***ATP 3-91.1**
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THE JOINT AIR GROUND INTEGRATION CENTER

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Maxwell Air Force Base, Alabama

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The Joint Air Ground Integration Center

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Preface

Army Techniques Publication (ATP) 3-91.1/Air Force Tactics, Techniques, and Procedures (AFTTP) 3-2.86, *The Joint Air Ground Integration Center*, provides division commanders, staff officers, air support operations center, division tactical control party, and airspace element personnel with tactics and techniques to enhance the synchronization of joint fires and air operations in airspace delegated to the ground commander's control. Using the theater air-ground system and the operations process, this publication addresses roles and responsibilities, by echelon, of Army and Air Force elements in the execution of joint fires and airspace control.

The principal audience for ATP 3-91.1/AFTTP 3-2.86 is commanders, leaders, staffs, airspace elements, air traffic controllers, air support operations centers (ASOC), and airspace users throughout the Army air-ground system (AAGS) and Air Force theater air control system (TACS) with responsibilities for joint fires and airspace control from tactical to operational levels. Trainers and educators throughout the Army and Air Force will also use this publication.

Commanders, staffs, and subordinates ensure decisions and actions comply with applicable United States, international, and, in some cases, host-nation laws and regulations. Commanders at all levels ensure Soldiers and Airmen operate in accordance with the law of war (armed conflict) and the rules of engagement. (See FM 27-10 and Air Force Doctrine Volume 1.)

ATP 3-91.1/AFTTP 3-2.86 recognizes and implements the standardization agreement entitled Allied Joint Publication (AJP)-3.3.5, *Allied Joint Doctrine for Airspace Control*, Edition B, Version 1, May 2013.

ATP 3-91.1/AFTTP 3-2.86 uses joint terms where applicable. Selected joint, Army, and Air Force terms and definitions appear in both the glossary and the text. For definitions shown in the text, the term is italicized and the number of the proponent publication follows the definition.

ATP 3-91.1/AFTTP 3-2.86 is a multi-Service Army and Air Force publication. Unless otherwise stated, this publication applies to the Active Army, the Active Air Force, the Army National Guard/Air National Guard of the United States, and the Reserve forces of both Services.

The United States Army Combined Arms Center and the United States Air Force Air Combat Command are the proponents for this publication. The preparing agencies are the Airspace Control Proponent Office, Force Modernization Proponent Center, Arms Doctrine Directorate, United States Army Combined Arms Center and the United States Air Force Lemay Center for Doctrine Development. Send comments and recommendations on a DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, United States Army Combined Arms Center, Fort Leavenworth, ATTN: ATZL-MCD (ATP 3-91.1/AFTTP 3-2.86), 300 McPherson Avenue, Fort Leavenworth, KS 66027-1300; by e-mail to usarmy.leavenworth.mccoe.mbx.cadd-org-mailbox@mail.mil; or submit an electronic DA Form 2028, or to Commander, Curtis E. LeMay Center for Doctrine Development and Education, ATTN: DDJ, 401 Chennault Circle, Maxwell AFB AL 36112-6004; by e-mail to lemayctr.ddj.workflow@maxwell.af.mil

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Introduction

ATP 3-91.1/AFTTP 3-2.86 reflects lessons learned during warfighter exercises (WFX) designed to train large-scale combat operations against peer and near-peer threats. To comprehend the concepts contained in ATP 3-91.1/AFTTP 3-2.86, readers must understand how the Army conducts operations and fires as described in FM 3-0, FM 3-52, FM 3-09, ADRP 3-0, ADRP 5-0, and ADRP 6-0, doctrine for joint airspace control as described in JP 3-52, JP 3-30, and JP 3-03, and the doctrine for joint fires in JP 3-09. Furthermore, the reader must understand how Army forces operate as part of a larger national or international effort characterized as unified action.

During the 2009 Army and Air Force Warfighter Talks, the Chief of Staff of the Army and Chief of Staff of the Air Force agreed upon the definition of the joint air-ground integration center (JAGIC) as a modular and scalable center designed to fully integrate and coordinate fires and air operations over and in the division commander's area of operations. The JAGIC co-locates personnel with delegated decision making authorities from the land and air components with the best situational awareness to support the maneuver commander's concept of operations, the joint force air component commander (JFACC) objectives and intent, and the requirements of joint force commander (JFC)-designated authorities which may include the airspace control authority (ACA) and, potentially, the area air defense commander (AADC). The JAGIC collaborates to more effectively execute missions and reduce risk at tactical levels.

Beginning in fiscal year 2011, the United States Air Force began habitually aligning the air support operations center (ASOC) capabilities within their air support operations squadrons (ASOS) with each active duty Army division. 12 ASOCs (one per division and two Air National Guard) will be operational as of the start of fiscal year 2019. Aligning ASOCs provides an effective method to exercise command and control (C2) *in accordance with JP 3-30* of close air support, intelligence, surveillance, reconnaissance, and interdiction operations in direct support of the affected ground commander. JAGIC also provides an effective means to coordinate suppression of enemy air defenses (SEAD) in division-assigned airspace. Integrating the ASOSs' ASOCs and tactical air control parties (TACP) with division fires, airspace, air and missile defense, and aviation personnel and systems gives the division a powerful joint team capable of collaborative fires while maximizing the use of division assigned airspace. The ACA assigns divisions airspace when divisions request it and when division airspace requirements are justified to support the JFC's concept of operation. Divisions must have a command post organized with a JAGIC supported by an ASOC capability. Furthermore, divisions must demonstrate they can control this capability and have established procedures that satisfy theater airspace control plan (ACP) requirements. The ASOC is the critical airspace control capable element of the theater air control system (TACS). It supports a division JAGIC and communicates with other joint airspace elements and airspace users with means that exceed the Army's current capabilities.

The Army-Air Force Liaison Memorandum of Agreement dated March 2011 describes how the Air Force provides "a modular ASOC in direct support to the Army tactical command echelons as the focal point for supporting air operations." Directly subordinate to the air operations center (AOC), the ASOC is responsible for the direction and control of air operations directly supporting ground combat operations." During execution, the capabilities in the JAGIC facilitate responsive joint fires as well as near real-time airspace control for airspace users supporting division operations. Continual collaboration provides the ground commander and the AOC a shared understanding of the environment, resulting in the ability to make informed decisions supporting the JFC. The JAGIC gains its greatest efficiency through co-locating specific air component and land component personnel and systems, allowing rapid decisions and responsive fires while simultaneously reducing the level of risk.

This publication focuses on the employment of a JAGIC at the division level. The JAGIC described in this publication is the basic building block for more complex environments. In more complex operations there may be distributive JAGIC capabilities supporting an underdeveloped division main command post or tactical command posts (TAC). Army and Air Force commanders will task organize forces and modify these tactics, techniques, and procedures as required to accomplish assigned missions.

The three chapters and three appendices of this publication provide techniques to integrate Army and Air Force capabilities in the current operations integration cell (COIC) of Army divisions. This framework provides techniques for effectively organizing personnel, equipment, and expertise already located in the division's COIC for dynamically integrating joint fires, as well as other airspace users, when the division is assigned airspace during execution. The framework allows users to follow the JFC's, the JFACC's and the division commander's intent, priorities, and risk guidance.

Chapter 1

The Joint Air Ground Integration Center Description, Functions, and Organization

This chapter describes the joint air-ground integration center (JAGIC). It also explains the functions and organization of a JAGIC.

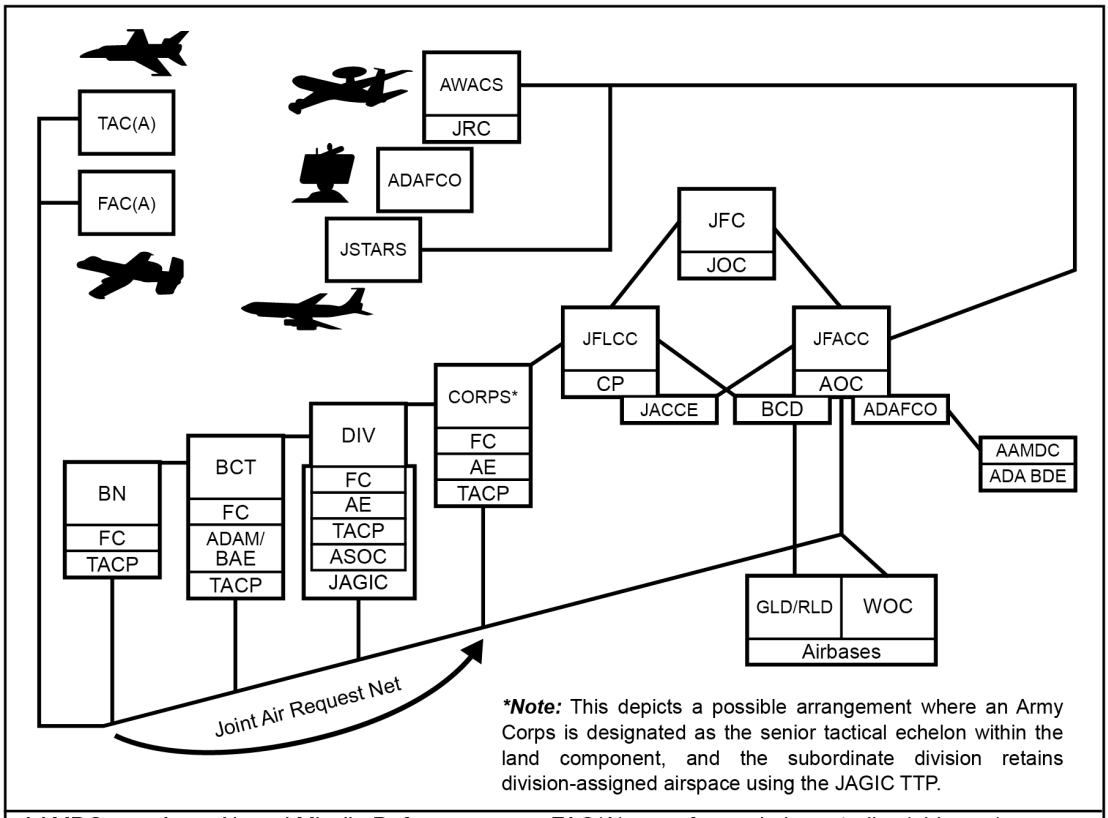
JOINT AIR GROUND INTEGRATION CENTER DESCRIPTION

1-1. Located in the Army division current operations integration cell (COIC), the JAGIC provides commanders a technique to coordinate, integrate, and control operations in division-assigned airspace and efficiently collaborate requirements with external airspace elements outside of the division area.

CONCEPT

1-2. The JAGIC co-locates decision making authorities from the land and air component to support the supported maneuver commander's objectives and intent. The JAGIC facilitates effective mission execution while managing the level of risk. The control and coordination of this center with other centers are depicted in figure 1-1 on page 1-2. In this figure, the corps is the most senior tactical echelon, but the divisions with their JAGICs are still integrators and control division assigned airspace. Separate corps, theater army, or combatant commanders are serving as either the joint task force (JTF) commander or joint force land component commander (JFLCC). In this case, with a corps serving as the senior tactical echelon, expect a control relationship between the corps air liaison officer (ALO) in the corps tactical air control party (TACP) and the divisions' air support operations centers (ASOC) in addition to the control relationship between the air operations center (AOC) and the ASOC.

