

Chapter 2

Organization and Manning

The TACC consists of three mutually supporting, cross-functional operational organizations supported by a centralized intelligence organization. The TACC organizations and their relationship to the ACE battlestaff are shown in figure 2-1 on page 2-2. The TACC does not provide facilities for all ACE staff functions. It provides a facility from which the ACE commander and staff plan and execute MAGTF aviation and aviation support operations. TACC organizations are—

- | Future plans.
- | Future operations (future ops).
- | Current operations (current ops).
- | Air combat intelligence (ACI).

Future plans conducts aviation and aviation support planning for the next MEF mission change. Future ops develops future ATO(s) and prepares operation orders or fragmentary orders for the next ACE mission change. Current ops executes the daily ATO and assesses its effectiveness.

ACI is embedded within the TACC. Timely and tailored and fused intelligence is integral to the functioning of future plans, future ops, and current ops. ACI is the focus of all aviation intelligence activities supporting the ACE. It produces and disseminates aviation-specific all-source intelligence, to include assessments of adversary capabilities and vulnerabilities, target analysis, battle damage

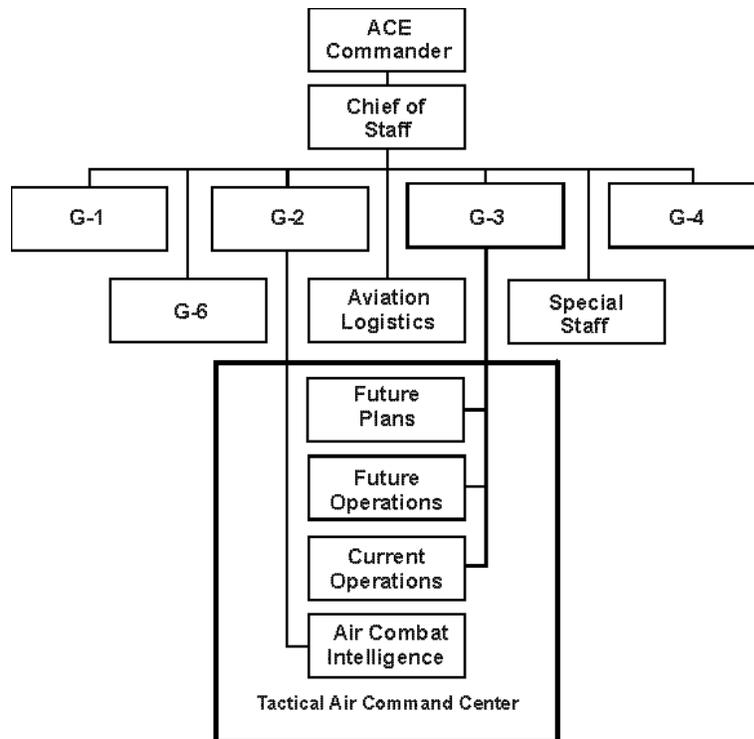


Figure 2-1. TACC Organizations and Command Relationships to the ACE Battlestaff.

assessment (BDA), and the current status and priority of assigned targets to assist in execution day changes.

The principal staff sections (e.g., personnel, intelligence, logistics, communications) provide tailored staff support to the TACC, including appropriate full-time representation (via a matrix style structure) as required (fig. 2-2). This cross-functional representation

