CHAPTER 2. OFFENSIVE ANTIAIR WARFARE

Offensive antiair warfare (OAAW) reduces or neutralizes the enemy’s air and missile threat before it launches or assumes an attacking role. In time critical targets, it destroys their capability to conduct further operations after the weapon is launched. OAAW attacks the enemy’s abilities to attack friendly resources with aircraft and missiles and to defend itself against attack by friendly aircraft and missiles. OAAW has two purposes: to gain air superiority and protect friendly forces.

OAAW is the Marine Corps equivalent of Joint doctrine’s offensive counterair (OCA). See JP 3-01, Joint Doctrine for Countering Air and Missile Threats. OCA is offensive operations to destroy, disrupt or neutralize enemy aircraft, missiles, launch platforms, and their supporting structures and systems both before and after launch, but as close to their source as possible. (JP 1-02)

OAAW operations are characterized by responsiveness, bold actions, and initiative to gain a decisive advantage over the enemy. They focus on a particular function of the enemy’s combat potential—its air and missile forces. Because OAAW operations strive to destroy enemy air and missile resources as near to their source as possible, OAAW is the preferred method of conducting antiair warfare. OAAW allows us to take the enemy on our terms and when and where we choose.

OAAW operations are not specific to the MAGTF’s ACE. They are a responsibility of the entire MAGTF and impact on all MAGTF operations. The MAGTF conducts OAAW operations with a variety of organic resources (aircraft, electronic warfare, artillery, surveillance, and ground forces). The MAGTF can also request joint force, theater, and national assets, e.g., the joint surveillance target attack radar system, satellites, special operating forces, army tactical missile system or aircraft.

OAAW embodies the tenets of maneuver warfare described in Marine Corps Doctrinal Publication (MCDP) 1, Warfighting. It uses maneuver, tempo, and surprise to gain physical and psychological advantages over the enemy. It seeks to shatter the cohesion of the enemy’s systems through rapid, violent actions. In OAAW, the enemy’s system may include any air-oriented weapon, command and control or infrastructure system that poses a threat to MAGTF aviation resources. System components that may be attacked in are manned or unmanned aircraft, surface-to-air weapons, theater missiles, airfields, air command and control facilities or the enemy’s aviation supporting infrastructure.

TASKS

OAAW operations include four tasks:

1. Preemptive measures.
1. Suppression of enemy air defenses (SEAD).
1. Local air superiority measures.
1. Reactive measures.

Preemptive Measures

Preemptive measures attempt to weaken the enemy’s air and missile threat before he can use air and missile forces and air defense systems against the MAGTF. They are usually conducted in the early phase of an operation but can be a continuous process throughout an operation. Examples of preemptive measures are—

1. Air strikes against theater missile systems.
1. Attacks against enemy command and control facilities and surveillance systems.
1. Air strikes against airfields to destroy or damage aircraft.
1. Air-to-air sweeps.
1. Air strikes against enemy aircraft supply, support, and infrastructure.

If successful, preemptive measures allow later aviation and ground operations to proceed without prohibitive interference from air and missile attacks. Preemptive measures are further categorized as major preemptive measures and continuous preemptive measures.

**Major Preemptive Measures**

Major preemptive measures are conducted by the ACE and other MAGTF combat assets. They require detailed planning at the highest level, i.e., the MAGTF, and allocation of the maximum number of available aircraft and other assets. Major preemptive measures require the ACE to plan combined strikes to
destroy or degrade the enemy’s integrated air defense system (IADS).

Major preemptive measures are conducted for a limited time and usually during the following occasions:

1. During prelanding operations.
2. If an influx of new enemy equipment prevents or severely limits the use of friendly air assets.
3. If an enemy IADS border is reached by the MAGTF.
4. If the MAGTF augments the indigenous forces of a country fighting against a well-established enemy IADS.
5. If the MAGTF commander’s intent is to degrade an enemy IADS.