1-3. For the purposes of this publication, division-assigned airspace is considered a volume of airspace in which the airspace control authority (ACA) has delegated the responsibility for control of that volume to the division, in accordance with the airspace control plan (ACP) and airspace control order (ACO). Division-assigned airspace is typically between the lateral boundaries of the division's area of operations, and up to the coordinating altitude (CA). A *coordinating altitude* is an airspace coordinating measure that uses altitude to separate users and as the transition between different airspace control elements (JP 3-52). This delegation of authorities does not include authorities vested in the area air defense commander (AADC). However, during large-scale combat operations, the JAGIC's air and missile defense (AMD) officer may receive select authorities from the AADC.



AAMDC	Army Air and Missile Defense Command	FAC(A)	forward air controller (airborne)
ADA BDE	Air defense artillery brigade	FC	Fires cell
ADAFCO	Air defense artillery fire control operations	GLD	ground liaison detachment
ADAM/BAE	Air defense airspace management/ brigade aviation element	JACCE	joint air component coordination element
AE	Airspace element	JAGIC	joint air/ground integration center
AOC	air operations center	JCR	joint capabilities release
ASOC	air support operations center	JFACC	joint force air component commander
AWACS	airborne warning and control system	JFC	joint force commander
BCD	battlefield coordination detachment	JFLCC	joint force land component commander
BCT	brigade combat team	JOC	joint operations center
BN	battalion	JSTARS	Joint Surveillance Target Attack Radar System
CAS	close air support	RLD	reconnaissance liaison detachment
CP	command post	TAC(A)	tactical air coordinator (airborne)
DIV	division	TACP	Tactical air control party
		TTP	tactics, techniques, and procedures
		WOC	Wing operations center

Figure 1-1. TACS/AAGS

DESIGN

1-4. The JAGIC is designed to support and enable division-level current operations through the rapid execution and clearance of joint fires and airspace deconfliction. It is a modular and scalable center designed to integrate and synchronize fires and airspace control in the division area of operations in accordance with guidance received from the division commander and the supporting air component commander and ACA. The ASOC is a decentralized execution element from the supporting air component, and controls joint air assets. The ASOC may be delegated airspace control responsibilities by the ACA. It is physically in the division COIC, and due to its size, is located in the division main command post; although distributive JAGIC capabilities can move to the division tactical command post (TAC) when the main is conducting command post displacement or the COIC has moved to the TAC for a select mission.

METHODS

1-5. The JAGIC is a method to effectively organize personnel and equipment to build personal relationships and teamwork between Soldiers and Airmen. This is facilitated through the physical integration of selected division current operations staff members with Air Force TACP and ASOC personnel.

Note. An ASOC assigned to the division does not eliminate the requirement for a division TACP. The TACP focuses more on advising ground commanders on the capabilities and limitations of air operations, planning, and controlling close air support (CAS).

The air support operations squadron's (ASOS) ASOC capability is the primary Air Force control agency of the theater air control system (TACS) for execution of joint airpower in direct support of Army and, or joint force land component operations. As a direct subordinate element of the joint air operations center (JAOC), the ASOC is responsible for the direction and control of air operations in its assigned area (normally short of the fire support coordination line [FSCL]). The JAGIC does not create any additional manning requirements, yet it offers a technique to organize complementary and reinforcing functions resident in the ASOC, TACP, and division COIC. This technique best achieves successful and efficient air-ground operations. The Air Force contributions to the JAGIC are a blend of Air Force command and control (C2) capabilities and personnel from the ASOC and division TACP.

1-6. The Army contributes selected current operations personnel representing Army fires, AMD, aviation, and airspace elements. The division chief of fires has oversight of fire support personnel in the JAGIC. If serving as the deputy fire support coordinator (DFSCOORD), the division chief of fires is also responsible for the allocation of fires assets, the development of the scheme of fires, and the refinement of target selection standards. Due to these conflicting responsibilities, the (DFSCOORD) is rarely the senior Army officer in the JAGIC. The fires support officer (FSO), formerly known as an assistant fire support coordinator, leads fires coordination, synchronization, and employment responsibilities integrated with air operations. *There are several FSOs but for the remainder of this document the FSO selected to perform as the JAGIC chief will be referred to as "the JAGIC chief."* There may be times when the authority and responsibilities of the JAGIC chief will be delegated to another Army officer in the JAGIC. Ultimately, the selection of a JAGIC chief is the shared responsibility of the commander, chief of staff, and assistant chief of staff, operations (G-3).

1-7. The Commander, Air Force Forces (COMAFFOR) has operational control (OPCON) of the expeditionary air support operations group (EASOG), under which the ASOC, TACP, and TACS C2 elements are aligned. The EASOG is normally aligned with the corps, and its members form the corps' TACP or Joint Air Component Coordination Element (JACCE) when the corps is a joint force or component headquarters. The division ALO, under the command of the EASOG commander, is the COMAFFOR's primary advisor to the division commander on air operations and commands all the Air Force JAGIC members in direct support to the division. At times, the division ALO may also be the senior air director (SAD), however, this is not recommended, as serving in the JAGIC distracts the division air liaison officer from his other staff responsibilities. The SAD, a senior officer within the ASOC, when seated at the JAGIC, is considered the most senior Airman in the COIC and is the focal point for air operations support on the current air tasking order in the division-assigned airspace. The joint force air component commander (JFACC) has tactical control of the ASOC and TACP, which is exercised through the JAOC. This command relationship enables Air Force TACS elements to request and control JFACC-allocated missions and integrate them with other elements of the TACS.

1-8. The expeditionary air support operations squadron (EASOS) provides the manning for the division ASOC and division TACP elements. The EASOS is primarily sourced by the air support operations squadron (ASOS) that resides in garrison with the division. The EASOS commander is the division ALO. The EASOS provides several key air component command functions: planning and liaising through the TACP; executing direct air-to-ground missions for the COMAFFOR or JFACC, *in accordance with ground commander's priorities*, via the JAGIC and joint terminal attack controllers (JTAC); and commanding and overseeing of Airmen via the EASOS command systems. These three functions complement, support, and enable the JAGIC.

1-9. The March 2011 Army-Air Force liaison memorandum of agreement states that a modular ASOC in direct support to the Army senior tactical command echelons is the focal point for supporting air operations. As a direct subordinate of the JAOC, the ASOC is responsible for the direction and control of air operations directly supporting the ground forces. Important to note, ASOC personnel are trained to procedurally control joint fires and airspace users from a division's rear boundary to the FSCL. Assigning an ASOC to a tactical echelon primarily concerned with targets beyond the FSCL, such as a tactical corps command post, is outside the scope of an ASOC's capabilities and has the potential to overwhelm a JAGIC. For corps conducting shaping operations beyond the FSCL, recommend a corps TACP that is designed to pair with the corps command post, detect targets, and execute fires beyond the FSCL.

1-10. As delegated by the division commander, the division's chief of current operations or the assistant chief of staff, operations (G-3) retains final authority on prioritization and use of limited joint fires resources and implementation of division airspace control.

JOINT AIR GROUND INTEGRATION CENTER FUNCTIONS

1-11. Specific functions of the JAGIC include control of joint fires, airspace control, interdiction coordination, friendly force identification, and information collection. These functions are described in paragraphs 1-12 through 1-16. All JAGIC functions are in support of current operations. As part of the COIC, the JAGIC is not resourced to conduct planning. The division fires support element (FSE) plans and conducts specific fires planning functions, not the JAGIC. However, Soldiers working in the JAGIC may sometimes be required to assist with planning and preparation tasks in addition to JAGIC responsibilities. This is especially true during the shaping and preventing operations which precede large-scale combat operations and may not involve division assigned airspace.

Note. For defining the JAGIC, the U.S. Army and Air Force developed and agreed upon these five functions. Although similar, these functions should not be confused with the four main types of JAGIC operations (fires, CAS, [air interdiction] AI, and airspace control) described in chapter 2.

FIRES

1-12. The fires function integrates division fires with other complementary and reinforcing functions for achieving air-ground operations. In the JAGIC, FSE personnel respond to requests for joint fires by coordinating with air and ground forces to deliver joint fires in a timely manner. If given authority, the JAGIC integrates division-level Army tactical AMD systems in accordance with the area air defense plan (AADP), enabling direct coordination with the regional air defense commander (RADC) and, or sector air defense commander (SADC). Division AMD personnel are responsible for establishing, integrating, and maintaining necessary AMD voice and data communications network architecture as defined in ATP 3-01.50, and the individual systems' technical manuals.

AIRSPACE CONTROL

1-13. The JAGIC enables the execution and assessment of airspace control in accordance with the ACP, ACO, and unit airspace plan. The JAGIC improves the effectiveness of airspace control by co-locating division and ASOC airspace personnel, aviation liaisons, and unmanned aircraft systems (UAS) liaisons to enable shared understanding and collaborative integration of airspace users. In short, any mission command or C2 element controlling assets in division assigned airspace needs a liaison in the JAGIC. This allows the division to respond effectively during operations with appropriate, flexible, and timely actions.

INTERDICTION COORDINATION

1-14. The JAGIC normally coordinates attacks on emerging high-payoff targets short of the FSCL, and beyond the FSCL when delegated the proper authorities and in coordination with other affected commanders and components. Additionally, the JAGIC provides the JAOC with updates of ongoing and future interdiction operations. *Interdiction* is an action to divert, disrupt, delay, or destroy the enemy's military surface capability before it can be used effectively against friendly forces, or to otherwise achieve objectives

(JP 3-03). Integration includes but is not limited to AI, strike coordination and reconnaissance operations, and artillery interdiction, all within the division commander's area of operations. *Strike coordination and reconnaissance* is a mission flown for the purpose of detecting targets and coordinating or performing attack or reconnaissance on those targets (JP 3-03).

FRIENDLY FORCE IDENTIFICATION

1-15. The JAGIC closely integrates Soldiers, Airmen, and identification sources. This increases situational awareness and results in enhanced friendly force identification. While the COIC is primarily responsible for maintaining situational awareness of maneuver forces and updating the common operational picture (COP), the JAGIC friendly force identification systems can assist the COIC with validation.

INFORMATION COLLECTION

1-16. As the division's airspace control element in the COIC, the JAGIC coordinates airspace for division airborne assets conducting information collection and target acquisition, and may coordinate airspace for joint airborne information collection assets operating in and above the division's area of operations. The JAGIC is a potential source of battle damage assessment (BDA) to the division's assistant chief of staff, intelligence (G-2) collection and assessment effort.

JOINT AIR GROUND INTEGRATION CENTER ORGANIZATION

1-17. The JAGIC is tailorable and scalable to oversee the execution of fires and airspace control in all phases and types of operations when the division has been assigned airspace for the current operations fight. Each division can tailor its JAGIC to suit particular missions. Although any group employing fires or using division airspace may coordinate with the JAGIC, it is primarily manned with Army and Air Force personnel.

1-18. Army fires personnel in the JAGIC control all aspects of the coordination, synchronization, and employment of fires in support of the division's current operations. This includes attack guidance matrix updates, fire mission tasking, fire mission monitoring, and target mensuration and collateral damage estimation when required. *Mensuration* is the process of measurement of a feature or location on the earth to determine an absolute latitude, longitude, and elevation (JP 3-09). Army fires personnel also develop and coordinate fire support coordination measures (FSCMs) that fires personnel in the division command post's planning sections have not already developed but require immediate development or revision to support maneuver. Furthermore, fires personnel in the JAGIC coordinate with the aviation and Army UAS LNOs to ensure aviation maneuver, intelligence efforts, and fires are mutually supporting. As stated in paragraph 1-9, the JAGIC is part of the COIC and not responsible for planning, however, select JAGIC personnel, in their roles as fires cell and airspace control cell members, may be involved in planning prior to execution. Once execution begins, JAGIC personnel do not leave stations to attend planning meetings since the execution of fires requires current situational awareness. Specific fires personnel in the JAGIC and their duties are listed in paragraphs 1-20 through 1-31.

