- (1) Establish radar/radio contact.
- (2) Ensure positive identification.
- (3) Acknowledge and confirm information received.
- (4) Advise aircrews of changes in mission, if any.

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TAB H (IFF/SIF Procedures) to APPENDIX 7 (Air Control) to ANNEX W (Air Operations) to  
OPORD \_\_\_\_\_(U)

Ref: (a) CTFXX OPLAN \_\_\_\_\_  
(b) CINC Combatant Commander's \_\_\_\_\_ Air Control Procedures Manual

Time Zone:

1. ( ) GENERAL

Provide the provisions for IFF/SIF usage, its relation to aircraft operationally ready status, and identify pertinent references.

2. ( ) ENTRY/EXIT CODES

See reference (a)

3. ( ) AIR DEFENSE IDENTIFICATION ZONE PROCEDURES

See reference (b)

4. ( ) MODE 1 CODES

Identify the code structure according to appropriate authority.

5. ( ) MODE 2 CODES

Identify the code structure according to appropriate authority.

6. ( ) MODE 3 CODES

Identify the code structure according to appropriate authority.

7. ( ) EMERGENCY IFF PROCEDURES

Page Number

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TAB K (TAC CA] Procedures) to APPENDIX 7 (Air Control) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_(U)

Ref:

Time Zone:

1. ( ) SITUATION

a. ( ) General. Describe the operational and geographic factors that will influence the requirement for TAC(A)s. Also identify overriding considerations on TAC(A) employment and procedures.

b. ( ) Enemy. Refer to the basic plan and Annex B. Include additional information as appropriate.

c. ( ) Friendly. Refer to the basic plan and ANNEX W. Identify those organizations in ANNEX W that have a specific capability or assignment to provide TAC(A)s to the operation.

d. ( ) Assumptions. As required.

2. ( ) CONCEPT

Provide a general description of the role of TAC(A)s envisioned during the operation: pre-D-day, on D-day, and post-D-day.

3. ( ) EXECUTION

a. ( ) Conduct. Provide instructions governing the use and restrictions on the use of TAC(A)s. Include the following:

(1) ( ) Tactical conditions requiring TAC(A).

(a) ( ) Communications restrictions.

(b) ( ) Visibility.

(c) ( ) Number of sorties for a particular operation.

(d) ( ) Proximity to friendly ground forces.

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- (e) ( ) Special operations.
- (2) ( ) Agencies/authorities responsible for assignment of TAC(A) missions.
- (3) ( ) Specific tasks related to:
  - (a) ( ) Coordination with ground units.
  - (b) ( ) FAC(A) coordination.
  - (c) ( ) Assignment of aircraft to FAC(A)
  - (d) ( ) Advisory responsibilities to FAC(A)s and CAS aircraft.
  - (e) ( ) Target detection.
  - (f) ( ) Control of close and deep air support missions.
  - (g) ( ) Control of artillery and naval gunfire.
- (4) ( ) Designation of areas of responsibility.
- (5) ( ) Saturation levels.
- (6) ( ) Airborne alert status.
- (7) ( ) Time-on-station requirements.
- (8) ( ) Relief-on-station procedures.
- (9) ( ) Procedures for turnover of aircraft to FAC(A)s.
- b. ( ) Tasks of Friendly Forces. See Appendix 7.
- c. ( ) Tasks of Subordinate Units. See Appendix 7.
- d. ( ) Coordinating Instructions. Included, but not limited to, are the following types of instructions:
  - (1) ( ) Authority to request or reassign sorties.
  - (2) ( ) Procedures and agencies for providing resources to TAC(A) immediate air support requests.
  - (3) ( ) Air control agencies according to the sequence of the landing.
  - (4) ( ) Authority for orbit point control.
  - (5) ( ) En route clearance procedures.
  - (6) ( ) Fire support coordination procedures.
  - (7) ( ) Air defense coordination.
  - (8) ( ) Special instructions.