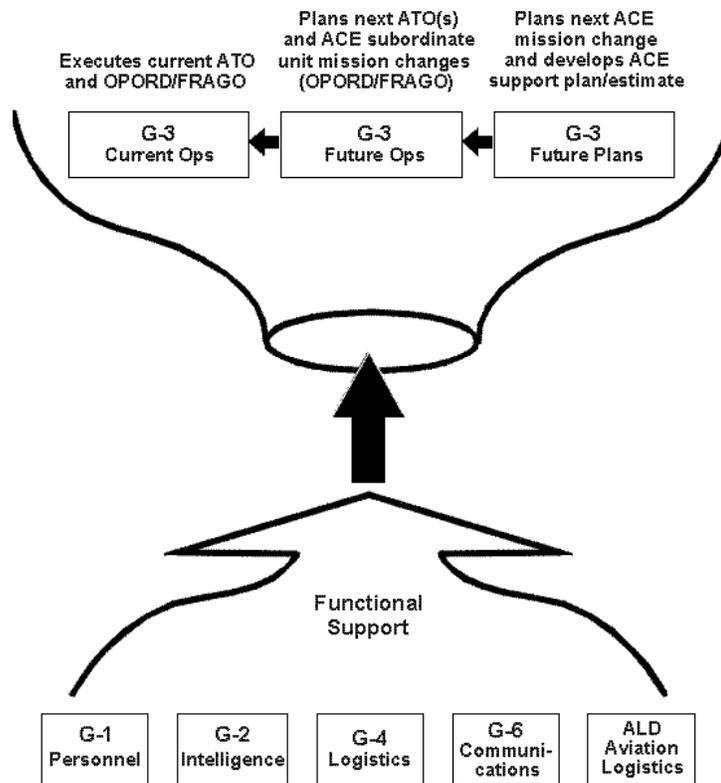


Figure 2-2. ACE Staff Organization.

within future plans, future ops, and current ops facilitates a fully integrated plan from conception to execution.

The ACE G-3 is the direct representative of the ACE commander in the TACC. The ACE G-3 is responsible for the execution of the current ACE OPORD or FRAGO and the overall functioning of future plans, future ops, and current ops in the planning and execution of

all ATOs. The ACE G-2 has staff cognizance over all ACE intelligence activities including ACI and the intelligence watch sections in future ops and current ops. The other principal staff officers maintain cognizance over their respective sections including their representatives within each operational cell and provide support from a common functional perspective.

The TACC must be staffed adequately to fulfill all of the ACE commander's responsibilities, as well as permit continuous operations. The nucleus of required expertise to operate and maintain the TACC is provided by the ACE headquarters staff, the Marine air control group (MACG), and selected augments from subordinate aviation units. Additional augmentees may be required based on the composition of the ACE and the scope of its mission. Liaison personnel from other services and allied nations may also augment the TACC to facilitate coordination in joint and multinational operations. See appendices A and B for manning requirements for a base-line TACC and augmentees and liaison personnel.

Chapter 4

Planning

Marine aviation planners facilitate and optimize the use of ACE assets to provide a means for responsive and effective air operations. ACE planners must be knowledgeable of ACE asset employment considerations to execute the six functions of Marine aviation. These considerations are collectively applied when developing a cohesive aviation plan to support MAGTF operations. FMFM 5-70, *MAGTF Aviation Planning*, and FMFRP 5-71, *MAGTF Aviation Planning Documents*, address additional considerations for employing the ACE.

TACC personnel provide the Marine air-ground task force with responsive air support in a complex and dynamic environment. To plan air operations effectively, TACC personnel must understand the Marine Corps planning process (MCP) and the MAGTF's planning, decision, execution, and assessment (PDE&A) cycle. When the MAGTF is operating as part of a joint force, they must also understand the joint air planning and execution process, and how it interfaces with the MAGTF. When the MAGTF is operating in a joint environment, all air operations must be coordinated and deconflicted with the air capable components of the joint force.

The TACC PDE&A cycle, used to support MAGTF air operations, is continuous from receipt of a mission until the termination of the operation. The TACC PDE&A cycle is driven by several interrelated processes: the Marine Corps planning process, the ATO cycle, the targeting planning cycle, and the intelligence planning cycle (see fig. 4-1, page 4-2).

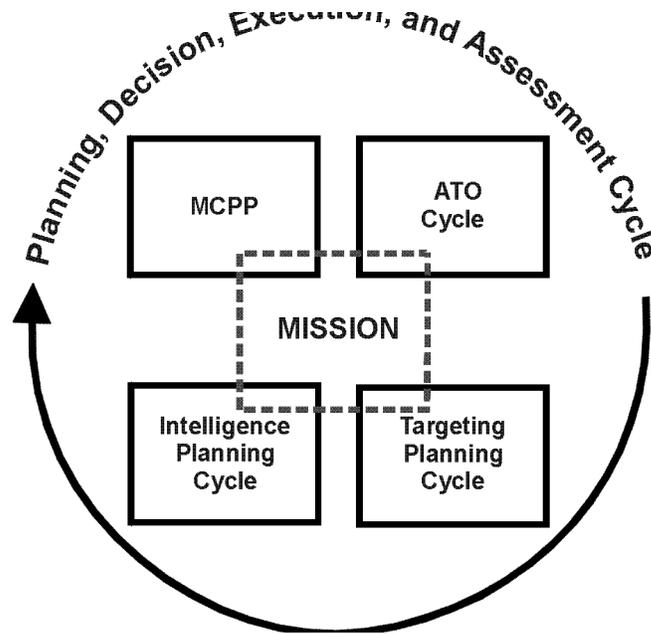


Figure 4-1. PDE&A Cycle.