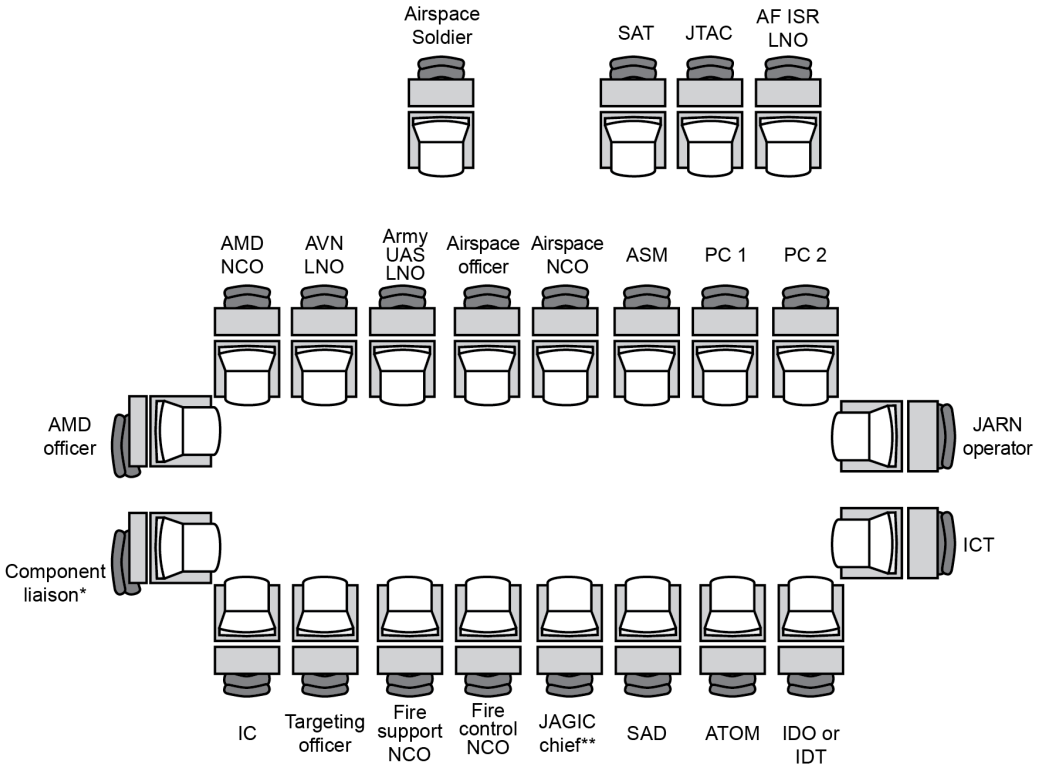
1-19. Air Force personnel in the JAGIC control all aspects of the coordination, synchronization, and employment of JFACC theater air assets operating in division-assigned airspace. In addition, they can process immediate joint tactical air strike requests (JTAR) and coordinate directly with the JAOC and other TACS elements. Specific ASOC and TACP personnel in the JAGIC and their duties are listed in paragraphs 1-41 through 1-56.

JOINT AIR GROUND INTEGRATION CENTER SEATING ARRANGEMENT

1-20. The COIC is the focal point for the execution of operations, and the JAGIC represents an indispensable portion of the COIC, required for its functions in joint fires and airspace control. With the consensus between Army and Air Force participants, the seating chart shown in figure 1-2 has evolved into alternate configurations, i.e. horseshoe or stadium style seating. These seating arrangements are available in various division tactical standard operating procedures (TACSOP) and WFX after action reviews (AAR). None of these alternate configurations, however, has provided rapid information sharing, minimal response times, and shared understanding as well as the base seating arrangement. JAGIC members should keep in

mind that for large-scale combat operations division command posts must experiment with and train alternate configurations to increase mobility and modularity. It is the division commander's prerogative to determine the most efficient allocation of personnel and positioning in the JAGIC. In coordination with the division G-3 or the division's chief of operations, the division ALO, with advice from the SAD, will determine the optimal allocation and positioning of Air Force personnel in the JAGIC, but must keep ASOC personnel integral so they can perform JAGIC functions. The most important aspect of the JAGIC arrangement is that it should enable members to pass information quickly. The communications enhanced through face to face seating promotes trust and increased interaction, resulting in increased shared understanding, greater responsiveness, and risk management. (See figure 1-2 on page 1-7.)

Note. Due to the limited number of air missions, control responsibilities, and systems during contingency operations concurrent with Army warfighter exercises, the ASOC will normally operate with a smaller, tailored, crew that lacks many of the functions and systems of a full ASOC. During large-scale combat operations, however, the ASOC will typically employ a full crew and systems to perform at its full operational capability. The space required for a fully manned JAGIC, as depicted in figure 1-2, needs to be considered when designing JAGIC layouts.



*Component liaison seating can include the mobility Air Force weapons officer, air mobility liaison officer, special operations fires, information operations officer, and staff judge advocate.

**The JAGIC chief is primarily filled by a fire support officer, formerly referred to as the assistant fire support coordinator (AFSCOORD).

Additional duty positions as required:
Information collection manager, UAS technician, electronic warfare manager and space liaison officer, and staff judge advocate. Other positions may be added based on the division commander's direction and personnel availability.

AF	Air Force	JAGIC	joint air ground integration center
AMD	air and missile defense	JARN	joint air request net
ASM	airspace manager	JTAC	joint terminal attack controller
ATOM	air tasking order manager	LNO	liaison officer
AVN	aviation	NCO	noncommissioned officer
IC	interdiction coordinator	PC	procedural controller
ICT	interface control technician	SAD	senior air director
IDO	intelligence duty officer	SAT	senior air technician
IDT	intelligence duty technician	UAS	unmanned aircraft system
ISR	intelligence, surveillance, and reconnaissance		

Figure 1-2. JAGIC seating arrangement

JOINT AIR GROUND INTEGRATION CENTER MEMBERS

1-21. Most JAGIC members are represented in figure 1-2. Members come from fires, AMD, airspace, the ASOC, the TACP, and component liaisons.

Fires

1-22. The division chief of fires, DFSCOORD, and ALO explanations below are to assist the reader in understanding the roles and responsibilities of fires and air power leaders to which the JAGIC chief and SAD report. Typically, the division chief of fires, DFSCOORD, FSCOORD, and ALO ***are not*** JAGIC members.

Chief of Fires

1-23. The chief of fires is the senior fires officer at division and higher headquarters who is responsible for advising the commander on the best use of available fire support resources, providing input to necessary orders, and developing and implementing the fire support plan. The chief of fires may be given authority by the commander to—

- Provide for consolidated and focused fires training, readiness, and oversight of personnel management, and equipment issues.
- Facilitate establishing standard operating procedures across the force to save time and create efficiencies between division fires cells, division artillery (DIVARTY), and other echelons.
- Ensure resourced training packages to limit requirements for force taskings and cut down on coordination requirements between units.
- Plan for the allocation of field artillery assets.

1-24. Members of the fires cell assist the chief of fires in these duties. The chief of fires facilitates the fires warfighting function and works closely with the division G-3 to ensure mutual understanding of all aspects of planning, preparation, execution, and assessment of fires for operations.

1-25. When a field artillery brigade, separate from the DIVARTY, is designated as the force field artillery headquarters by a supported division commander, the field artillery brigade commander assumes the responsibility as fire support coordinator (FSCOORD) for the division. The division chief of fires assumes the DFSCOORD position and takes direction and guidance from the FSCOORD, but will remain the primary division fires staff officer and, normally, **will not** assume JAGIC chief duties. If the field artillery brigade is not designated as the force field artillery headquarters, then the DIVARTY commander is expected to serve as the FSCOORD and the division chief of fires remains the DFSCOORD. Although the JAGIC chief, in these cases, is usually a FSO, the DFSCOORD, when directed by the G-3, must be prepared to provide oversight of JAGIC functions.

Deputy Fire Support Coordinator

1-26. The division chief of fires has oversight of fire support personnel in the JAGIC, and as stated above, will most likely become the DFSCOORD. In cases when there is a FSCOORD, division chief of fires, and a DFSCOORD who is not the chief of fires, then the DFSCOORD could potentially become the JAGIC chief. However, due to conflicting responsibilities, a FSO is usually the senior Army officer in the JAGIC. The DFSCOORD leads fires coordination, synchronization, and employment responsibilities integrated with air operations. When performing JAGIC duties, the DFSCOORD is referred to as the JAGIC chief. There may be times when the authority and responsibilities of JAGIC chief will be delegated to another Army officer in the JAGIC when the DFSCOORD or the assigned FSO are not available.

Fire Support Officer (Formerly the Assistant Fire Support Coordinator/JAGIC Chief)

1-27. A FSO oversees Army fires operations in the JAGIC and commonly serves as the JAGIC chief. This officer is not only responsible for the fires cell portion of the JAGIC, but also the JAGICs overall performance to integrate airspace users' lethal and non-lethal effects. The selected FSO determines target attack methods, establishes or modifies FSCMs, and oversees fire mission execution. A FSO, serving as the JAGIC chief, makes recommendations on field artillery target attack methods to the DFSCOORD, only in cases when the DFSCOORD is serving as the JAGIC chief.

Targeting Officer(s)

1-28. Not to be confused with the division targeting officer, primarily responsible for the targeting working groups and targeting briefs to the commander during the targeting cycle, the JAGIC's targeting officer analyzes each target that enters the JAGIC to determine its validity in accordance with the commander's guidance then makes recommendations to the JAGIC chief. Additionally, the targeting officer refines target selection standards and attack guidance, recommends high-payoff targets, conducts target mensuration, performs collateral damage estimation when required to support current operations, and updates and validates preplanned air interdiction (AI) targets in the division's area of operations. *Air interdiction* is air operations conducted to divert, disrupt, delay, or destroy the enemy's military surface capabilities before it

can be brought to bear effectively against friendly forces, or to otherwise achieve objectives that are conducted at such distances from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required (JP 3-03). The targeting officer works with the interdiction coordinator and the special operations forces (SOF) fires liaison to identify and validate potential dynamic high value targets.

1-29. A targeting officer or field artillery intelligence officer (FAIO) normally supports the G-2 all-source collections element (ACE) and sends targets of opportunity that meet established criteria to the JAGIC for prosecution. The FAIO will perform target validation and meet other targeting requirements as needed before sending targets to the JAGIC for engagement. Targeting requirements the FAIO does not satisfy need to be performed by the JAGIC targeting officer. Normally the FAIO and the JAGIC targeting officer work closely to exchange target information and verify targeting options using the Joint Automated Deep Operations Coordination System (JADOCS).

Fire Control Noncommissioned Officer

1-30. The fire control noncommissioned officer (NCO) manages the Advanced Field Artillery Tactical Data System (AFATDS) database. The fires control NCO also manages selection of available delivery capabilities. Additionally, the fire control NCO oversees fire mission execution and FSCM distribution.