4. ( ) ADMINISTRATION AND LOGISTICS

- a. ( ) Administration. Annex E.

CLASSIFICATION

- b. ( ) Logistics. Annex D.
5. ( ) COMMAND AND CONTROL
- a. ( ) Command. Annex J.
  - b. ( ) Control. Annex K.

SAMPLE

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APPENDIX 8 (Air Communications) to ANNEX W (Air Operations) to OPORD \_\_ (U)

Ref: (a) II MEF OPLAN 1-94  
(b) II MEF (5)150600 July 1994

Time Zone:

1. ( ) Air control communications will be in accordance with Annex K (Command and Control Systems) of this plan and reference (a). This appendix contains a list of circuit designators and functions for all nets to be employed by 2d MAW. Frequency assignment and call signs are contained in reference (b)

2. ( ) REQUEST-PROCUREMENT

a. ( ) Tactical Air Request Net (TAR). Provides a means for forward ground combat units to request immediate air support from the DASC. Intermediate ground combat echelons monitor this net and may modify, disapprove, or approve a specific request. The DASC uses the net to brief the requesting unit on the details of the mission. Additionally, target damage assessments and emergency helicopter requests may be passed over this net. Multiple TAR nets may be required depending on the scope of close air support operations.

- (1) ( ) DASC.
- (2) ( ) Tactical air control parties.

b. ( ) Helicopter Request Net (HR). Provides a means for the tactical air control parties of helicopterborne units and those units assigned on-call helicopters to request immediate helicopter support from the DASC or HDC. Surface-landed units will submit requests for immediate helicopter support to the DASC or TACC (afloat) via the tactical air request (TAR) net. Preplanned helicopter support for helicopterborne and surface-landed units will be submitted via command channels.

- (1) ( ) DASC.
- (2) ( ) TACC/HDC.
- (3) ( ) TACP5 of helicopterborne units.

c. ( ) Direct Air Support Net (DAS). Provides a means for the DASC to request direct air support aircraft from the TACC. Additionally, information pertaining to aircraft stationing, fuel and ordnance status, progress of direct air support missions, etc., may also be passed over this

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CLASSIFICATION

net.

(1) ( ) TACC/TADC.

(2) ( ) DASC.

d. ( ) Tactical Air Command Net #1 (TACmd). Provides the primary means by which the TACC directs aircraft groups to provide aircraft for close air support and antiair warfare missions.

(1) ( ) TACC/TADC.

(2) ( ) TAOCs.

(3) ( ) DASC.

(4) ( ) All Marine aircraft groups.

(5) ( ) AAOC.

e. ( ) Tactical Air Command Net #2 (TACmd). Functions as an overload for TACmd Net #1. When activated, it is normally used for the transmission of requests for preplanned air strikes, lengthy operation orders, and air schedules.

(1) ( ) Same as TACmd Net 1.

3. ( ) RIO (REPORTING IN AND OUT)

a. ( ) Squadron Command Net. Provides a means of communications between in-flight squadron aircraft and/or with the squadron headquarters. Each aircraft squadron has its own common net.

(1) ( ) Squadron headquarters.

(2) ( ) In-flight squadron aircraft.

b. ( ) Group Common Net. Provides a means of communications between in-flight group aircraft and/or with the aircraft group headquarters. Each aircraft group establishes its own common net.

(1) ( ) Aircraft group headquarters.

(2) ( ) In-flight group aircraft.

(3) ( ) Squadron headquarters.

c. ( ) Tactical Air Traffic Control Net (TATC)5. Provides a means for the TACC, TAOC, and DASC to exercise control of all tactical aircraft in the objective area. Types of information passed over this net include aircraft reports of launches by mission number, clearing aircraft to their assigned control agencies, diverting aircraft as necessary, and the aircraft completed mission reports prior to landing. Multiple TATC nets are required with the TACC/TADC, TAOC, and DASC each having its own net.

(1) ( ) TACC/TADC.