When planning and conducting major preemptive measures, MAGTF commanders must weigh competing considerations to determine the level of effort used to support the operation. During the initial stages of a conflict, the need to conduct major preemptive measures may lead the MAGTF commander to designate the ACE as the MAGTF’s main effort. Some considerations include:

1. All available assets.
2. Allocating the necessary support and air defense aircraft to support the operation.
3. Allocating only those aircraft necessary for the effective defense of ground combat element (GCE) positions.
4. Developing a support plan that identifies targets that must be destroyed.
5. Giving suppression of enemy air defense (SEAD) support requests received from the ACE to the GCE a high priority.
6. Having general support artillery forces support the plan, except fires such as counter fires or final protective fires.
7. Developing a follow-up plan to exploit vulnerabilities and opportunities; e.g., ground attack, follow-on OAAW operations, massed close air support, and destruction of resupply efforts.

**Continuous Preemptive Measures**

Continuous preemptive measures constitute most MAGTF OAAW operations. There are two types of continuous preemptive measures: those short of the fire support coordination line (FSCL) and those beyond the FSCL.

Continuous preemptive measures short of the FSCL allow OAAW assets to conduct ongoing efforts to destroy the enemy IADS on the friendly side of the FSCL. Thus, continuous preemptive measures require detailed coordination between the ACE and the GCE. Continuous preemptive measures short of the FSCL reduce or eliminate the effects of the enemy IADS on other MAGTF operations that support the GCE; e.g., offensive air support or assault support. Although the MAGTF commander can establish no-fly zones for any threat system that could deny airspace to a specific type of aircraft, the ACE should plan and conduct continuous preemptive measures short of the FSCL against as many elements of the enemy IADS as assets will allow. Such attacks reduce future needs, saturate the enemy IADS, force the enemy to expend additional ordnance, and use deception to confuse the enemy.

Continuous preemptive measures short of the FSCL can also employ ground operations. Ground operations can include attacks by infantry, artillery, armor or special operations force units to destroy essential elements of the enemy IADS short of the FSCL. Ground units can capture or destroy elements of the enemy integrated air defense system, or they can provide terminal control for OAAW air strikes against elements of the enemy IADS. Again, detailed coordination between the ACE and GCE is required.

The significant differences between the two strikes lie in the level of intensity, number of assets assigned to the mission, and degree of coordination with ground forces. Continuous preemptive measures beyond the FSCL do not require coordination with the GCE but do require coordination with the MAGTF and within the ACE.

Continuous preemptive measures beyond the FSCL can also be executed using ground operations. Ground operations can include raids or attacks by reconnaissance, long range artillery or other units to destroy essential elements of the enemy IADS beyond the FSCL. Large teams can capture or destroy enemy aircraft and missile capabilities. Small teams can provide terminal control for OAAW air strikes. Resupply, linkup time with friendly forces, and withdrawal methods are primary considerations in employing ground units and teams conducting these operations beyond the FSCL.

Continuous and decisive OAAW operations against the enemy IADS beyond the FSCL focus on destroying the enemy’s aircraft, long-range surface-to-air missiles, and early warning systems. This allows
medium-altitude tactics, attacks from the rear, and (at a minimum) low-altitude tactics against an enemy that no longer has early warning capability. Continuous preemptive measures beyond the FSCL can damage or destroy the enemy’s aircraft and surface-to-surface missile assets and supporting infrastructure in such a way that these resources cannot bring their power to bear against friendly assets or cannot sustain air and missile attacks.

**Suppression of Enemy Air Defenses**

Suppression of enemy air defenses are activities which neutralize, destroy or temporarily degrade surface-based enemy air defense by destructive and/or disruptive means. (JP 1-02) SEAD operations allow friendly aircraft to operate in airspace defended by an enemy IADS. As the most commonly implemented OAAW task, SEAD can support all aviation operations, including OAAW’s preemptive measures, local air superiority, and reactionary measures. Factors that determine if SEAD should be used include the—

1. MAGTF’s mission.
2. Capabilities and complexity of the enemy IADS. Effectiveness of the enemy’s IADS depends on the quality and quantity of the enemy’s weapons mix and ability to integrate and support its elements.
3. Capabilities and availability of friendly weapons systems.
4. Ability of friendly aircrews to invade enemy air defenses.