Fire Support Noncommissioned Officer

1-31. The fire support NCO assists the JAGIC chief and the fire control NCO as required.

Air and Missile Defense

1-32. Division AMD personnel in the JAGIC provide the division tactical airspace picture for the assigned operational area. They synchronize and populate the tactical air picture through links established predominately with nonorganic sensors. The AMD personnel are responsible for synchronizing AMD operations and assisting the airspace personnel in resolving immediate airspace conflicts. The AMD element, separate from its JAGIC representatives, plans division sensor coverage locations in accordance with the commander's priorities. It also monitors weapons systems coverage, weapons control status, identification authorities, and early warning in coordination with other Army, joint, and multinational units for complementary defense coverage against enemy air and missile threats.

Air and Missile Defense Officer

1-33. The AMD officer oversees AMD operations and personnel in the JAGIC. The AMD officer works closely with the airspace element to resolve both immediate and planned airspace conflicts. The AMD chief monitors AMD engagement operations in the division area of operations. Furthermore, the AMD officer can assist with identifying and targeting enemy air defense fires when non-organic sensors publish the event to a mission command system within the JAGIC.

Air and Missile Defense Noncommissioned Officer

1-34. The AMD NCO assists the AMD officer with maintaining situational awareness of sensor coverage to ensure correct friendly force identification by differentiating friendly forces from enemy or unknown aerial platforms including UAS platforms. Additionally, the AMD NCO maintains status of air defense overlays, weapons control statuses, rules of engagements, sensor coverages, and early warning systems. During execution the AMD NCO may receive updated air defense measure and airspace coordinating measure requests (ACMREQ) for tactical air defense assets from air defense airspace management/brigade aviation elements (ADAM/BAE) in the division, and coordinates airspace coordinating measure (ACM) activation with the JAGIC airspace element to update the division unit airspace plan in the tactical airspace integration system (TAIS). *Airspace coordinating measures* are measures employed to facilitate the efficient use of airspace to accomplish mission and simultaneously provide safeguards for friendly forces JP 3-52). The AMD NCO—

- Assists the airspace element with airspace deconfliction.
- Monitors, maintains, and updates the common tactical picture (CTP).

- Operates the Air and Missile Defense Workstation (AMDWS) and the air defense system integrator (ADSI).
- Operates forward area air defense command and control (FAAD C2) and supporting radio systems.

Airspace

1-35. A division airspace element is responsible for all aspects of Army airspace control in support of division operations. During planning, the division airspace control working group supports the division airspace element's efforts to integrate Army and joint airspace users operating in division-assigned airspace. The airspace element collaborates with higher, subordinate, and external airspace elements to deconflict airspace requirements. The airspace element accomplishes these tasks in accordance with the joint force commander's (JFC) ACP, the ACO, division appendix 10 to annex C, other airspace directives, and the division commander's priorities and risk guidance. The airspace element is responsible for developing and integrating all division airspace user requirements into the daily unit airspace plan. The JAGIC personnel of the airspace element are under the direction of the division chief of operations. Four of the airspace element's members serve in the JAGIC to support current operations. The three JAGIC positions manned by airspace element personnel are the airspace officer, airspace NCO, and airspace control Soldier.

Airspace Officer

1-36. The JAGIC airspace officer is responsible for integrating all division airspace users in the assigned airspace and for coordinating airspace requirements above the division area. Division airspace control includes sequencing and prioritizing airspace use for field artillery, Army aviation, UAS, air defense artillery, and electronic warfare assets. The airspace officer validates and approves immediate ACMREQs in the division. The airspace officer works closely with the ASOC airspace manager (ASM) to integrate all joint airspace users (including CAS and AI) operating in division-assigned airspace. The airspace officer also ensures that airspace control information and decisions are shared with the COIC. The airspace officer with the support of the airspace control NCO ensures that the COIC has the current tailored airspace control overlay.

Airspace Noncommissioned Officer

1-37. The airspace NCO leads the effort to integrate current operations airspace use, maintains the airspace control graphics portion of the division COP, and assists the airspace element as required in the development of the unit airspace plan. The airspace NCO coordinates with JAGIC personnel to ensure ACM statuses are current for all mission and airspace requirements (See figure A-1) and that all ACMs are integrated into the airspace control overlay in TAIS. The NCO builds ACMs to support immediate joint air operations, surface-to-surface fires, Army aviation, and other airspace users to meet dynamic mission requirements within the division assigned airspace. The airspace NCO ensures these measures are deconflicted with other airspace users in accordance with established priorities and risk guidance. The airspace NCO, in coordination with the ASM, confirms airspace deconfliction for fires missions controlled by the JAGIC using the TAIS workstation and radios.

1-38. The airspace NCO is responsible for producing the airspace control overlay, the airspace control portion of the division COP, and maintaining the digital unit airspace plan. The airspace NCO builds the airspace control overlay by merging the current approved theater ACO with ACMs in the division assigned airspace that are not included in the theater ACO. These include immediate short duration coordinating measures such as informal ACAs or ACMs not normally included in the ACO. The airspace control overlay should be tailored for the division to include only the coordination measures necessary for controlling division operations. The airspace NCO disseminates the airspace control overlay using the most appropriate method which varies by receiving system. These include: maintaining an active TAIS-to-TAIS link to subordinate units' TAIS, publishing the airspace control overlay to the Distributed Dissemination System (DDS) for information systems that use DDS, using the ACO publishing selection, and sending direct United States message text format (USMTF) messages for select information systems that either may not use DDS, such as JADOCS, or benefit from a direct USMTF message update such as AFATDS. Note, sending the airspace control overlay message using the USMTF message to AFATDS ensures that AFATDS will

communicate with the TAIS whenever ACMs are violated. To provide shared understanding between the COIC and the JAGIC, the airspace NCO should work with the airspace officer to build an airspace control overlay effort on the command post of the future (CPOF) which is shared with other division CPOF users. The airspace NCO confirms that subordinate units, the JAGIC, and the COIC have received the airspace control overlay and any subsequent changes. Using the TAIS shelter communication equipment, the airspace NCO and, or the airspace control Soldier can provide procedural updates to aircraft operating in division assigned airspace who may not have all of the current relevant coordination measures loaded in the aircraft information systems. The airspace NCO or airspace control Soldier can also build immediate ACMs requested by the pilot or operator and integrate the ACM into the airspace control overlay.

1-39. The airspace NCO supports the airspace element planning efforts by collaborating with the airspace element Soldier tasked with building the division unit airspace plan submitted to the higher headquarters airspace element for the next ACO cycle. If the airspace element is short personnel, airspace element personnel in the JAGIC may execute the building and submitting of the unit airspace plan.

Airspace Control Soldier

1-40. The airspace control Soldier operates the TAIS, maintaining digital and voice communications using the TAIS's communications equipment. The airspace control Soldier with the AMD NCO and the Army aviation JAGIC personnel, electronically and procedurally tracks all Army aircraft in the operational area. While the AMD NCO is primarily responsible for friendly force identification, the airspace control Soldier may assist with the JAGIC's friendly force identification efforts. The airspace control Soldier maintains communications with aircraft as directed to provide enhanced procedural control – operational updates and guidance required for integration. The airspace control Soldier also assists the airspace NCO and the plans personnel in the airspace element with assembling, deconflicting, and submitting to higher headquarters the unit airspace plan, as well as providing a tailored view of the ACO in the division's area of operations, and publishing the airspace control overlay. This assistance to the airspace element, however, must not interfere with the airspace control Soldier's current operations responsibilities to the JAGIC chief.

Aviation Liaison

1-41. The JAGIC does not command or direct Army aviation operations. However, it does integrate aviation assets into division airspace. Army aviation liaison personnel in the JAGIC may include an aviation mission survivability officer (AMSO) or an Army aviation officer, CPT or MAJ. The aviation liaison serves as the primary agent responsible for coordinating with Army aviation brigades to integrate rotary wing, tactical UAS, and small UAS airspace and fires with division operations. When the JAGIC chief is delegated authority to employ attack aviation to engage division targets of opportunity, the aviation liaison coordinates directly with the combat aviation brigade (CAB) to provide immediate recommendations on employment of assets and the particulars for integrating attack aviation into missions coordinated in the JAGIC. The JAGIC aviation liaison must maintain situational awareness of Army aviation assets to coordinate immediate airspace requirements for other airspace users, particularly to expedite surface-to-surface fires and reduce risk to friendly aircraft.

Unmanned Aircraft System Liaison Officer

1-42. Assisting the aviation liaison is the UAS liaison officer. Usually the division's UAS warrant officer, this position has oversight responsibility of Army UAS tasked in support of division operations. The UAS liaison officer is especially helpful in tracking MQ-1s and similar Army UAS that are not organic to the CAB or brigade combat team (BCT) but may be a corps or division asset. The UAS liaison integrates UAS into the division unit airspace plan and coordinates airspace for dynamic collection requirements. The UAS liaison officer provides the JAGIC airspace element the means to resolve conflicts with UAS operations, fires, and other airspace users.

Air Support Operations Center

1-43. The ASOS provides ASOC and TACP functions for the supported ground forces commander, normally, division. The ASOC is responsible for employment of joint air assets that directly support ground forces' operations. The ASOC is subordinate to the JAOC and is responsible for the coordination and control

of air component missions in division-assigned airspace or the ASOC's assigned area. The ASOC is a tactical level element of the theater air control system (TACS) co-located with the Army's division fires cell and airspace element that may be configured as a JAGIC. Synchronization between the ASOC, division fires cell, and the airspace element are vital to effective air-ground integration. The ASOC—

- Provides procedural control of air component assets in the division's controlled airspace or the ASOC's assigned area.
- Processes immediate air support requests
- Coordinates the execution of supporting air missions such as CAS, AI, and strike coordination and reconnaissance (SCAR), and assigns and directs attack aircraft to JTACs as needed.
- Serves as the net control station for the joint air request net (JARN) and tactical air direction net, and other functions to facilitate air-ground operations.
- Coordinates other mission areas including CAS, AI, intelligence, surveillance, and reconnaissance (ISR), suppression of enemy air defense (SEAD), electronic warfare, and personnel recovery.
- Tracks enemy and friendly dispositions and monitors order of battle, division priority of fires, employs CAS in accordance with the commander's distribution decision.

The ASOC's configuration is flexible and can be task-organized to complement a variety of supported and supporting division commanders' requirements. ASOC personnel in the JAGIC are listed in paragraphs 1-42 through 1-51.

Division Air Liaison Officer

Note. The division ALO is technically not a member of the ASOC, but a member of the division TACP. The ALO is included in this section to introduce ALO authorities prior to the explanations of the SAD and other ASOC members. Additional information on the ALO is included in the TACP section, paragraph 1-53.

1-44. The division ALO is the senior Air Force officer aligned to the division. The division ALO commands the EASOS and functions as the COMAFFOR's primary advisor to the division commander on air operations. The division ALO is part of the division commander's special staff, as outlined in Army and joint doctrine. The special staff duties do not convey any authorities over assigned air component forces to elements of the land component. The division ALO remains subordinate to the EASOG commander, the COMAFFOR, and the JFACC and retains command authority of EASOS forces. The division ALO provides oversight of EASOS personnel and provides advice and assistance to the DFSCOORD and JAGIC Chiefs. The ALO normally delegates authority to integrate and control air operations in division-assigned airspace to the SAD.