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- (2) ( ) TAOCS.
- (3) ( ) DASC.

(4) ( ) Fixed-wing aircraft.

(5) ( ) Helicopters.

4. ( ) DIRECTION

a. ( ) Tactical Air Direction Net (TAD) . Provides a means for the direction aircraft in the conduct of close air support missions and for the DASC to brief support aircraft on target information or assignment to the terminal controller. Multiple TAD nets are required and are assigned to major air control agencies.

- (1) ( ) DASC.
- (2) ( ) TACP.
- (4) ( ) Tactical fixed-wing aircraft.
- (5) ( ) Other elements within the air command and control system.

b. ( ) Helicopter Direction Net (HD) (Inbound and Outbound). These nets are used by the HDC for positive control of inbound and outbound helicopters in the amphibious objective area. The radar controller in the HDC utilizes these nets to direct flight course and altitude of helicopters and holdings, letdowns, and climb out when required. ASC(A) and TAC(A) use these nets for control of helicopters in the objective area. Both UNF and HF helicopter direction nets are employed. The HF is a backup and provides long-range control of airborne helicopters.

- (1) ( ) DASC.
- (2) ( ) HDC.
- (3) ( ) Helicopters.
- (4) ( ) Assault support coordinator (airborne)
- (5) ( ) Helicopter landing zone control team.
- (6) ( ) Tactical air coordinator (airborne)
- (7) ( ) Tactical air control parties.
- (8) ( ) Other elements within the air command and control system.

c. ( ) Helicopter Landing Zone Control Net (HLZC) . Provides a means for the landing zone control team to control helicopters en route between the initial point and the landing zone. Multiple landing zone control nets may be required depending on the number of zones in operation at the same time.

- (1) ( ) Landing zone control team.
- (2) ( ) Helicopters en route between the initial point and the landing zone.
- (3) ( ) DASC.



CLASSIFICATION

(4) ( ) Helicopter coordinator (airborne)

5. ( ) COORDINATION

a. ( ) Air Control Circuits. Listed below are the circuits to be utilized in air communication with tactical airfields and other information required by aircrews.

CIRCUIT	FUNCTION
AD-1	SOUDHA BAY APPROACH
AD-2	SOUDHA BAY TOWER
AD-3	AKROTIRIA GROUND
AD-4	AKROTIRIA APPROACH
AD-5	AKROTIRIA TOWER
AD-6	NICOSIA GROUND
AD-7	NICOSIA APPROACH
AD-8	NICOSIA TOWER
AD-9	LZ GROUND
AD-10	LZ SWALLOW
AD-11	LZ WREN
AD-12	LZ ROBIN
AD-13	LZ FINCH
EA-1	EQRON TOWER
EA-2	EQRON GROUND
EA-3	HATZOR TOWER
EA-4	HATZOR GROUND

b. ( ) Internal Circuits. Listed below are the circuits to be utilized as group/squadron circuits that are common for those aviation units assigned to MAW.

CIRCUIT	UNIT
GC-1	MWHS-2
GC-2	MACG-28
GC-3	MWSG-27
GC-4	MAG-14
GC-5	MAG-31
GC-6	MAG-32
GC-7	MAG-26
GC-8	MAG-29
GC-9	MAG-11
GC-10	MAG-16
GC-11	VMGR-352
SC-1	VMAQ-2
SC-2	VMA(AW) -224
SC-3	VMA(AW) -332
SC-4	VMA(AW)-533

CLASSIFICATION

SC-5	VMGR-252
SC-6	VMFA-115
SC-7	VMFA-312
SC-8	VMFA-451
SC-9	VMFA-122
SC-10	VMA- 231
SC-11	VMA-542
SC-12	VMA- 331
SC-13	VMA- 223
SC-14	HMM- 263
SC-15	HMH- 461
SC-16	HMM- 264
SC-17	HMM- 162
SC-18	HMM- 261
SC-19	HMH- 362
SC-20	HML/A-167
SC-21	HML/A-269
SC-22	VMO-1
SC-23	VMFA-314
SC-24	VMFA-323
SC-25	VMFP-3
SC-26	HMM- 161
SC-27	HMH-363