Aviation planning within the MAGTF is a continuous process that takes into account the current situation, previous actions, and future requirements. The ACE is actively involved in the air planning process at three levels: the aviation combat element, the MAGTF command element, and the joint force headquarters.

At the aviation combat element level, ACE planners initiate the planning process to develop requisite operations orders upon receipt of mission tasking by the MAGTF. During each day of the operation, the ACE is involved in evaluating yesterday's air tasking order, executing today's ATO, developing tomorrow's ATO, and planning the day after tomorrow's air tasking order.

At the MAGTF command element level, the ACE provides assistance to the MAGTF G-3 air section by completing necessary aviation planning actions. The G-3 air officer and his staff interface between the MAGTF commander and the ACE battlestaff at the TACC. They provide the MAGTF commander with aviation expertise at the command level. The presence and assistance of the G-3 air officer allows the MAGTF commander to develop his plans with a thorough understanding of aviation capabilities and limitations. The staff functions of the G-3 air officer and his staff do not circumvent the command relationship between the MAGTF commander and the ACE commander nor do they replace or duplicate the functions of the TACC.

At the joint or multinational headquarters level, the ACE planners must coordinate and deconflict MAGTF air operations with the other air capable components of the joint force. The ACE's planning effort is kept on track by a common understanding of the mission and the commander's intent (part of every mission) two levels above, and through liaison among the ACE staff, the MAGTF staff, and Marine liaison officers at the joint air operations center.

Aviation planning is not the exclusive domain of the MAGTF and ACE commanders. The ground combat element (GCE) and the combat service support element (CSSE) provide vital input into the aviation planning process. As GCE and CSSE commanders conduct their own planning, they address aviation requirements and submit requests for aviation support to the MAGTF commander, who considers them for inclusion in the ACE operations or frag order.

CONCEPT FOR PLANNING

The ACE staff's operational planning begins upon receipt of the mission (warning order) from the MAGTF commander. The ACE

commander will analyze the mission and issue initial planning guidance to start the planning process. The air operations planning process is characterized by long- and near-term planning efforts.

Long-Term Planning

This portion of the planning phase is predominantly conducted by the TACC's future plans. Future plans concentrates on aviation operations that will occur beyond the next ACE mission change, looking at macro-level air operations planning, based on the MAGTF and ACE commanders' initial planning guidance and stated objectives. Future plans develops the initial plan and estimates for MAGTF air operations in support of the assigned mission and creates the ACE support plan. The ACE support plan is transitioned to the operational planning team for OPORD or FRAGO detailed preparation. The TACC's future ops forms the nucleus of the operational planning team (figure 4-2).

Near-Term Planning

Near-term planning is conducted by TACC's future ops. Future ops is responsible for developing air operations plans until the next ACE mission change, based on guidance received from the ACE commander. This plan is structured to follow the framework of the long-term plan previously developed by the TACC's future plans. Future ops takes the ACE support plan, developed by future plans, and forms an operational planning team (directed by the future ops orders development officer) to develop ACE OPORDs or FRAGOs and conduct current planning for aviation events that occur beyond the ATO being planned but short of the next FRAGO being developed. Future ops also develops an apportionment recommendation for the ACE commander. The ACE commander either concurs with the recommendation or modifies it and presents an apportionment recommendation to the MAGTF commander.

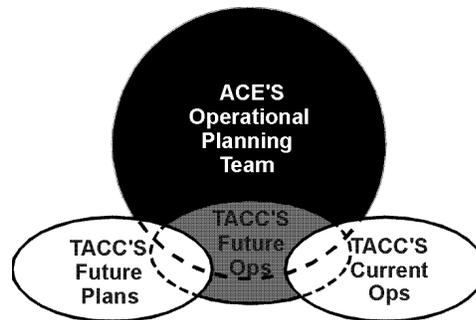


Figure 4-2. Ace Operational Planning Team.

The MAGTF commander then makes an apportionment decision by approving or modifying the ACE commander's recommendation. Future ops takes the apportionment decision, collects input from supported units within the MAGTF, and integrates preplanned requests for support (e.g., joint tactical air strike requests and assault support requests) into the air tasking order. ATO construction and dissemination culminate the near-term planning efforts.