The ACE plans SEAD missions but the ACE and the GCE should execute SEAD together. SEAD may be applied only at critical times that will allow the MAGTF to proceed without prohibitive interference from the enemy air defense system. SEAD is designed to suppress, disrupt, neutralize, destroy or temporarily degrade enemy air defenses in a specific area. Destruction may involve an inordinate number of assets while suppression may be more efficient. On the other hand, the MAGTF may choose to destroy enemy assets rather than neutralize or degrade them for each air mission. Initially, suppression, disruption, neutralization and degradation may be more cost-effective, but over the duration, a concentrated preemptive effort by the ACE to destroy enemy air defense assets may save the MAGTF significant time, effort, and ordnance.

SEAD is accomplished by destructive and/or disruptive means and attacks using lethal and nonlethal means. These means, alone or combined, include aircraft, direct and indirect fire weapons, ground forces, and command and control warfare (both deception and electronic warfare). SEAD supports specific aviation operations and can be conducted with preemptive measures. OAAW planning should address situations where SEAD employment is anticipated. SEAD can be employed in direct confrontation of the enemy’s air defense with ground forces, air forces, naval forces, and instances involving command and control warfare.

SEAD can be conducted short of and beyond the FSCL and requires coordination with ground forces. An example of SEAD short of the FSCL is artillery fires supporting a close air support mission. SEAD beyond the FSCL does not require coordination with ground forces, but does require coordination with the MAGTF and within the ACE. An example of SEAD beyond the FSCL is antiradiation missile attacks in support of an air interdiction mission.


**Local Air Superiority Measures**

Residual enemy air and surface-to-air weapons threats can exist after preemptive measures and SEAD. Local air superiority measures prevent any residual enemy air threat from prohibitively interfering with MAGTF operations in a specific zone of action. Local air superiority measures can include offensive combat air patrols (CAPs) and sweeps, escort and self-escort tactics or aircraft countermeasures and maneuvers. All levels of the ACE can plan and execute local air superiority measures.

**Reactive Measures**

Reactive measures are the use of offensive firepower in response to an immediate threat. Typically, reactive measures are used against time critical targets, such as attacks against a theater missile transporter-erector launcher following a missile launch or a pop-up surface-to-air missile system. Targets attacked by reactive measures will likely be extremely mobile. Because time is essential when attacking these targets, planners must—
Minimize response time and heighten their ability to attack by including antiradiation missiles as part of the standard loadout on capable aircraft.

Use electronic warfare support to identify meteorological or tracking radars which may indicate an impending launch or attack.

Divert aircraft to attack the target.

Establish preplanned, on-call aircraft to attack time critical targets.

In the case of the latter two instances, commander’s intent translated through target priorities and apportionment decisions, will be the determining factor as to available resources. Reactive measures are the least preferred method of conducting OAAW, but they are often the only available option.

PRINCIPLES

The MAGTF conducts OAAW operations using the principles of location, destruction, deception, intimidation, and combined arms.

Location

Location uses surveillance, reconnaissance, and intelligence resources (including detection, identification, and evaluation) to locate high priority OAAW targets. Information from these resources complements and supplements each other, and is used to pinpoint high priority targets quickly for scheduled or immediate OAAW missions. An example of using an innovative means of locating enemy resources is by employing the unmanned aerial vehicle (UAV). The UAV is rapidly becoming the surveillance, reconnaissance and intelligence gathering platform of choice due to its inherent low probability of detection, extended loitering time, and low attrition rate. It is especially useful in gathering targeting information before OAAW strike missions.

The ACE and the MAGTF should develop plans that emphasize the aggressive employment of all available air and ground sources to pinpoint highly lethal and mobile enemy systems accurately and quickly. These plans should also address the timely collection and dissemination of combat information on the location of OAAW targets.

Mobile air defense systems; e.g., antiaircraft artillery or surface-to-air missiles and theater missile transporter-erector launchers pose unique challenges to OAAW location techniques. A thorough intelligence preparation of the battlespace (IPB) is necessary for locating these lucrative OAAW targets. IPB should focus on systems’ engagement envelopes, comparing the engagement envelopes and system capabilities with the assets they protect, and available terrain that can be used to maximize or mask their engagement potential. Theater missiles provide the enemy with the potential to employ weapons of mass destruction against the rear area. The high mobility of the theater missile transporter-erector launcher allows the enemy to shoot and move to hide sites extremely quickly. For these threats, IPB should identify potential launch sites, hiding sites, and supporting infrastructure to expedite targeting. Additional considerations for OAAW intelligence requirements are discussed on page 2-5.