SAMPLE

\_\_\_\_\_/s/\_\_\_\_\_  
 \_\_\_\_\_(Name)\_\_\_\_\_  
 \_\_\_\_\_Rank, Service)\_\_\_\_\_  
 \_\_\_\_\_(Position)\_\_\_\_\_

OFFICIAL  
 \_\_\_\_\_/s/\_\_\_\_\_  
 \_\_\_\_\_(Name)\_\_\_\_\_  
 \_\_\_\_\_Rank, Service)\_\_\_\_\_  
 \_\_\_\_\_(Position)\_\_\_\_\_

TABS:  
 A - Callsign and Frequency Assignments (Omitted)  
 B - Lost Communications Procedures (Omitted)  
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APPENDIX 9 (Air Movement Plan/Flight Ferry) to ANNEX W (Air Operations) to  
OPORD \_\_\_\_\_ (U)

Ref:

- (a) WgO P3710.21A (Translant SOP)
- (b) NATOPS Air Refueling Manual
- (c) NATOPS Flight Manuals for Type Aircraft
- (d) En Route Supplement/Charts N. Atlantic, Europe, and N. Africa
- (e) 39th AARW MSG DTG 01 1930Z Jul 94
- (f) Com FAIRMED MSG DTG 020600Z Jul 94
- (g) Co NAS BERMUDA MSG DTG 012330 Jul 94
- (h) COMCABEAST MSG DTG 011 800Z Jul 94

Time Zone:

1. ( ) SITUATION

a. ( ) Enemy Forces. Annex B (Intelligence).

b. ( ) Friendly Forces

(1) ( ) Commanding General, 4th MEB (CTF 62) controls Marine Corps aviation operations as part of Sixth Fleet, in Eastern Mediterranean, unit D-6.

(2) C ) Commander 39th AARW will provide DUCKBUTT and radio relay services as arranged in reference (e).

(3) ( ) Commanding Officers, NAS Bermuda, NAS Rota, and NAF Sigonella will provide billeting for aircrews and maintenance personnel, fuel, and ground-support equipment as necessary in accordance with references (a) and (b)

(4) ( ) Commander Sixth Fleet assumes control of flight ferry at NAS Rota.

(5) ( ) COMCABEAST supports translant with C-9B aircraft as indicated in reference (h).

c. ( ) Attachments and Detachments. Marine Attack Squadron-231 attached to MAG-14 (CTU 167.2.1) effective 0800 27 Jul 94. All Translant units attached to Commander Sixth Fleet upon arrival at NAS Rota.

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CLASSIFICATION

2. ( ) MISSION

Second Marine Aircraft Wing conducts Translant operations in support of Sixth Fleet operations in Eastern Mediterranean.

3. ( ) EXECUTION

a. ( ) Conception of Operations. Translant ferry schedule and flight profiles are depicted in Tab B.

b. ( ) VMGR-252

(1) ( ) Commencing 27 Jul 94, deploy six (6) KC-130 aircraft each to NAS Bermuda and Lajes AFB, Azores, to be in position by 272200R Jul 94 and to remain on-station until Translant completed.

c. ( ) SOES, MCAS CHERRY PT

(1) ( ) Provide C-9B services for movement of maintenance support teams to NAS Bermuda and other destinations as required. Maintenance support teams will be positioned 24 hours prior to arrival of each unit at NAS Bermuda.

(2) ( ) Be prepared to conduct support operations until completion of Translant.

d. ( ) Marine Aircraft Group 31

(1) ( ) Commence Translant as depicted in Tab B. Upon arrival NAS Rota, chop of Commander Sixth Fleet.

(2) ( ) Provide maintenance support for own ferry aircraft.

e. ( ) Marine Aircraft Group 14

(1) ( ) Complete attachments of assigned units by dates/times indicated.