THE MARINE CORPS PLANNING PROCESS

The operational planning continuum starts for the ACE upon receipt of a mission or mission change from higher headquarters. It parallels the MAGTF planning process (see fig. 4-3, page 4-6). The ACE is key in the development of the MAGTF OPORD or FRAGO so it follows the same MCPP procedures as the MAGTF in its initial OPLAN development.

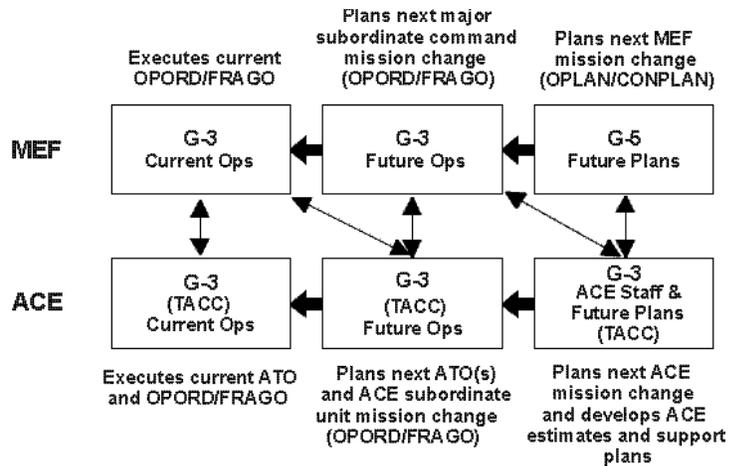


Figure 4-3. MEF/ACE Planning Interaction.

MAGTF planning is accomplished by the G-5 and G-3 planning teams. ACE planning is done by the ACE staff under the cognizance of the ACE G-3 and the TACC's future ops and future plans. The MAGTF G-5 future plans focuses on new missions for the force. The ACE staff coordinates with the MAGTF G-5 to receive input regarding ACE support for new MAGTF missions or mission changes. The TACC's future plans will take this input and produce ACE estimates of supportability and support plans for the mission change. The MAGTF G-3 future operations focuses on producing new frag orders to support changes to the mission for major subordinate commands and leads the integrated planning effort. The TACC's future ops coordinates with the MAGTF G-3 future operations to receive input for development of the ACE OPORD or FRAGO. The MAGTF G-3 current ops executes the plan and assesses its effectiveness. The TACC's current ops will coordinate with the MAGTF G-3 current ops to receive input regarding immediate requests requiring alteration of the current ATO. The TACC's

future ops will also coordinate with the MAGTF G-3 current ops to receive requirements that need to be sourced in the next ATO. Operational planning is a continuous process from the receipt of a mission to termination of the operation. It requires extensive coordination between the ACE and MAGTF planning staffs.

MAGTF operations are planned using the six-step Marine Corps planning process. The Marine Corps planning process (see fig. 4-4) provides a logical and orderly method to plan operations. Each successive step in the process is linked. The output from one step becomes the input for the next. The Marine Corps planning process

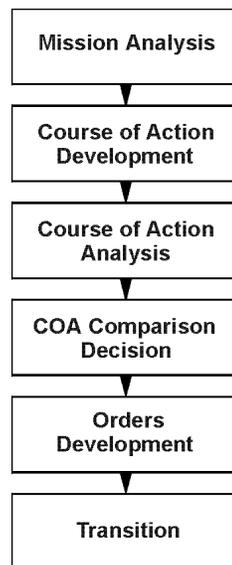


Figure 4-4. Marine Corps Planning Process.

breaks the total planning process into more manageable portions for the commander and his staff. The three tenets which guide the Marine Corps planning process are—

- 1 Top down guidance. Top down guidance provides common direction to ensure unity of effort.
- 1 The single battle concept. The single battle concept focuses the efforts of all MAGTF elements to accomplish the mission.
- 1 Integrated planning. Integrated planning uses the six warfighting functions (i.e., maneuver, intelligence, fires, logistics, command and control, and force protection) as the foundation for plan development.

AVIATION PLANNING PRODUCTS

As the MAGTF begins detailed planning for the operation, the ACE task-organizes to provide and establish aviation support and command and control on order. Throughout the MCPP, ACE planners fulfill MAGTF planning requirements by creating specific aviation planning products (i.e., initial estimate of aviation support requirements, aviation estimate of supportability, detailed estimate of aviation support requirements, aviation concept of operations, and aviation documents). These aviation planning products are provided by the ACE to the MAGTF commander to support the MAGTF OPT's planning effort. Figure 4-5 depicts where, in the MAGTF's planning effort, specific aviation planning products are required as well as the TACC staff responsible for their development.