Destruction

Destruction eliminates the enemy’s aircraft and missile threat at its source, preferably before it can launch or attack. Destruction is often preferred to neutralizing enemy air defenses or SEAD because it conserves and preserves MAGTF resources. If preemptive measures destroy OAAW targets early in the operation, the target can no longer threaten friendly aircraft or forces. If the enemy knows the MAGTF can destroy his aircraft, theater missiles, and air defense assets at their source before they launch or attack, he may be intimidated into spreading his assets throughout the battlespace to protect them. He then loses the ability to rapidly mass forces and to capitalize on mutual support and massing of fires to protect his assets.

Deception

Deception occurs when the enemy is misled by the manipulation, distortion or falsification of information. Effective deception diverts enemy attention away from OAAW assets and their intended targets. Deception denies the enemy the ability to mass his forces against OAAW assets because he is uncertain when, where, and how the OAAW strike will occur. Deception confuses the enemy, saturates his air defense systems with conflicting or erroneous information, and makes him react in a way that is not in his best interest. For example, deception can cause the enemy to expend ordnance that will assist us in locating the enemy’s weapon system; i.e., backblast, or radiate surveillance, target acquisition, and fire
control radars, thus pinpointing them for attack. See chapter 5 for more information.

**Antiair Warfare**

**Intimidation**

Intimidation uses fear to coerce the enemy into or deter him from action. Effective intimidation tactics can cause the enemy to position his systems and assets less aggressively, make him reluctant to employ his assets, or force him to adopt complex emission control plans. Intimidation tactics can include aggressive reconnaissance, surveillance, and location; quick, destructive reactions; and effective deception. The enemy’s reluctance to employ his air defense systems allows friendly aircrews to use optimum tactics without undue restriction.

**Combined Arms**

Combined arms integrates firepower and mobility to produce a desired effect on the enemy. The effects of combined arms (integration) will place the enemy in a dilemma by attacking with more than one combat capability of the MAGTF. In defending against combined arms operations, the enemy will attempt to counter one combat arm, which will leave him vulnerable to attack by another combat arm. Combined arms effects can be achieved by lethal methods, nonlethal methods or a combination of both. Examples of combined arms in OAAW are artillery and aircraft, jamming and air attack, and ground attack and air attack.

Combined arms tactics, techniques, and procedures (TTP) can enhance the effectiveness of the MAGTF’s combat arms attacks against the enemy and therefore reduce or nullify his ability to conduct aviation-related operations. Examples of combined arms in OAAW include artillery fire to suppress antiaircraft defenses while attack aircraft deliver ordnance to destroy the OAAW target or electronic attack to suppress the enemy’s ability to detect OAAW aircraft while other aircraft employ antiradiation missiles against the target. In the first example, if the enemy fails to move the system to avoid engagement by artillery, he remains vulnerable to both artillery and aircraft attack. If the enemy moves the antiaircraft system to avoid the artillery attack, he sacrifices established cover, concealment, and the ability to employ weapons against the attacking aircraft, making him highly vulnerable to attack from the aircraft. In the second example, if the enemy attempts to power through the jamming, he provides a stronger signal for the antiradiation missile. If he continues to radiate in an attempt to acquire targets, he remains vulnerable to electronic attack.

**INTELLIGENCE REQUIREMENTS**

The complexity of OAAW operations requires dedicated intelligence support, including organic MAGTF intelligence assets and nonorganic (joint, theater, and national-level) intelligence assets. Commanders determine and articulate their intelligence requirements. As a starting point, a commander’s OAAW intelligence requirements should include a description of enemy air and missile and air defense threats, their location and status, reaction time for warning and direction; target intelligence; and follow-up battle damage assessments.