(2) ( ) Commence Translant as depicted in Tab B. Upon arrival NAS Rota, chop to Commander Sixth Fleet.

(3) ( ) Provide maintenance support teams for Translant units.

f. ( ) Marine Aircraft Group 32

(1) ( ) Detach units to CO MAG-31 by dates/times indicated.

(2) ( ) Provide Maintenance Support teams for Translant units.

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g.() Coordinating Instructions

(1) () Translant operations are assigned code name AGILE BIPPY.

(2) () Commanding General, 2d MAW is designed Translant Commander. Assignment of command and control personnel is as follows: Transoceanic Force Commander, Col. J. J. Striker; Movement Control Officer, Maj. J. S. Steele, Tanker Force Commander; LtCol S. D. Perry.

(3) () Commander Sixth Fleet assumes command of ferry movement from NAS Rota to Cyprus.

(4) () Movement reports in accordance with NWIP 10-4.

(5) () VMGR-252 coordinates ALTREV and CARF plans with FAA and conducts Translant briefings and coordinates movement.

4. () ADMINISTRATION AND LOGISTICS

a. () Deploying squadrons make preparations for AMC airlift to arrive at designated destination during operating hours NLT 9 August 1994.

b.() Deploying squadrons provide maintenance support teams for movement to NAS Bermuda and then to NAS Rota. Initial movement will be scheduled 24 hours prior to departure of each squadron from Beaufort or Cherry Point. Maintenance pick-up to include one spare engine and stand.

a.() All squadron personnel are paid, receive necessary immunizations, and possess individual equipment in accordance with FMFLant Deplacement SOP.

5. () COMMAND AND CONTROL

a.() Communications in accordance with 2d MAW Translant SOP and FAA assignment.

b.() Radio call signs for Translant aircraft will be prefaced by code name

AGILE BIPPY, followed by series numbers as shown in Tab B.

a. () Control Functions

(1)() Control of Translant operations initially by CG 2d MAW and is required by designated command and control offices.  
Cyprus.

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(2) ( ) Commander Sixth Fleet assumes command of movement from NAS Rota to

(3) ( ) Transfer of deploying Sixth Fleet.  
squadrons to CG 4th MEB as directed by Commander

\_\_\_\_\_  
/s/

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
Rank, Service)

\_\_\_\_\_  
(Position)

OFFICIAL

\_\_\_\_\_  
/s/

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
Rank, Service)

\_\_\_\_\_  
(Position)

TAB:

- A - Task Organization (Omitted)
- B - Air Ferry Schedule
- C - Movement Control (Omitted)
- D - Communications (Omitted)
- E - Air & Sea Rescue (Omitted)
- Z - Reports (Omitted)

DISTRIBUTION:

Annex Z (Distribution)

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TAB B (Air Ferry Schedule) to APPENDIX 9 (Air Movement Plan/Flight Ferry) to ANNEX  
 (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

Phase 1 - Translant CONUS to ROTA

CALL SIGN	NO TYPE A/C	LAUNCH DTG	ARCP1 FUEL	ARCP2 FUEL	ARRIVAL TIME	REMARKS
OTIS 1-1 TRU 1-6	6 KC-130	271300Z JUL	NA	NA	NAS BURMUDA 271530Z JUL	TANKER PREPOSITION
OTIS 1-7 TRU 1-12	6 KC-130	271100Z JUL	NA	NA	LAFES AFB 271530Z JUL	TANKER PREPOSITION
OTIS 1-13 TRU 1-19	6 KC-130	271300Z JUL	NA	NA	NAS ROTA 271530Z JUL	TANKER PREPOSITION & MAG-31 ADV MAINT TM
OTIS 20	1 C-9B	271700Z JUL	NA	NA	NAS BURMUDA 27180Z JUL	MAG-341 MAINT TM – VMAQ PODS LAUNCH FROM NBC RON
AGILE BIPPY 2-1 – 2-6	6 F/A-18	281200Z JUL	NA	NA	NAS BURMUDA 271830Z JUL	VMFA-312 RON
AGILE BIPPY 21 – 26	6 F/A-18	291200Z JUL	NA	NA	NAS ROTA 271830Z JUL	RON