Senior Air Director

1-45. The SAD is the senior Air Force officer in the JAGIC. The SAD acts as the primary operational liaison between the JAGIC and the JAOC. The SAD assists the division ALO and the TACP with advising the division commander on the proper integration of airpower and coordinating air support through Army channels and communications with the battlefield coordination detachment (BCD) within the JAOC. The SAD advises and coordinates with the JAGIC chief on the best options to strike targets.

Air Tasking Order Manager

1-46. The air tasking order manager (ATOM) is responsible for receiving and analyzing the air tasking order (ATO) to identify and track air missions tasked to support the ground forces commander. In the JAGIC, the ATOM selects the most appropriate aircraft missions available to satisfy desired effects and recommends those missions to the SAD. The ATOM maintains comprehensive situational awareness of the air tasking order, including current and planned aircraft missions allocated to support ground operations. The ATOM is the primary ASOC operator to coordinate with the Army fires cell. The ATOM also maintains situational awareness of the ground battle, coordinates with the appropriate Army element for approval and prioritization of immediate JTAR requests, assigns air missions to JTARs in accordance with priorities, and liaises with the CAS duty officer at the JAOC for air tasking order execution.

Airspace Manager

1-47. The ASM is responsible for the ASOC airspace C2 function. The ASM works closely with the division's airspace element, fires cell, aviation officer, and theater air control C2 agencies. The ASM coordinates ACMs, FSCMs, and other control measures to optimize aircraft fires and airspace integration. The ASM maintains situational awareness on all missions under ASOC control, and, in coordination with the Army Airspace NCO, deconflicts the of division airspace for all JAGIC controlled fires missions. The ASM reviews target locations, coordinates mission routing and target airspace, and ensures all applicable control measures are incorporated into the ACO and published to the COP. The ASM assists with coordination of theater air assets as they enter or exit division-assigned airspace and ensures ground fires and other supporting arms are deconflicted. The ASM works in conjunction with Army airspace personnel to assist in managing division assigned airspace and assists the division fires cell in clearing division fires outside of division assigned airspace that may pose a threat to theater air assets. The ASM supports the intelligence duty officer or intelligence duty technician with plotting all pertinent threats and special airspace restrictions.

Joint Air Request Net Operator

1-48. The joint air request net operator (JARNO) serves as the net control for assigned frequencies and manages incoming immediate air support requests, and the JARNO is the primary recipient of both digital and voice immediate JTARs. Upon receipt of a JTAR, the JARNO reviews the request for completeness and accuracy then confirms approval or disapproval with the designated Army authority such as the JAGIC chief or targeting officer. The JARNO then returns section II or III of the JTAR to the requestor. JARNO responsibilities also include tracking current TACP and JTAC locations, passing assigned aircraft status (including those aircraft checked-in and mission cancellations), passing threat warning and air defense warning conditions, recording mission reports and physical damage assessments, and synchronizing with the interface control technician to ensure that all immediate JTARs (voice or digital) are entered into the web air request processor (WARP) for sourcing.

Interface Control Technician

1-49. The interface control technician manages and troubleshoots air component digital data links and supports the JARNO. Interface control technician responsibilities include ensuring operational tasking data link compliance by subordinate TACPs and JTACs, activating filters, evaluating link effectiveness, monitoring track exchanges, validating and ensuring tracks are dropped as required, and, when directed, initiating data link messages onto the link. The interface control technician provides the TACP and JTAC personnel with track numbers, updates the Tactical Air Control Party-Close Air Support System (TACP-CASS) mission planner file, and assigns track numbers, names, and symbols to all ground force-nominated friendly and enemy tracks. An interface control technician who is familiar with the TACP-CASS may assist the JARNO, when required.

Procedural Controller 1

1-50. Procedural controller 1 is responsible for the procedural control of aircraft in division assigned airspace or an assigned area. Procedural controller 1 coordinates with the Control and Reporting Center (CRC) or an airborne C2 platform such as the Airborne Warning and Control System (AWACS) or the Joint Surveillance Target Attack Radar System (JSTARS). Procedural controller 1 accepts aircraft hand-offs, provides aircraft check-in briefs, and maintains situational awareness on all ASOC-controlled aircraft. Procedural controller 1 communicates with assigned aircraft and provides situational awareness to aircrews on: (1) Army supporting arms that are a factor to operations, (2) situation updates, (3) CAS support 9-line briefings, and (4) targeting data. During low intensity operations, procedural controller 1 may also perform the functions of procedural controller 2. Procedural controller 1 also provides deconfliction from other known aircraft and surface-to-surface or air to-surface fires and passes threat warnings and current or changed air defense alert conditions.

Procedural Controller 2

1-51. Procedural controller 2, like controller 1, is responsible for the procedural control of aircraft in division assigned airspace. However, procedural controller 2 is more concerned with assigned aircraft as they are transitioning out of division airspace. Procedural controller 2 provides aircraft check-out briefs and ensures aircraft receive a positive hand-off to a control agency upon check out. Procedural controller 2 records phase 1 battle damage assessment, any other in-flight reports, and JTAC mission effectiveness reports. Procedural controller 2 provides this information to the appropriate intelligence agencies.

Intelligence Duty Officer

1-52. The intelligence duty officer (or technician) monitors the division's operational area and deconflicts or validates targets identified for airpower to prosecute and, or identified in immediate air support requests. The intelligence duty officer (or technician) tracks enemy and friendly dispositions, monitors orders of battle, land component priority of fires, CAS distribution and priority, and weather. The intelligence duty officer (or technician) also keeps the ASOC aware of threats prior to and during air operations. The intelligence duty officer (or technician) ensures procedural controller 1 relays threat and area of operations updates to subordinate TACPs, JTACs, and aircrews. The intelligence duty officer (or technician) records battle damage assessment and other pertinent mission report data to the Department of Defense (DD) Form 1972, Joint Tactical Air Strike Request, section III using the WARP. The intelligence duty officer (or technician) ensures battle damage assessment and mission reports are channeled to the appropriate Air Force agencies.

1-53. For mission planning, the intelligence duty officer (or technician) coordinates with the division Army intelligence cell, the information collection division in the JAOC, and the intelligence personnel located at both the wing operations centers and the TACPs. The intelligence duty officer (or technician) produces and disseminates the effects summaries from in-flight reports and the situation reports from deployed TACPs and JTACs. The intelligence duty officer (or technician) fuses information from multiple sources to produce an ASOC COP. The intelligence duty officer (or technician) in partnership with the interface control technician contributes to the tactical picture by adding intelligence and datalink information.

Senior Air Technician

1-54. The senior air technician is the senior enlisted person who, in conjunction with the SAD, oversees ASOC operations. The senior air technician focuses on the technical aspects of the ASOC processes, ensuring the JARNO, intelligence duty technician, and procedural controllers are effectively accomplishing their duties. The crew supervisor works with the ATOM to process immediate JTARs and monitors the status of assigned TACPs and JTACs.

Tactical Air Control Party

1-55. The TACP is the air liaison unit co-located with ground maneuver units. Although TACPs are usually associated with BCTs and subordinate battalions, the division also receives a TACP. TACPs are under the operational control of the EASOG or EASOS. ALOs and JTACs make up the TACP's personnel. The division TACP has two primary missions: Advise ground commanders on the capabilities and limitations of air operations and, in partnership with the ASOC's JARNO and procedural controllers, perform the primary control of CAS aircraft. TACP personnel in the JAGIC are listed in paragraphs 1-53 through 1-60.

Air Liaison Officer

1-56. As explained in paragraph 1-41, for active duty division's the ALO is usually the EASOS commander overseeing, not only the division TACP but also the ASOC. *For Air National Guard, ASOS units are commanded separately.* At echelons below division, an ALO is a TACP member attached to a ground unit who functions as the primary advisor to the ground commander on air operations. At each echelon the ALO plans and facilitates the execution of airpower in accordance with both the ground

commander's and JFACC's guidance and intent. The senior ALO in a TACP uses the title of the supported echelon followed by the term ALO. For example, the senior ALO in a brigade TACP is the brigade ALO.

Joint Terminal Attack Controller

1-57. The JTAC is a trained and qualified individual who has the specific certifications required to control both the maneuver of aircraft and the employment of ordnance in close proximity to friendly personnel. The JTAC is the service member who directs the actions of combat aircraft engaged in CAS and other air operations supporting the ground commander. The JTAC provides the JAGIC recommendations on the use of CAS and its integration with maneuver. The JTAC coordinates and may provide terminal attack control of division-level CAS missions in the area of operations which are not assigned to a subordinate element, through the use of Type 2 and Type 3 control procedures.

Interdiction Coordinator

1-58. The interdiction coordinator processes the execution of AI missions inside the division area of operations. The interdiction coordinator works primarily with the JAGIC targeting officer and the SOF fires liaison position to identify targets of opportunity suitable for AI. Targets will be identified by the field artillery intelligence officer in the division ACE, who passes the targets to the JAGIC targeting officer and by the SOF fires liaison who receives target information from SOF units, via the joint special operations task force (JSOTF). The interdiction coordinator works with the airspace manager to clear airspace, with the ATOM to select attack options to prosecute targets, and with Army fires personnel and the airspace manager to establish and synchronize control measures required for AI missions. The interdiction coordinator facilitates coordination with the JAOC's senior offensive duty officer (SODO) and interdiction duty officer (IDO) for AI tasked to the supported commander, for missions both inside and beyond the FSCL. When the JAGIC identifies targets of opportunity within the division area of operations, the interdiction coordinator initiates contact with the SODO to determine JFACC assets available to strike these targets if they meet published target validation criteria. These assets can be sourced from on-call interdiction sorties on the current ATO, or redirected CAS sorties already distributed to the division on the ATO. Use of CAS assets redirected to AI or SCAR targets must also be coordinated with the JAOC SODO or CAS duty officer as well as the air operation crew in JAGIC. In this case, "re-role" authority may be delegated to the JAGIC by the JAOC eliminating the need for coordination, but still require notification of the "re-role" event. The interdiction coordinator also coordinates ground commander organic fires in support of JFACC objectives, SEAD, dynamic targeting, etc. *Dynamic targeting* is targeting that prosecutes targets identified too late, or not selected for action in time to be included in deliberate targeting (JP 3-09).

1-59. For friendly force protection, the interdiction coordinator conducts daily safety checks of all AI and SCAR nominated targets and aircraft. The interdiction coordinator also safety checks kill boxes and repeats checks when the FSCL moves or the JAOC publishes a new ATO. When there are control measure changes, the interdiction coordinator identifies AI targets that are short of the FSCL, and verifies two items: (1) that the ground commander still wants the targets prosecuted with AI, and (2) that all necessary coordination with friendly forces is complete. In cases where a FSCL move may endanger friendly forces, the interdiction coordinator can, in partnership with the JAGIC procedural controllers, JAOC SODO, and controlling TACP element, cancel specific targets and redirect aircraft to targets beyond the FSCL. (See chapter 2, IC missions, and appendix A, JAGIC procedures, for additional information on interdiction coordinator roles and responsibilities.)

Intelligence, Surveillance, and Reconnaissance Liaison Officer

1-60. The Air Force intelligence, surveillance, and reconnaissance (ISR) liaison officer advises the division on efficient and effective use of ISR capabilities, including national assets, theater assets, and processing, exploitation, and dissemination cells. The ISR liaison officer may sit in the JAGIC when theater ISR assets are conducting missions in support of specific division operations and require integration or deconfliction. If delegated by the JAOC, the ISR liaison officer may enable dynamic retasking of assets to respond to immediate needs. The JAGIC will coordinate retasking to ensure deconfliction of the airspace and fires elements. The ISR liaison officer complements the intelligence duty officer (or technician). Together they provide dedicated Air Force liaisons for analysis and collection.