Typically, as IPB is performed and the enemy order of battle becomes clearer, intelligence requirements change. Once intelligence/data is received, it must be converted into a usable format that contains relevant data and disseminated to OAAW planners in a timely manner.

The MAGTF staff coordinates the ACE’s intelligence requirements for all air-related elements of an OAAW mission. The MAGTF staff also coordinates the execution of SEAD operations for the GCE and ACE. To stay current with OAAW operations, GCE and ACE commanders should stay appraised of threat changes, anticipate new intelligence requirements for future operational phases, and effectively articulate those requirements to their intelligence personnel.

**TYPES OF OAAW MISSIONS**

OAAW missions will likely be preplanned, scheduled missions but can be preplanned, on-call or immediate missions depending on the tactical situation. OAAW missions are surface attacks, fighter sweeps, SEADs, electronic attacks, escorts, and time critical target attacks. See figure 2-1.
Surface Attack

Surface attacks destroy or disrupt the enemy’s air and missile threats by engaging the enemy’s forces and support structure before his combat potential can be brought to bear. Examples include missions against airfields, surface-to-air missile sites, theater missile launchers’ hiding sites, and aviation supply depots/points. The goal of surface attacks is to destroy the enemy’s aircraft and missile capabilities while the weapons are still on the ground and to prevent them from launching. Likewise, attacks against the enemy’s support infrastructure can deny his capability to rebuild, repair or sustain further air and missile attacks. Surface attacks are typically conducted in the MAGTF’s deep operations area but can be conducted in the close operations area if necessary. Aircraft are normally the MAGTF resource to conduct surface attacks. But, depending on the location of the target and available assets, surface attacks may be conducted by other MAGTF or joint force resources such as artillery, land attack missiles or ground forces.

Fighter Sweep

Sweep missions are purely offensive missions used to gain air superiority by seeking out and destroying enemy airborne aircraft or other targets of opportunity in a specific area. Sweeps are often used to clear ingress and egress paths to and from a target of enemy defensive aircraft and surface-to-air missile threats. Sweeps can be conducted independently or in support of a strike package (pre-strike sweep), the latter being conducted before strike execution. Depending on the importance of the target and the amount of risk acceptable by the commander, the success or failure of the sweep can be used as go/no go criteria for the strike package.

Escort

Escort missions support a specific mission over or near enemy territory. Escorts may be assigned to high value airborne assets such as electronic warfare aircraft, airborne command and control platforms, tankers, airlift or strike packages. In strike packages,
escorts may either precede or accompany the package. Escorts can be either attached or detached where escort aircraft fly as part of the formation when attached and separate when detached. In either case, the escorts’ primary function is to defend the strike aircraft against attack by enemy aircraft and missiles. The escort’s mission is principally defensive, but it can assume an offensive role if sufficient early warning is received to proactively attack a target or if targets of opportunity that pose a potential threat to the supported event should arise.

**Suppression of Enemy Air Defenses**

SEAD missions typically support OAAW strike packages and close air support missions and can be executed by a variety of lethal and nonlethal resources. SEAD missions can be conducted as preplanned, scheduled; preplanned, on-call; or immediate missions.

**Electronic Attack**

Electronic attack includes actions taken to prevent or reduce an enemy’s effective use of the electromagnetic spectrum, such as jamming and electromagnetic deception, and employment of weapons that use either electromagnetic or directed energy as their primary destructive mechanism (lasers, radio frequency weapons, particle beams). (JP 1-02) Electronic attack is that division of electronic warfare involving the use of electromagnetic, directed energy or antiradiation weapons to attack personnel, facilities or equipment with the intent of degrading, neutralizing or destroying enemy combat capability. Electronic attack can be used to deceive, disrupt, degrade or suppress an enemy’s air surveillance capabilities, thus denying the enemy the ability to acquire and engage targets.

**Time Critical Target Attack**

Attacks against time critical targets are principally reactive. They occur as a result of an unanticipated threat presenting itself, and because of the nature of the threat, present a fleeting opportunity for engagement. Examples of time critical targets include mobile surface-to-air missile sites and theater missile launchers. **Theater missile attack operations are used to prevent the launch of theater missiles by attacking each element of the overall system, denying or disrupting employment of additional theater missiles** (JP 3-01.5, *Doctrine for Joint Theater Missile Defense*). Theater missile attack operations also destroy theater missile launch platforms after the missile has been launched. Attacking theater missiles before they launch and attacking their supporting infrastructure is the preferred method of conducting theater missile attack operations.