PHASE I COMPLETE

Phase II - Ferry, ROTA to CYPRESS

(continue)

ENCLOSURES:

- 1 - Leg I
- 2 - Leg II
- 3 - Leg III (Omitted)

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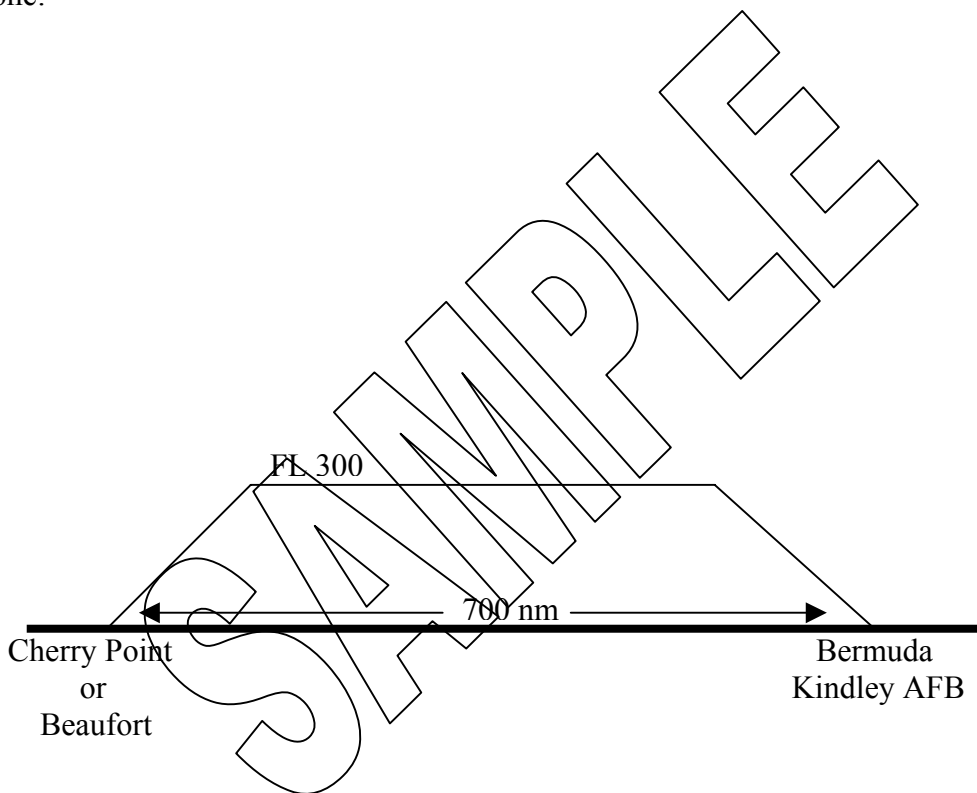
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ENCLOSURE 1 (Leg I) to TAB A (Air Ferry Schedule) to APPENDIX 9 (Air Movement Plan/Flight Ferry) to ANNEX W (Air Operations) to OPOD \_\_\_\_\_ (U)

Ref:

Time Zone:

LEG I



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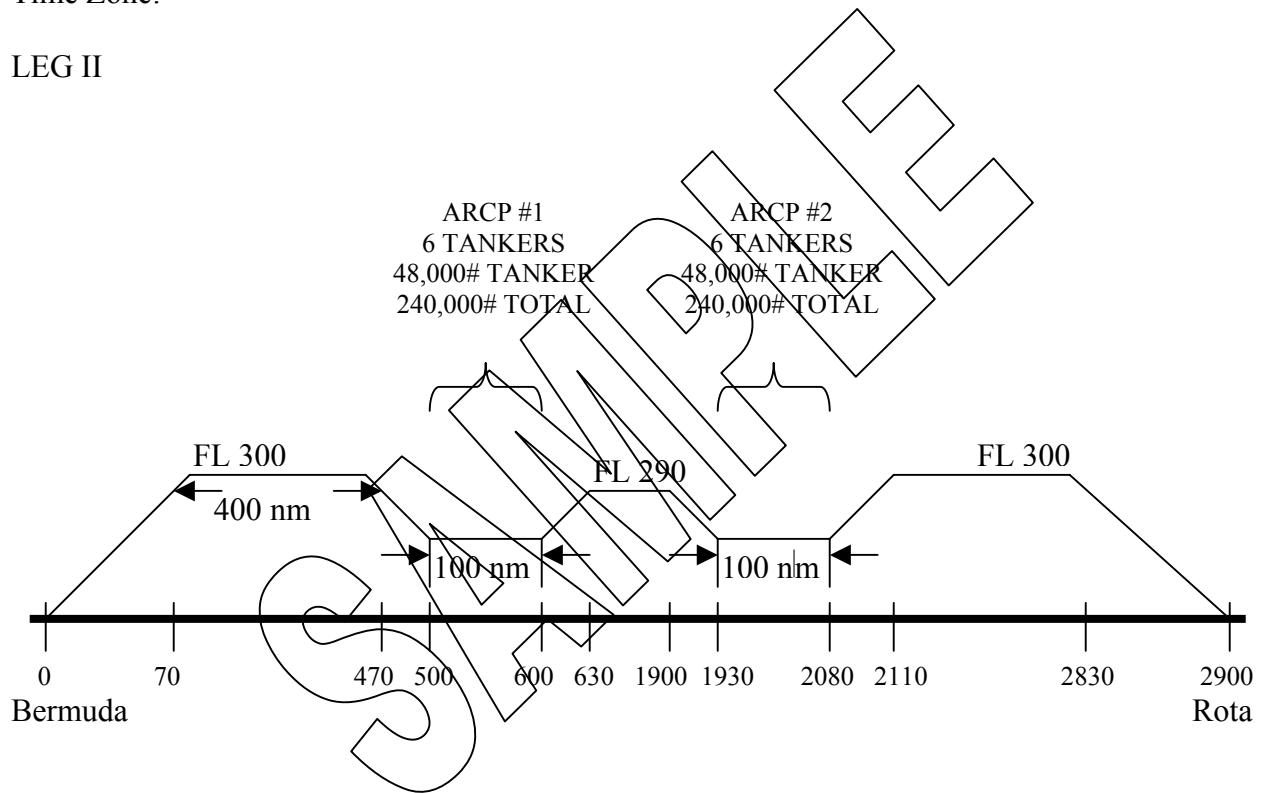
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ENCLOSURE 2 (Leg II) to TAB A (Air Ferry Schedule) to APPENDIX 9 (Air Movement Plan/Flight Ferry) to ANNEX W (Air Operations) to OPOD \_\_\_\_\_ (U)

Ref:

Time Zone:

LEG II



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APPENDIX 10 (Aircraft Schedules) to ANNEX W (Air Operations) to  
OPORD \_\_\_\_\_  
(U)

Ref:

Time Zone:

1. ( ) GENERAL SITUATIONS

- a. ( ) Event Number. Scheduled by squadron to be used in conjunction with a mission number.
- b. ( ) Mission. Assigned according to squadron capabilities, with specific tasks in remarks.
- c. ( ) Type Aircraft. Self-explanatory.
- d. ( ) Provided By. As scheduled, unless scheduled squadron or unit is authorized to change by TACC.
- e. ( ) On-Station. Time aircraft will arrive on station or orbit point. Time-off-target will be by schedule when ordnance is expended or target destroyed.
- f. ( ) Report. H-hour and until appropriate units are ashore, all units will report to TACC. Helicopter escort missions and helicopter ship-to-shore movements will report to the HDC. Once control is established ashore, all units will report as appropriate to TACC or DASC/HDC.
- g. ( ) Remarks. Should include such things as target information, alert status, orbit point data, photo strip information, and road recon routes, etc., if known. For helicopter missions, the following should appear: LZ arrival/departure times, rendezvous time, and Wave Commander, plus any information that may be pertinent to members in the flight.