Initial Estimate of Aviation Requirements

The TACC's future plans prepares an initial estimate of aviation requirements as soon as preliminary information about the assigned mission or operation is available. The initial estimate is presented to

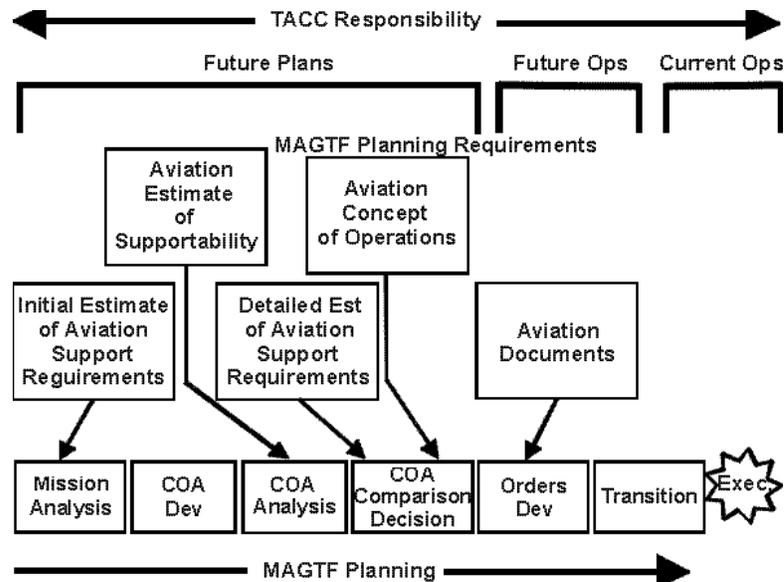


Figure 4-5. Aviation Planning Products.

the MAGTF commander during the MAGTF OPT’s mission analysis step. The estimate may include only the number and type of aircraft and command and control agencies required. The initial estimate is deduced from the ACE estimates of enemy aviation capabilities and the general mission of the MAGTF.

Aviation Estimate of Supportability

The TACC’s future plans completes a supportability estimate which summarizes significant aviation related aspects of the situation as they might influence any courses of action proposed and evaluates how aviation assets can be best employed to support these courses of action. The aviation estimate of supportability is provided to the MAGTF commander prior to the MAGTF OPT’s course of action

comparison and decision step. At a minimum, the aviation estimate of supportability—

- | Provides the course(s) of action that can best be supported by the ACE.
- | Outlines advantages and disadvantages of possible courses of action.
- | Identifies significant aviation limitations and/or problems of an operational or logistical nature.
- | Highlights measures that can be taken to resolve existing aviation problems including requesting additional theater assets.

Detailed Estimate of Aviation Support Requirements

Detailed planning of ACE requirements commences after the MAGTF commander issues the concept of operations. The TACC's future plans constructs the detailed estimate of aviation support requirements. This estimate identifies the number and type of aircraft and the command and control facilities required to support the MAGTF concept of operations. The detailed estimate of aviation support requirements is provided to the MAGTF commander following the MAGTF OPT's comparison and decision step. It will include the—

- | Number of aviation and command and control assets required by type.
- | Quantity of fuel necessary to support the aviation element.
- | Quantity of ordnance required by type.
- | Quantity of organic and external special equipment required by type (e.g., materials handling equipment, slings, winches).

Aviation Concept of Operations

The aviation concept of operations summarizes the support that assigned aviation and aviation support units will provide to execute the Marine air-ground task force's concept of operations. An aviation combat element task organization is completed, which includes all aviation support units needed for the units specified in the detailed estimate of aviation support requirements. The aviation concept of operations is incorporated into the air operations annex of the operations order. The aviation concept of operations is general in nature and provides an overall picture of how Marine aviation operations are to be executed. It should answer the following questions:

- | Which units are involved?
- | What are they required to do?
- | When will they do it?
- | Where will they do it?
- | Why is it being done?
- | How is it going to be done?

Preparing Aviation Documents

The TACC's future ops prepares the required aviation documents for the operation during orders development. Preparing aviation documents varies with the nature and complexity of the operation and can include ALLOREQs or AIRSUPREQs.