Component Liaisons

1-61. For limited periods, liaisons from other United States (U.S.) armed Services, Army and Air Force components *not already described*, and interagency and intergovernmental personnel may operate from the JAGIC to integrate fires and airspace requirements into division airspace. Multinational, coalition, and NATO partners are more difficult to integrate as they will not always have access to the COIC but, as explained in chapter 2, may represent agencies with which the JAGIC interacts. Component liaisons can include, but are not limited to, air mobility liaison officers (AMLO), SOF, Marine Corps or Navy liaison officers, and electronic warfare specialists.

1-62. Select personnel and agencies may operate in the JAGIC as required for specific missions. They include those listed in paragraphs 1-63 through 1-68.

Mobility Air Force Weapons Officer

1-63. Joint forcible entry operations require a high degree of joint tactical integration for fires and airspace deconfliction for both air land and airdrop missions. Mobility Air Force (MAF) weapons officers represent the air component commander (s) with OPCON of air mobility assets. They can temporarily collocate with the COIC to provide liaison to facilitate integration and shared understanding between all entities during mission execution. In these cases, it is important to note that this is a close support relationship to ensure unity of effort: there is no change in OPCON, tactical control (TACON), or administrative control (ADCON). The MAF weapons officer will require a functional workstation, including dedicated secret internet protocol router (SIPR) network terminal, non-secure internet protocol router (NIPR) network terminal, secure and non-secure phone, and supporting access requirements in the COIC. (See JP 3-30 for more information on the air mobility division and air mobility considerations.)

Air Mobility Liaison Officer

1-64. AMLOs will develop a relationship with the future operations (FUOPS) and COIC to facilitate air mobility effects in the division's area of operations. This does not require an AMLO's physical presence in the JAGIC. However, following joint forcible entry operations or sustainment operations requiring an elevated degree of coordination for air landings and airdrops, AMLOs may function closely with the JAGIC to help facilitate joint operations integration and shared understanding. In either situation, it is important to note that this is a close support relationship to ensure unity of effort during air operations using fixed wing USAF airlift assets; there is no change in OPCON, TACON, or ADCON. United States Transportation Command (USTRANSCOM), Air Mobility Command (AMC) and 18th Air Force typically authorize AMLOs to execute direct liaison authority, and delegate requisite coordinating authority, with all supported and supporting entities, including the G-3, G-4, ALO, theater joint movement center, theater director of mobility forces, theater JAOCs, 618 AOC, aircrew, ground liaison officers (GLO) and combat control teams (CCT). AMLOs typically maintain close coordinating relationship with the theater director of mobility forces and the air mobility division of the theater JAOC. When directed by the 18th Air Force, AMLOs may take operational direction from the theater director of mobility forces. The AMLO requires a functional workstation, including dedicated SIPR network terminal, NIPR network terminal, secure and non-secure phone, and supporting access requirements. (See JP 3-17 for more information on AMLOs.)

Staff Judge Advocate

1-65. The staff judge advocate may be involved with the JAGIC when executing sensitive targets or targets with the potential to produce collateral damage. In all instances, the division staff judge advocate must be easily accessible to the JAGIC.

Information Operations, Electronic Warfare, Cyberspace Electromagnetic, and Space Representatives

1-66. An officer or non-commissioned officer representing information operations, specific information-related capabilities, electronic warfare capabilities, cyberspace electromagnetic activities (CEMA), or space operations may be involved in the JAGIC when these capabilities or activities require integration with fires and other airspace users and are instrumental to the success of specific operations.

Special Operations Fires Liaison

1-67. When Army SOF are operating within a division's boundaries, the JSOTF will provide a SOF liaison element to the division. The liaison element will provide a SOF fires liaison to the JAGIC. This representative receives and coordinates for joint fires requests for all SOF teams in the division area of operations. This individual coordinates all organic SOF fires in the division area of operations. The SOF fires liaison works with the targeting officer to relay information on targets identified by SOF teams in the division area of operations. They then work with the targeting officer and the interdiction coordinator to coordinate target strikes. Finally, to deconflict conventional fires and effects, this representative maintains current information on the locations and disposition of all SOF teams in the division area of operations, as provided by the JSOTF. (See JP 3-05 for more information on joint special operations liaison elements and ADRP 3-05 for more information on Army SOF liaison elements.)

Maritime Fires Liaison

1-68. When Army divisions are located within range of maritime fires, the Maritime Component Command can offer naval gunfire liaison officers (NGLO) to help coordinate for and execute maritime fires in support of the division scheme of fires. The NGLO advises the division commander, FSCOORD, and JAGIC personnel on all matters pertaining to naval gunfire employment. Army units may also support or be supported by United States Marine Corps (USMC) artillery. The division fires cell has USMC fire support representation when the division has an attached, operational control, or otherwise subordinate USMC force, or is conducting operations with a USMC force that is not under its control. The senior USMC fire support officer advises the division commander, the FSCOORD, and JAGIC personnel on the capabilities, limitations, and the proper employment of any USMC fire support assets. (See JP 3-32 for additional information.)

COMBINING COMPLEMENTARY SKILLS TO FORM THE JAGIC

1-69. Simply co-locating Air Force and Army personnel and functions together in the COIC will not lead to integrated processes or create a more efficient unit. The JAGIC functions as an integrated team. Building this team is best accomplished by forming a standing set of JAGIC members that meets and trains together on a periodic basis, monthly or quarterly. When periodic training is not feasible, units must identify the JAGIC team in advance of a warfighter exercise (WFX) or deployment with adequate time to train, exercise, and, or deploy together.

1-70. The personnel composing the JAGIC require dedicated collective training opportunities. A recommended timeline for individual and collective training events is located in Table 1-1, on page 1-18. The events begin either outside or inside the 180-day window for a culminating training event (CTE) or deployment. The timeline begins with an officer professional development opportunity designed for JAGIC leaders and members of the ASOS to discuss relevant joint, fires, and airspace control doctrine prior to either developing or revising the JAGIC's TACSOP. JAGIC members should begin professional development with the publications listed in the introduction and continuing with other documents in the references section of this ATP.

Note. The recommended reading list in the references section is just a catch all for uncited documents and does not represent an inclusive listing.

1-71. A highlight from the recommended training timeline is to incorporate the Army Joint Support Team's (AJST) training support into the division's training plan. AJST offers the echelons above brigade (EAB) airspace course and specialized joint air-ground training (SJAT) at Hurlburt Field, FL, and a mobile training team (MTT) to assist with individual and collective tasks associated with a JAGIC. Furthermore, to support sustained readiness and a ready to fight culture, divisions should start this training plan even without a scheduled WFX or deployment.

Table 1-1. JAGIC collective training plan example

Day	*Event*	*Event Description*
240	ASOS OPD 1	JAGIC members meet with key leaders from the division ASOS's ASOC and TACP to review the ATP's key references, assign readers and briefers for OPD 2, and discuss TACSOP development.
210	TACSOP First Draft	JAGIC Chief distributes first draft of the TACSOP to JAGIC members, the ASOS, the G-3, and COS for their comments.
180	OPD 2	JAGIC members and ASOS discuss assigned readings, identify JAGIC member by name and position, assign further individual readings and study materials, initiate systems operators proficiency training, begin group training sessions, and schedule JAGIC training events and EAB Airspace Course attendance with AJST.
170	MDMP Working Groups	Airspace control, intelligence, targeting, assessment, and protection working groups all contribute to the G-5 and G-35 planning efforts and begin drafting: appendix 10, Annex C, division airspace overlay, and division unit airspace plan to form ACO submissions.
160-110	EAB Airspace and SJAT courses	Send AJST personnel by name and positions to attend EAB Airspace Course and JAGIC Specialized Joint Air-Ground Training at Hurlburt.
100	COMEX 1, Systems Integration	Without concern for the scenario, JAGIC members and ASOC/TACP members from the ASOS integrate their systems, in either a field setting or the MCTC, and rehearse the battle drills from the TACSOP and, or the ATP.
90	COA DEV Brief	This event may slide to the left or right, but at some point JAGIC members must review the commander's training objectives and ensure the fires and airspace control overlays support the recommended COAs.
80	JAGIC MTT proceeded by CTE 2	The JAGIC MTT is a unit-led training event that can include AJST training support to further coach JAGIC members, validate battle drills, and help refine the TACSOP. The MTT is best executed prior to CTE 2 or the final CTE prior to a CTE, i.e., CTE 3, to reinforce lessons learned prior to execution.
70	COA Approval	In concert with orders production, continue to refine TACSOP, overlays, battle drills, and ACO and ATO submissions.
30	CTE 2	Prior to the CTE, conduct PCCs and PCIs for any vehicle movements and continue MDMP and rehearsals. Make sure system corrections made during COMEX 1 are completed. Furthermore, begin work with higher headquarters on an ACO and ATO set to ensure the team is ready for day 1 of the CTE with a history of submissions for the past 3-5 days.

ACO	airspace control order	G-5	assistant chief of staff, plans
AJST	Army joint support team	G-35	assistant chief of staff, future operations
ASOC	air support operations center	JAGIC	joint air-ground integration center
ASOS	air support operations squadron	MCTC	mission command training center
ATO	air tasking order	MDMP	military decision-making process
ATP	Army techniques publication	MTT	mobile training team
COA	course of action	OPD	officer professional development
COMEX	communication exercise	PCC	pre-combat check
COS	chief of staff	PCI	pre-combat inspection
CTE	culminating training exercise	SJAT	Specialized Joint Air-Ground Training
DEV	development	TACP	tactical control party
EAB	echelons above brigade	TACSOP	tactical standard operating procedure
G-3	assistant chief of staff, operations		

Chapter 2

Joint Air Ground Integration Center Operations

This chapter describes the joint, collective processes that the JAGIC performs when executing fires and airspace control. First, the chapter describes JAGIC operations: fires, CAS, AI, and airspace control. Later, the chapter discusses external agencies that the JAGIC coordinates with to execute fires and airspace control tasks.

FIRES EXECUTION IN THE JAGIC

2-1. The strength of the JAGIC, when delegated specified decentralized execution authorities by the COMAFFOR or JFACC, ACA, and division commander, is its ability to exchange data rapidly and execute both joint fires and joint airspace control from a single center that resides in the COIC. The JAGIC is a collaborative center made up of personnel from various elements that perform individual tasks that contribute to the shared understanding necessary to accomplish collective tasks. As requests for fire support enter the COIC, JAGIC personnel execute tasks that enable the JAGIC chief to make informed decisions on attacking targets and integrating assets in division-assigned airspace (see figure 2-1 on page 2-2). The recommended seating arrangement from chapter 1 combined with the JAGIC procedures in appendix A cover many of the most common processes. The joint C2 and army mission command systems outlined in appendix B help staff members understand issues involving systems integration. Finally, the information management techniques in appendix C help JAGIC chiefs guide Soldiers and Airmen in the set-up of chat rooms and digital communications applications that increase the JAGIC team's overall efficiency.

2-2. The JAGIC enables the timely execution of fires. The JAGIC receives targeting data from various sources in the division, determines weaponeering solutions, determines target attack methods, deconflicts division controlled airspace below the CA or coordinates airspace deconfliction above the CA, and initiates target execution. *Weaponeering* is the process of determining the quantity of a specific type of lethal or nonlethal means required to create a desired effect on a given target (JP 3-60).