---

**SURVEILLANCE**

Surveillance plays a key role in OAAW operations. Information from surveillance can locate and identify OAAW targets and estimate enemy intentions. Active surveillance includes the use of airborne or ground resources to actively search for OAAW targets. Active surveillance resources include radars, unmanned aerial vehicles, reconnaissance aircraft or ground forces. **Passive surveillance uses emissions in the electromagnetic or infrared spectrums to locate and categorize OAAW threats.** Passive surveillance assets include electronic warfare aircraft or ground stations and satellites.

---

**WEAPONS EMPLOYMENT**

Weapons employment for OAAW operations is based on the enemy threat and target and the capabilities, limitations, and requirements of each OAAW system. Effective countermeasures, such as sweeps, air strikes, SEAD, self-protection, and deception used against the enemy threat increase OAAW operations effectiveness. Normally, employment of any resource in support of OAAW is based on the mission and the target.

**Airborne OAAW Target**

Normally, OAAW operations employed against airborne targets consist of sweeps. Support for sweeps can include ground- or airborne-controlled interception/early warning systems, electronic warfare assets, and tankers. Sweeps can be employed as part of a support element for a coordinated OAAW strike against a ground target.

**Ground OAAW Target**

OAAW operations employed against ground targets usually consist of aircraft organized into a strike element, a support element, and a command and control element.
The strike element delivers the decisive effect on the surface OAAW target. Its purpose is to destroy or neutralize the target before enemy air and air defense assets can launch or assume an attacking role against the MAGTF. The target and desired weapons effects dictate the type, number, and weapons load of the strike element.

The support element provides support to the strike element. It is tailored to each specific mission. The support element can include electronic warfare aircraft, sweeps, close escort/self-escort aircraft, UAVs, SEAD aircraft, and tankers. The enemy air and ground threat determines the number of electronic warfare platforms, CAPs, UAVs, and suppression aircraft. Tankers are apportioned as necessary. The support element uses military deception to confuse the enemy air and ground threat and to mask OAAW objectives.

Command and control is critical to successful integration, coordination, and direction of the strike and support elements. The command and control element is tailored to each specific OAAW mission. It also aids rapid assessment and evaluation of mission effectiveness. The command and control element can include airborne or ground-based platforms. An OAAW coordinator and OAAW manager can be used to coordinate OAAW missions and integrate them with other AAW operations.

**REQUEST PROCEDURES**

Based on input from the GCE, ACE, and combat service support element (CSSE) commanders, the MAGTF commander establishes request procedures for OAAW assets. These procedures are based on OAAW priorities and objectives. Requests for OAAW support are based on the MAGTF’s main effort, enemy air force and air defense threat, and targeting information. The ACE, GCE, and CSSE submit requests for OAAW support, including nonorganic assets, to the MAGTF commander. The ACE commander continuously coordinates OAAW requests with the MAGTF, GCE, and CSSE commanders, including procedures for handling targets of opportunity, electronic warfare, and SEAD.

Requests for OAAW missions can be preplanned or immediate. If MAGTF OAAW requirements are submitted by MAGTF units and agencies in response to unanticipated situations are immediate requests. A preplanned request can be scheduled to be conducted at a specific time, against a specific target, etc. or on-call, preloaded for a particular target type/target area and placed in a ground or airborne alert status. As preplanned requests are processed, fire support coordination centers, the MAGTF force fires coordination center, and intelligence sections update threat data and assignment of assets to counter each threat.

Requests for preplanned, scheduled OAAW warfare missions identify the target, target areas or landing zone and the known or suspected enemy air defense that may impact mission accomplishment. Requests should also contain the MAGTF and or GCE assets assigned to counter the threat and coordination information for artillery-provided SEAD missions. Coordination information for any MAGTF or GCE furnished electronic warfare and intelligence assets should also be included.