ATO CYCLE

The ATO cycle is an integral part of the MAGTF planning process. It provides a concept of aviation operations for a 24-hour period. By using and completing the cycle, planners can ensure that finite aviation assets are used to achieve their maximum effect with correct prioritization based on the main effort. The precise ATO tasking timeline from commander's guidance to the start of ATO execution is specified by the joint force commander but normally spans a 36- to 72-hour period. The MAGTF air tasking cycle is divided into four phases: apportionment or allocation, allotment, tasking, and scheduling. Refer to FMFM 5-70 for more information concerning the MAGTF air tasking cycle.

For operations that involve joint or combined forces, the six-step joint air tasking cycle is used to plan joint air missions. It begins with the JFC's air apportionment process and culminates with the combat assessment of previous missions. In joint operations, the MAGTF will conform to the joint air tasking cycle. The MAGTF and joint air tasking cycles are depicted in figures 4-6 and 4-7 (on page 4-14).

There are at least four air tasking orders at any time: the ATO(s) undergoing assessment (yesterday's), the ATO in execution (today's), the ATO in production (tomorrow's), and the ATO in planning (the day after tomorrow's).

TARGET PLANNING CYCLE

Once the MAGTF promulgates the commander's guidance and intent, the major subordinate commands submit their prioritized requirements for aviation support. The MAGTF validates and prioritizes all aviation requests and forwards this tasking to the ACE for

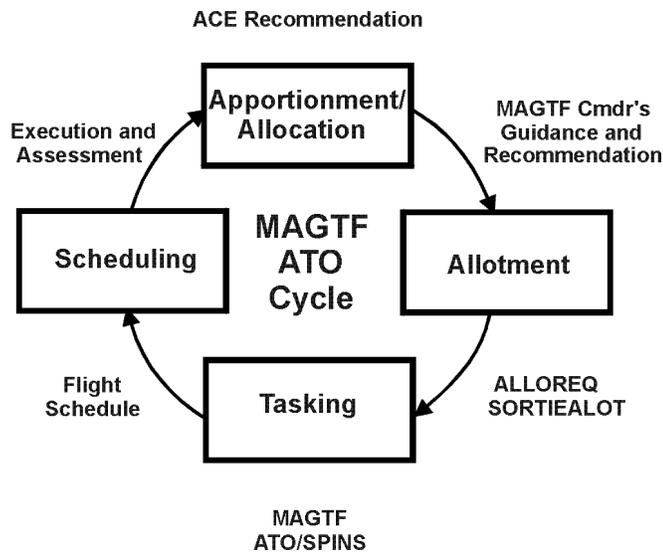


Figure 4-6. MAGTF Air Tasking Order Cycle.

analysis. The product of this assessment is an apportionment recommendation, which is the determination and assignment of the total expected effort by percentage and/or priority that will be diverted to the various air operations and/or geographic areas for a given period of time.

While awaiting the approved apportionment, the ATO planning cell in future ops determines the number of sorties available based on asset location, availability, crew cycles, aircraft capabilities, etc. These assets, in the form of sorties, are flown out, by unit, across the ATO day. If other factors on the day of execution supersede the planned flow (e.g., weather, paucity of targets), the planned sorties would stand alert for the duration of their planned mission time.

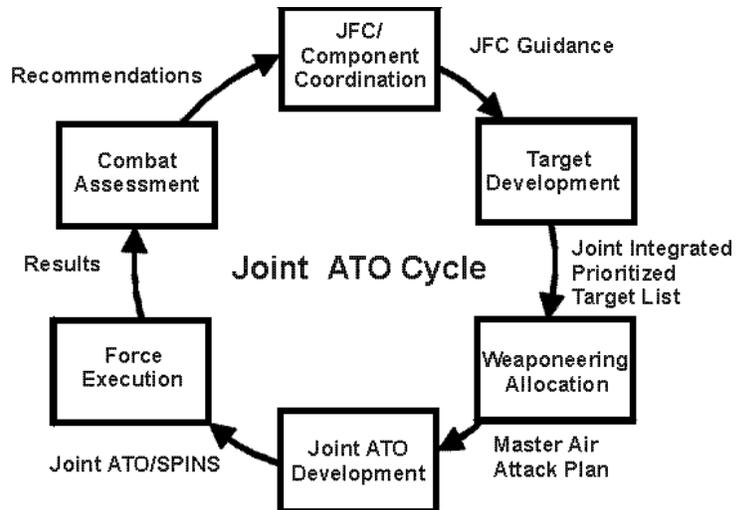


Figure 4-7. Joint Air Tasking Order Cycle.