SUBORDINATE UNIT REQUESTS FOR FIRE

2-3. Targets for division-level action are received by the JAGIC from the division G-2, ACE, and, or FAIO. However, fire missions and immediate air support requests from BCT fires cells, DIVARTY, field artillery brigades, TACPs, adjacent units, and other units under the division's control often require JAGIC interaction. Upon receipt of the request for fire or JTARs, JAGIC develops targeting solutions and coordinates airspace requirements.

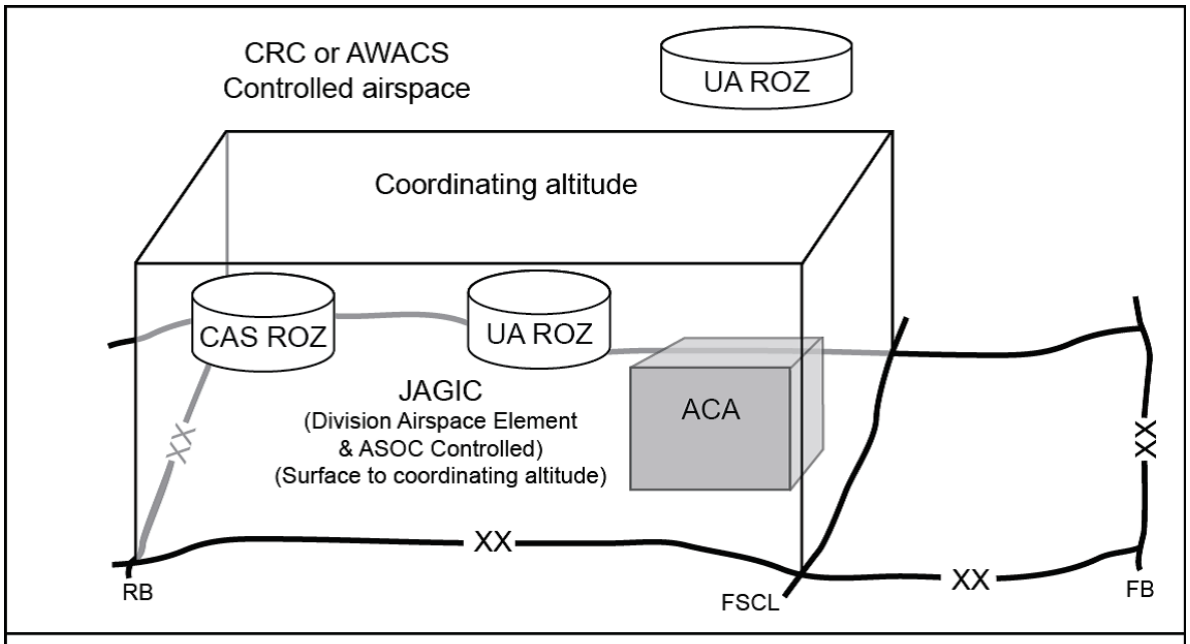
2-4. JAGIC has a limited role with subordinate units' delivery of fires unless the scheme of fires exceeds unit capabilities and, or requires airspace coordination. Processing immediate air support requests from subordinate units is a normal ASOC function. The ASOC processes immediate JTARs from subordinate TACP and JTACs located at BCT and below. Subordinate units' immediate JTARs are normally approved or disapproved at division, but are not actioned by the JAGIC (fires cell) collectively. However, it remains an ASOC function to source approved JTARs. Brigades, battalions, and companies prosecute targets inside assigned areas of operation without JAGIC interaction. Tactical unit commanders assigned an area of operations validate targets. However, it remains a JAGIC function to control the division-assigned airspace and manage airspace requirements as needed for subordinate unit fire missions and supporting aircraft. The JAGIC enforces the division commander's distribution decision, priority of fires and air support, and priority for airspace use.

SURFACE-TO-SURFACE FIRES

2-5. The JAGIC performs several processes prior to transmitting fire missions to subordinate firing units. First, the fires element examines the nature of the target and battlefield geometry to determine the proper type of fires and munitions to employ against the target. During the course of target analysis, the fires element determines the best available means to attack the target. The fires element and Army airspace element personnel examine FSCMs, ACMs, and other control measures that may influence target attack decisions. The fires element then performs collateral damage estimation (if required) and transmits fire mission data to the best available firing asset.

SURFACE FIRES BEYOND THE FIRE SUPPORT COORDINATION LINE

2-6. The JAGIC executes fires and airspace control in the division area of operations and in the division assigned airspace. In some instances, the division may require fires beyond the division assigned airspace. The requirement to fire outside the division assigned airspace or beyond the FSCL could be a result of division information collection assets or SOF teams acquiring targets beyond a division boundary, or a result of JFC, JFACC, or corps assets acquiring a target and requesting division-level field artillery fires. In all cases, firing outside the division's area of operations and its assigned airspace or firing beyond the FSCL requires coordination with, and clearance from, affected commanders *(both higher and parallel)* and, or other Services.



ACA	airspace coordination area	FB	forward boundary
ASOC	air support operations center	JAGIC	joint air-ground integration center
AWACS	airborne warning and control system	RB	rear boundary
CAS	close air support	ROZ	restricted operating zone
CRC	control and reporting center	UA	unmanned aircraft
FSCL	fire support coordination line		

Figure 2-1. Division-assigned airspace

Division-Acquired Target

2-7. If the division acquires the target and desires to engage, JAGIC fires personnel, the interdiction coordinator, the SAD, and the aviation LNO confer and determine if the best means to attack is with surface fires, air component CAS, aerial interdiction, aviation maneuver, or a combination of these. If they choose a surface-to-surface fires asset and it is determined that fires may go above the CA, JAGIC ASOC personnel

simultaneously begin coordination with either the JAOC airspace management personnel, the CRC, or airborne C2 to provide airspace deconfliction of the mission.

Note. Usually the ASOC is communicating with the CRC or airborne C2 element of the TACS. Only in *special cases would a JAOC conduct airspace deconfliction.*

The JAGIC then transmits the location of the target, the location of the firing unit, and the maximum ordinate of the fire mission trajectory to the controlling entity. After receiving airspace clearance, fires executes the mission with appropriate assets. If the determination is made to use a JFACC asset to conduct an AI mission, the SAD can either "re-role" a separate asset, if delegated that authority, or coordinate with the SODO at the JAOC to request an AI asset. If a CAS or AI mission is approved, the interdiction coordinator and JTAC in the JAGIC will coordinate airspace clearance requirements with the airspace element, airspace manager, procedural controllers, and other C2 elements if required. Another considerations is that while Army aviation is usually a maneuver force planned against a known or prospective enemy threat, it's possible that the aviation LNO can provide JAGIC fires personnel attack solutions for division-acquired targets that are more practicable than surface fires, CAS, or AI.

Joint Force Air Component Commander or Joint Force Commander-Acquired Target

2-8. If a target originated at the JFACC or JFC level and is beyond the FSCL, but in the division's area of operations, the higher headquarters accomplishes ground and airspace clearance prior to mission transmission to the division. Upon verification of ground and airspace clearance, the JAGIC fire control NCO transmits it to the division firing unit and oversees execution until completion. In a case where the JFACC or JFC is firing beyond the FSCL, and the FSCL is in front of the division's forward boundary, the division may anticipate receiving a fires mission from the JFLCC or observe the execution of joint fires by the JFACC.

RISK MANAGEMENT CONSIDERATIONS FOR FIRES EXECUTION IN THE JAGIC

2-9. Large-scale combat operations call for a tempo and convergence of effects which exceeds the pace of security and stability operations. The JAGIC will perform the fires functions outlined above but with a frequency and density of missions that necessitates mission command. JAGIC members must have an acute understanding of the commander's intent and know when they can assume prudent risk to friendly forces and systems. JFCs, JFLCCs, and corps commanders manage risk in terms of risk to forces, risk to the mission, and risks of escalation. Following their guidance, the staff receives the division commander's guidance during the military decision making process. The staff must publish it, rehearse it, and create a shared understanding for all echelons prior to execution. DD Form 2977, Deliberate Risk Assessment Worksheet, is the tool commanders and staffs use to capture and share risk management information. Below are some risk management considerations that the commander's guidance should address for the fires function of the JAGIC:

- Communications. JAGIC members must know limitations and capabilities to communicate, and have a rehearsed plan when communications are degraded or lost. Primary, alternate, contingency, and emergency (PACE) plans, such as the example in figure 2-2 on page 2-5, can assist with rehearsals.
- Required scheme of fires and sequence of effects that achieve the commander's endstate. JAGIC members must understand the fires and effects missions that are essential to achieve objectives and which, if not performed, result in mission failure. FUOPS battle handover briefs need to include prioritized planned targets, scheduled fire missions, and missions that the JAGIC must execute or not interfere with.
- Attack guidance matrix, delegation of authorities matrix, decision support template (DST), high-payoff target list (HPTL), synchronization matrix, current orders and fragmentary orders (FRAGO), CAS distribution decision, ATO, ACO, and other products must be posted or on-hand.
- Staff running estimates. JAGIC personnel maintain situational understanding and provide relevant inputs to JAGIC decision making. Have a means to receive and collaborate staff updates routinely.

Work closely with the G2 section and ACE to receive relevant updates to the division's intelligence estimates.

- Tempo changes. JAGIC members must understand how much they can speed or slow the tempo of fires in an effort to, if necessary, manage risk. Terrain, enemy, and known disposition of friendly forces are just three of many variables contributing to tempo changes.
- Lost situational awareness. Much like communications, the JAGIC must understand when and to what extent they will execute fires amidst degradations to the COP.
- Host nation and multinational fires and effects. The fires cell in the JAGIC must assess the capabilities and integration levels of the division's partners, and decide, from a risk management perspective, when best to employ partnered capabilities.
- Sustainment. The fires cell in the JAGIC must have running estimates on class V availability and the rates of replenishment.
- Escalation. The JAGIC must understand the rules of engagement and the limits of advance to manage risks to escalation.