Occasionally, the ACE requests support from the MAGTF or GCE if they have assets that can contribute to the OAAW effort. ACE-GCE coordination for SEAD and electronic warfare requests can occur via the tactical air command center (TACC), direct air support center (DASC) or the GCE fire support coordination center (FSCC) interface. If the GCE cannot provide support to the ACE because of higher priorities or limited assets, the request is forwarded by the ACE and or GCE to the MAGTF commander for resolution.

**TASKING**

After priorities, objectives, and requirements are established, the ACE commander and his staff plan the employment of aviation assets to support needed OAAW operations. Tasking must address the needs of supporting assets, including electronic warfare, tanker, and airborne early warning and control aircraft. Planners should coordinate tasking to ensure effective use of air and ground assets to achieve the desired OAAW results. Tasking coordination must include MAGTF and GCE assets that may be required to support OAAW operations, such as reconnaissance units, radio battalion, and artillery. The ACE commander tasks ground-based ACE assets through the ACE operations order and specific aircraft assets through the ATO.
Aircraft missions in support of OAAW operations are tasked as either preplanned, scheduled; preplanned, on-call; or immediate. Preplanned missions are performed according to a program planned in advance of operations and based on MAGTF requirements or requests. Preplanned missions normally permit detailed coordination.

### Preplanned, Scheduled Air Missions

Preplanned, scheduled air missions allow detailed coordination and economical use of aircraft and ordnance. The ACE schedules these air missions based on the MAGTF’s OAAW needs. Missions must meet MAGTF priorities, objectives, and requirements based on the known or suspected enemy air and air defense threat. The ACE uses preplanned, scheduled air missions to task aircraft to attack known enemy OAAW targets during preemptive measures and SEAD. Support assets, including fighters, tankers or electronic warfare should be tasked. The TACC determines if additional SEAD support is required. If the TACC cannot provide the required assets, it requests the GCE provide SEAD support.

### Preplanned, On-Call Air Missions

The ACE schedules preplanned, on-call air missions to augment preplanned, scheduled air missions. These missions focus on periods of anticipated increases in the enemy air threat to the MAGTF. Preplanned, on-call air missions have the appropriate air-to-air and air-to-ground ordnance loaded and assume a ground (strip) or airborne alert status.

Using ground-alert aircraft for preplanned, on-call air missions has several advantages. The TACC or its designated agency, i.e., the tactical air operations center (TAOC) or DASC has a higher degree of control over assets. Onstation time for the aircraft is maximized for action and mission support. Aircrews can obtain exact target coordinates and brief tactics and routing before they launch. The TACC can ensure that prerequisites for mission support are available.

Using airborne alert aircraft for preplanned, on-call missions also has several advantages. Airborne, on-call missions provide minimal reaction time to respond to a threat. Battlespace situational awareness can be gained from observation or from threat information passed by voice or data link to the aircraft from the TAOC. Disadvantages of airborne alert aircraft are—

- Reduced control by the TACC.
- Aircrews may have to brief tactics airborne while coordinating with other aircraft and control agencies.
- An inability to ensure that the appropriate support prerequisites are met.
- A limited time on station.

### Immediate Air Missions

Immediate air missions may be required if high tempo operations are conducted and if enemy capabilities are underestimated, in response to a pop-up threat or in reaction to a time critical target. Aircraft can be diverted to an immediate air mission at any time. As always, the decision to divert aircraft must be made with respect to the MAGTF commander’s intent and target priorities. Requests for immediate air missions require the immediate assessment of enemy air defenses and the establishment of SEAD support requirements. To speed the tasking of aircraft, the ACE predetermines and publishes SEAD support requirements, such as on-call SEAD packages. Identifying SEAD targets and assigning firing units should occur at the lowest possible fire support coordinator’s level within the GCE. It is preferred that an aircrew be briefed prior to launch, but this may increase reaction time. If limited assets preclude the assignment of preplanned missions to cover a possible threat, then possible secondary missions are assigned to an aircrew. This provides advance notice and flexibility to an aircrew and the Marine air command and control system (MACCS), and permits the optimum use of assets for a particular mission.