Once the apportionment is approved, the ATO development officer in future ops prepares an air allocation request that lists, by mission type, the projected use of ACE sorties. Depending on the theater joint force air component commander, requests for joint sorties may be requested either concurrently as a subparagraph on the ALLOREQ or submitted separately in air support request format. The joint force air component commander will subsequently release a SORTIEALOT message that approves or alters the ALLOREQ to meet the joint force commander's intent. The ALLOREQ and AIR-SUPREQ are MAGTF products typically prepared and submitted on behalf of the MAGTF commander by the TACC's future ops.

Combat assessment is conducted in the ATO planning cell of future ops as a precursor to the weaponeering board. The weaponeering board should consist of the—

- | Deputy G-3.
- | Aviation logistics division representative.
- | Future ops ground watch officer.
- | Orders development representative.
- | Support planners.
- | Future plans representative.
- | Airspace and air defense planners.
- | Strike planners.
- | Future ops intelligence watch officer.
- | Future ops officer.

Combat assessment is a combination of battle damage assessment, as analyzed by the G-2/BDA cell and presented to the intelligence watch officer, and munitions effectiveness assessment, as analyzed by the weaponeering board based on input from the flying units. The output of this collaborative assessment is a potential reattack recommendation or internal (ACE) alteration of tactics, aircraft configuration, etc., to elevate weapons systems' lethality and asset survivability. The nominations for reattack are forwarded to the MAGTF for approval and incorporation into the master air attack plan (MAAP). The MAGTF develops the MAAP, which will outline in tabular form, the targets, precedence, effect, and system (weapon) to attack target.

The ATO planning cell in future ops extracts the aviation-specific targets from the MAGTF MAAP and, coupled with the approved and prioritized target reattack nominations, conducts weaponeering

and force application analysis to give detail to the flow plan. Once the ACE assets are expended against the aviation directed targets, a certain number of targets may be left unsourced.

Unsourced targets may, if approved by the MAGTF commander, be forwarded up to the joint force level for common sourcing. If those targets remain unsourced at the joint level, the MAGTF will determine if the targets warrant a change on the day of execution (e.g., reflow and included as secondary targets against sourced targets or pulled and included as updated targets as part of the ATO update process supported by the ACI target validation section) or are renominated and included on subsequent ATOs.

The outputs of the ATO planning process are the paper products (e.g., target planning worksheets, SPINS inputs, unit remarks, execution checklists, frequency changes, check-in procedures) that are passed through the ATO development officer to the ATO production cell in future ops, where the plan is entered into the electronic planning medium (i.e., CTAPS). A rough draft is passed back through to the ATO development officer for conversion and ultimate transmission to the theater level to merge into the joint ATO.

INTELLIGENCE PLANNING CYCLE

Preliminary Intelligence Estimate

The preliminary intelligence estimate furnishes the commander with the intelligence data necessary to formulate basic decisions and assist in developing planning guidance. Aviation intelligence preparation of the battlespace (IPB) is useful throughout the planning process. IPB can graphically depict threat—

- | Radar horizons and optimal mission engagement ranges for ground-based air defenses.
- | Aircraft combat radii at different configurations.
- | Tactical air-to-surface missile (TASM) ranges, optimal launch points, time and distance factors.
- | Vital areas and their associated missile engagement zones and fighter engagement zones.
- | Terrain masking for routing helicopterborne forces.
- | Gaps in integrated air defense system radar.
- | Weather graphics to depict optimal altitudes for flight operations.

IPB can graphically display friendly C2 measures, location of high value airborne assets (HVAAAs), weather, etc., relative to the threat.

Intelligence Estimate

Intelligence gathering against enemy forces is a continuous process that begins immediately after receipt of the initiating directive and continues throughout the operation. The intelligence estimate addresses characteristics of terrain in the area of operations; general strength, disposition, and composition of enemy forces; anticipated weather and conditions for the operational timeframe; locations of civilian population concentrations; and places having specific law of war restrictions. This estimate should also address—

- 1 Intelligence requirements.
- 1 Preparation of collection plans.
- 1 Processing and dissemination techniques.
- 1 Collection of information.
- 1 Dissemination of updated information.

To maximize effectiveness, intelligence estimates, and threat analyses must be prepared with respect to friendly force capabilities and intentions and should emphasize how the threat will impact the ACE mission.

OTHER PLANNING CONSIDERATIONS

The following planning considerations are embedded in the aviation PDE&A cycle.