2. ( ) REQUEST FOR SCHEDULED MISSIONS

Air requests from ground commanders will be submitted by each day for missions to be conducted the following day.

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3. ( ) ADDITIONAL SCHEDULING INFORMATION

Aircraft requirements, particularly pertaining to D-day will be furnished for aviation by the CLF as such detailed planning is completed.

\_\_\_\_\_/s/\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_(Name)\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_(Rank, Service)\_\_\_\_\_  
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TABS:

- A - AAW (Omitted)
- B - OAS (Omitted)
- C - Assault Support
- D - Air Reconnaissance (Omitted)
- E - Supplementary Air Operations (Omitted)

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TAB C (Assault Support) to APPENDIX 10 (Aircraft Schedules) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

EVENT NUMBER	MISSION	NUMBER & TYPE ACFT	PROVIDED BY	ON-STATION	REPORT	REMARKS
1-1	Troop lift assault	10 CH-46E 11 CH-53E 10 CH-46E	HMM- 162 HMH- 464 HMM- 365	TBA	HDC	Troop lift of BLT 3/8 with equipment. Anticipate 3 waves to accomplish.
1-2	Helo escort/ CIFS	8 AH-1T	HML/A-269	TBA	HDC	“
1-3	C &C	2 UH-1	HML/A-269	TBA	HDC	“
1-4	Logistics	3 CH-53E	HMH-464	TBA	HDC	o/o logistics for BSSG
1-5	SAR	2 CH-46E	HMM- 162/365	TBA	HDC	SAR SPT 3/8 Helo Asslt
1-6	MEDEVAC	3 UH-1	HML/A-269	TEA	HDC	MEDEVAC SPT 3/8 Helo Asslt

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APPENDIX 11 (Air Tasking) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

1. ( ) GENERAL

This appendix addresses the issuance of the ATO directing flight operations in support of operation

2. ( ) AIR TASKING CYCLE

Discuss the air tasking cycle (apportionment and allocation, allotment, tasking, and scheduling) as pertains to the operation. Set required timelines for submission of requests and for the ATO cycle. Discuss interoperability with the joint air tasking cycle (if a factor)

3. ( ) ARCHITECTURE

Address the hardware and software issues required to generate a MAGTF ATO and “plug in to” a joint ATO. Delineate which units will receive the ATO and what portions of it they need to receive.

4. ( ) LOGISTICS AND ADMINISTRATION

Delineate any special logistic or administrative considerations required to ensure a continuous and responsive air tasking cycle to include production and distribution of the ATO.

5. ( ) COMMAND AND CONTROL

a. ( ) Command. Annex J.

b. ( ) Control. Annex K.

Page Number

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TABS:

- A - Air Tasking Process (Omitted)
- B - Air Tasking Order Format

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Message reference number

TAB B (Air Tasking Order Format) to APPENDIX 11 (Air Tasking) to ANNEX W (Air Operations) to OPORD \_\_\_\_\_ (U)

Ref:

Time Zone:

1. ( ) UNIT ASSIGNED MISSION; EVENT/MISSION NUMBER

- a. ( ) Target.
- b. ( ) Number and type of aircraft.
- c. ( ) Ordnance load and fuzing.
- d. ( ) Time-on-target/station.
- e. ( ) Reference and orbit.
- f. ( ) Communications.
- g. ( ) Coordinating Instructions.

2. ( ) UNIT ASSIGNED MISSION; EVENT/MISSION NUMBER

- a. ( ) Etc.

SAMPLE