### COMMAND AND CONTROL REQUIREMENTS

After the airspace control plan and airspace control order are promulgated and the ATO and special instructions (SPINS) issued, the MACCS coordinates the execution, employment, and assessment of OAAW missions. Command and control ties individual missions into a cohesive operation by providing ground-controlled interception, target assignment, surveillance, and coordination for air and ground assets conducting OAAW.

MACCS agencies use positive and procedural air control methods to command and control OAAW operations. The senior agency afloat or ashore has overall command responsibility. The ACE commander
has centralized command and decentralized control authority of MAGTF OAAW assets. If tasked by the ACE commander, the Marine SAAWC can exercise control of these assets. OAAW coordinators and managers positions can also coordinate OAAW operations. Nonorganic assets, such as airborne warning and control system or airborne early warning and control aircraft, can enhance or augment command and control of MAGTF OAAW. See figure 2-2.

**ASSESSMENT**

Assessing the effectiveness in OAAW operations can be determined if the commander’s desired objective has been reached. At the operational level of war, the commander’s objective may be attaining air superiority. At the tactical level, effectiveness in reaching the commander’s goal will likely be achieved in part, such as local air superiority to enable a strike package to conduct its mission, which when put together meets the commander’s overall objectives. Efficient use of resources does not automatically constitute effectiveness. Efficient use of OAAW assets may have conserved assets for use elsewhere. The ultimate determination of whether those assets were used effectively must be weighed as to attainment of the desired result.

Tangible evidence of effectiveness can be determined by several methods including personal reports (such as pilot reports or reports from forward observers or forward air controllers) and battle damage assessments. Personal reports can provide immediate feedback on the observed effect on a target, but are often subject to the individual’s perspective and the fog of war. Battle damage assessments can measure the effectiveness of ordnance delivered on a target. These methods may include personal observation or

![Control Connectivity Diagram](image-url)

---

**Figure 2-2. MAGTF Command and Control for OAAW.**
multisensor imagery from reconnaissance platforms such as satellites and UAVs. Battle damage assessments can provide ample data to determine the effectiveness of an attack, but may be subject to the interpretation of the individual analyzing the data.

Intangible evidence can also assess the effectiveness of OAAW operations, including reports from electronic warfare aircraft and lack of observed aviation, ground-based air defense or theater missile activity. Intangible methods of measurements, although an important part of building the overall effectiveness picture, can be misleading. Lack of electronic emissions from a surface-to-air missile site does not necessarily mean the site was destroyed or neutralized, only that the site is no longer transmitting. Lack of aircraft activity can also be translated into preparation for a forthcoming air attack.

Assessing the effectiveness of OAAW operations will ultimately paint a picture for the MAGTF commander. Based on this assessment, the commander may decide that the OAAW objectives achieved or that additional OAAW sorties must be dedicated toward the campaign.

**CAPABILITIES**

Many of the MAGTF’s capabilities depend on its task organization.

The MAGTF has a variety of organic resources to conduct OAAW missions, including aircraft, ground forces, artillery, and electronic warfare platforms. These resources can be combined to place the targeted enemy capability in a dilemma.

From dispersed locations, MAGTF aircraft can quickly respond and mass (if necessary) to support OAAW requirements. Aircraft response capabilities allow the MAGTF commander to bring overwhelming firepower to bear on attacking enemy aircraft or mobile air defense systems.

The variety of weapons and the type of command and control used in OAAW operations enhance the MAGTF’s flexibility in target assignment, weapons engagement, and weapons control.

MAGTF aircraft can operate from forward operating bases, aircraft carriers, and amphibious ships to extend their effective radius of action. Establishing forward arming and refueling points can further assist this capability.

Successful employment of OAAW to protect the MAGTF has a tremendous impact on the morale of enemy and friendly troops. The presence of friendly aircraft and the absence of enemy aircraft increase the confidence of ground-based forces and facilitate rapid accomplishment of the MAGTF’s mission. The presence of friendly aircraft can decrease the enemy’s morale, restrict his actions, restrict/eliminate his ability to conduct aviation operations, and restrict his ability to apply combat power. For the enemy, losing control of the air can be a significant factor in his defeat.