Aviation Command, Control, and Communications Planning

The ACE is supported by the Marine air command and control system for the command and control of ACE assets. The ACE G-3 and

G-6 sections, in conjunction with the Marine air control group S-3/S-6 and subordinate S-3/S-6 sections, prepare a communications estimate of supportability based on the proposed courses of action. The G-6 section coordinates communication requirements with the MAGTF G-6 including frequency requirements, data links, and communications security. Appendix C provides the current voice and data communications nets used by the TACC. The ACE G-3 and the TACC battlestaff develop the air control plan which includes airspace control measures (e.g., control points, handover points, return to force procedures), air defense control measures (e.g., combat air patrol positions, destruction areas), asset allocation, and establishment of priorities of effort to support the concept of operations.

Assault Support Planning

Preliminary assault support estimates are based on the MAGTF commander's guidance and intended concept of operations. Missions and tasks assigned to assault support aircraft include combat assault transport, air delivery, aerial refueling, air evacuation, TRAP, air logistical support, and battlefield illumination.

Antiair Warfare Planning

Some degree of local air superiority is usually established in the area of operations to permit the conduct of operations at a given time and place without prohibitive interference by the enemy force. The ACE tasks organic assets and coordinates outside requirements to provide antiair coverage for the MAGTF. Successful accomplishment of antiair warfare requires that the complete capabilities of the MAGTF be merged into an integrated air defense system. This system must be capable of operating independently or as an integral part of the overall amphibious or joint task force antiair warfare

system. Anti-air warfare includes air surveillance, control, and weapons employment. It also includes offensive anti-air warfare (OAAW). An extensive intelligence preparation of the battlespace is required to assist the commander to plan for viable OAAW targets. Refer to FMFM 5-50, *Anti-air Warfare*, for a detailed discussion of anti-air warfare.

Offensive Air Support Planning

The MAGTF's inherent combat power is enhanced through the application of combined arms. The MAGTF integrates aviation assets with organic fire support assets to effectively support the scheme of maneuver. The MAGTF commander uses offensive air support throughout the operational spectrum to assist in attaining objectives. The firepower, mobility, and flexibility provided by offensive air support are critical to establish favorable conditions for close, deep, and rear operations.

Air Reconnaissance Planning

Timely reconnaissance is required for intelligence updates, initial mission planning, and follow-on damage assessments. In addition to manned aircraft, the MAGTF controls unmanned aerial vehicle assets which must be integrated and deconflicted within the air-space control plan. Air reconnaissance does not conduct targeting but provides target acquisition and collects information used in the targeting process.

Information Warfare Planning

Information warfare (IW) consists of actions taken to achieve information superiority by affecting information-based processes, adversary information, information systems, and computer-based

networks while defending one's information, information-based processes, information systems, and computer-based networks. IW capitalizes on the growing sophistication, connectivity, and reliance on information technology. The ultimate target of IW is the information-dependent process, whether human or automated. Intelligence and communications support are critical to conducting offensive and defensive IW. IW supports the national military strategy but requires support, coordination, and participation by other United States Government departments and agencies, as well as commercial industry.

IW, as a responsibility of the ACE, falls under the purview of the ACE G-3 and covers all endeavors of the ACE. The ACE G-3 must formulate and execute a plan that uses the assets available from other areas of the ACE staff. This plan must use all of the appropriate intelligence assets available to the ACE G-2 in the ACI, the technical expertise resident within the ACE G-6 and the Marine wing communications squadron, and the technical expertise available within the MTACS. This plan should be flexible, understandable, useable, and cover defensive and offensive aspects of IW. Command and control warfare is an application of information warfare in military operations and employs various techniques and technologies to attack or protect a specific target set: C2.

Command and Control Warfare Planning

Command and control warfare (C2W) is the integrated use of operational security, military deception, psychological operations, electronic warfare, 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. C2W accomplishes this partly by controlling the electromagnetic spectrum and includes such tasks as disrupting a weapon's targeting

capabilities, denying or exploiting enemy communications, receiving electronic indications of imminent enemy action, and deceiving an enemy intelligence collection effort. The planning of command and control warfare operations should be integrated with planning of the force's overall operations for electronic warfare elements to make the greatest contribution to the MAGTF effort. Refer to Joint Pub 3-13.1, *Joint Doctrine for Command and Control Warfare (C2W)*, for a detailed discussion of command and control warfare.