Procedure	*Primary*	*Alternate*	*Contingency*	*Emergency*
ASR/ASL dissemination & refinement	AFATDS	JADOCS	JTARs via email	S-VoIP
Immediate ASR	JARN (TACSAT)	AFATDS (JAGIC)	JADOCS	FM communications
Target list worksheet	AFATDS	Fires Share Drive	Fires portal	JCR
TIDAT	AFATDS	JADOCS	Transverse chat	3X5 card
Fires COP	AFATDS	JADOCS	CPOF	Analog map
BDA	DCGS-A	Analog spreadsheet (kill chart)	Transverse	JCR
Deliberate targets	AFATDS (plans)	JADOCS (plans)	Transverse	JCR
Targets of opportunity	AFATDS (JAGIC)	JADOCS (JAGIC)	Transverse (JAGIC)	FM Communications
Targeting WG	Printed products	CPOF	Huddle	
HPTL/TSS/AGM division special refinement & dissemination	WARNO/FRAGO	AFATDS	Fires share drive	JCR
Targeting FRAGO/WARNO	CPOF/GCCS-A	Email	JCR	FM communications
NSL/RTL	JADOCS	AFATDS	Fires share drive	Fires portal
FSCM/Geometries	AFATDS	JADOCS	Analog map	FSCM tracker via JCR
ACM	TAIS	JADOCS	Analog map	chat

ACM	airspace coordinating measure	JAGIC	joint air-ground integration center
AFATDS	Advanced Field Artillery Tactical Data System	JARN	joint air request net
AGM	attack guidance matrix	JCR	joint capabilities release
ASL	air support list	JTAR	joint tactical air strike request
ASR	air support request	NSL	no-strike list
BDA	battle damage assessment	RTL	restricted target list
COP	common operational picture	S-VoIP	secret voice over internet protocol
CPOF	command post of the future	TACSAT	tactical satellite
DCGS-A	Distributed Common Ground System–Army	TAIS	tactical airspace integration system
FM	frequency modulation	TIDAT	target intelligence data
FRAGO	fragmentary order	TSS	target selection standards
FSCM	fires support coordination measure	WARNO	warning order
GCCS-A	Global Command and Control System–Army	WG	working group
HPTL	high-payoff target list		
JADOCS	Joint Automated Deep Operations Coordination System		

Figure 2-2. JAGIC PACE plan example

CLOSE AIR SUPPORT

2-10. *Close air support* is air action by manned or unmanned fixed-wing and rotary-wing aircraft against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces (JP 3-0). One of the primary advantages of the JAGIC is the ability to integrate JFACC-provided assets in division-assigned airspace. The JAGIC manages CAS missions distributed to the division on the air tasking order through the ASOC in accordance with the division commander's priorities. The SAD works with the JAGIC chief, ALOs, and with the mobile command group and division TAC to ensure the JAGIC has the current priorities for CAS execution. Once the JAGIC commits to executing CAS, the ASOC and division TACP work with the rest of the JAGIC to

integrate the CAS mission into division-controlled airspace. The ASOC airspace manager works with Army fires, Army airspace, and Army intelligence personnel to determine the best routing for CAS aircraft to transit to the target area. The JAGIC establishes ACMs, if required. Once CAS routing is determined, ASOC procedural controllers contact aircraft and provide a situational update and transit instructions on how to enter division-controlled airspace and transit to the target. They also provide frequencies and routing information to establish contact with the controlling JTAC. At the BCT level, the TACP works with Army fires cell and the brigade aviation element (BAE) to deconflict and integrate the CAS mission with other BCT airspace operations. BCT TACPs coordinate with the BCT ADAM/BAE to enable JAGIC implementation of airspace coordination areas. An *airspace coordination area* is a three-dimensional block of airspace in a target area, established by the appropriate commander, in which friendly aircraft area reasonably safe from friendly surface fires (JP 3-52). Once the controlling JTAC has established contact with the CAS aircraft, it provides final instructions and directs aircraft onto the target for execution. Once the mission is complete, the pilot provides the JTAC with physical damage assessments as time and conditions permit. The JTAC forwards this information to ASOC and division TACP personnel in JAGIC, and they forward it to the division operations and intelligence sections. As described in chapter 1, the JTAC can also hand off control of the CAS aircraft to procedural controller 2 in the ASOC.

PREPLANNED AIR SUPPORT REQUESTS

2-11. The ATOM notifies the JAGIC chief of upcoming preplanned scheduled and preplanned on-call air missions tasked to support division operations. Scheduled and on-call air missions such as CAS, AI, and SCAR on the ATO are the result of approved and sourced division preplanned air support requests, the Army submitted to the BCD and which the JAOC has tasked aircraft on the ATO.

IMMEDIATE AIR SUPPORT REQUESTS

2-12. The JAGIC can receive immediate air support requests from subordinate units (FSEs or TACPs). The initial step inside the JAGIC upon receiving an immediate air support request is for the targeting officer or other commander's designated representative to approve or deny the immediate air support request and perform initial target analysis. During target analysis, ASOC personnel provide information such as current assets available (scheduled, enroute, on station, or on call), aircraft munitions, approximate on-station time, and other pertinent information that will assist in the rapid decision making process. If no air assets are currently available, ASOC personnel estimate the expected time air assets are available. The JAGIC chief determines whether to approve the use of a CAS or other air asset, or engage the target by other means, for example, surface-to-surface fires.

RISK MANAGEMENT CONSIDERATIONS FOR CLOSE AIR SUPPORT REQUESTS

2-13. To seize, retain, and exploit the initiative during large-scale combat operations, commanders will have to manage risks to security. Ground forces should expect to seize terrain in preparation for subsequent maneuvers without the resources required for persistent security against enemy forces. For these reasons, CAS is as important to large-scale combat operations as it was for security and stability. The division fight will include AI employed short of or beyond a coordinated fire line (CFL) or the FSCL. In addition to the risk management considerations listed for the fires function, below are some considerations for the JAGIC's processing of air support requests:

- Combat identification. Most air support requests for CAS do not involve a preplanned target already staffed and approved during the division's targeting cycle. To avoid risks both to friendly forces and to escalation, JAGIC members rely on the on-scene ground commander and JTAC combat identification. Receiving the commander's intent concerning acceptable losses for unmanned systems to support responsive fires and requests for CAS or AI saves time.
- Synchronization. Before approving air support requests, the JAGIC must determine if adequate synchronization between the host nation, multinational forces, and ground forces was completed. Synchronization is required to managing risks related to air support. Impact on current surface-to-surface fires must also be assessed. The fidelity of the COP and reliable communications are essential.

AIR INTERDICTION MISSIONS WITHIN THE DIVISION AREA OF OPERATIONS

2-14. The JAGIC can execute AI missions short of the FSCL in the division area of operations conducted at such distances from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required. Executing AI while maintaining direct communications with the JAOC or tactical C2 elements is an additional capability that the JAGIC provides the division. Within the division area of operations, the JAGIC executes AI the same way regardless of where the targets are located. However, the coordination required prior to execution differs based on whether the target is short of or beyond the FSCL.

2-15. The interdiction coordinator is the JAGIC focal point for coordinating dynamic AI missions in division assigned airspace. The interdiction coordinator nominates and controls the required kill boxes and provides an important linkage between SOF operations, AI missions, and the JAOC. Furthermore, the interdiction coordinator can be delegated the authority to task, retask, "re-role," organize, or reorganize assets and assigned air forces. When considering "re-role" of a CAS asset to AI, the interdiction coordinator and SAD will carefully consider the threat (AI comes packaged with organic SEAD, if required), ordnance, range, etc. A particular consideration is the CAS aircrew being redirected will have no time to conduct a detailed target area study prior to mission execution. The interdiction coordinator can assist the other members of the ASOC in providing the aircrew operational and target area updates. The interdiction coordinator also assists the JAGIC chief with target approval and risk management.

2-16. Following targeting meetings, the ALO and targeting plans officer inform the interdiction coordinator and the JAGIC targeting officer of all division nominated interdiction targets for the upcoming ATO period. The interdiction coordinator and ATOM can determine which missions have been approved by the JAOC by checking the master air attack plan (MAAP) briefing prior to ATO publication and the ATO after publication. The interdiction coordinator will plot the targets to determine which are inside the FSCL and which are outside. The interdiction coordinator will work with the targeting officer to obtain required target updates for targets inside the FSCL prior to mission execution and pass those updates to the SODO and IDO. If the target is a mobile target, a good technique is to obtain a final update one to two hours prior to execution. If the target has moved, this information should be passed to the unit tasked with the mission, the AWACs, and the PCs, to relay to the crew, in addition to the SODO and IDO.

AIR INTERDICTION SHORT OF THE FIRE SUPPORT COORDINATION LINE WITHIN THE DIVISION

2-17. Within the division area of operations short of the FSCL, the JAGIC provides the coordination prior to the execution of AI missions. The JAGIC may identify targets inside the division area of operations, short of the FSCL, that are outside the division's ability to engage with organic assets, or that air power would best engage. This occurs because of the division targeting process, which will determine target areas of interest and engagement areas resulting in resources identified in the collection plan to monitor each. As part of the planning process, the division may decide to engage targets using Army fires or AI, with preplanned or on-call AI already scheduled on the ATO. Kill boxes are normally the best FSCMs to facilitate AI in the division area of operations. When the JAGIC decides to establish a kill box short of the FSCL, the JAGIC is the entity responsible for controlling the kill box. The JAGIC can coordinate with the proper authorities for the establishment of kill boxes within the division's boundaries. (For more information on establishing and controlling kill boxes, see FM 3-0, chapters 6 and 7.)

AIR INTERDICTION BEYOND THE FIRE SUPPORT COORDINATION LINE

2-18. In a division area of operations beyond the FSCL, the division's identified AI requirements are coordinated with the JAOC (for target nomination) and the ACA (for kill box establishment), *if the JFACC is not the ACA.* Air component assets conducting AI in the division area of operations beyond the FSCL are not required to contact the JAGIC prior to the execution of AI missions unless transitioning through division assigned airspace.

Furthermore, although the JAGIC is usually not procedurally controlling airspace beyond the FSCL, air component assets can call the JAGIC requesting updates to FSCMs, ACMs, gun target lines (GTL), and potential target area hazards (TAH).

Note: Under special circumstances and with prior coordination, the JAGIC can control airspace and AI sorties beyond the FSCL. (See JP 3-03 for additional information on AI.)

Risk Management Considerations for Air Interdiction Operations

2-19. Commanders have less risk to friendly forces during AI missions. They still must manage risk to escalation, and, from a sustainment perspective, risk to mission. The JAGIC must be aware of no fire areas and the rules of engagement for targets short of or beyond the FSCL. Understanding the results of the joint targeting cycle and the commander's guidance is essential to leading successful AI missions. Below are some risk management considerations for AI:

- Support of the main effort. AI missions help shape the battlefield for ground forces. During large-scale combat operations, commanders manage risk to mission, in part, by determining the amount of support the main effort receives. The JAGIC in partnership with the G4 must assist the commander with answering questions concerning sustainability. The JAGIC must create shared understanding of the duration and frequency of AI missions supporting the main effort at each phase of the operation.
- Sufficient Guidance. The JAGIC, and the ATOM within it, must measure the ATO against the most recent commander's intent to determine if the targeting cycle inputs to the BCD were sufficient. If the scheduled AI missions are still lacking in sufficient guidance, it is the JAGIC's responsibility to assist the G-3 and the JAOC with refinements. Furthermore, the JAGIC must help the G-3 and the commander ensure the flow of information between the JAGIC and the JAOC is sufficient for effecting changes.
- Staff Rehearsals. The JAGIC as part of the COIC is chiefly concerned with current operations, however, so long as current operations have not started, the JAGIC chief should participate in both the combined arms and the fires rehearsals to gain a shared understanding of how to integrate and deconflict AI missions. Once there is a current operations fight, other members of the fires element will have to attend subsequent rehearsals and inform the JAGIC chief of any relevant changes.
- Military Deception. AI missions have the potential to thwart military deceptions as the enemy can observe friendly forces' targets prior to the commitment of ground forces. The JAGIC can help commanders increase the effectiveness of military deceptions by ensuring AI missions adhere to the limits of advance set by the commander and the G-3.

AIRSPACE CONTROL IN THE JAGIC

2-20. The JAGIC enhances the division's capability for airspace control by co-locating members of the division airspace control working group (airspace, fires, aviation, and the TACP) to allow them to effectively collaborate. The Airmen who make up the ASOC and TACP have JFACC and ACA authority and can control JFACC airspace users operating in support of the division or in division-assigned airspace. Army airspace personnel are delegated enhanced procedural control authority over division airspace users by the ACA and in accordance with FM 3-52. The co-location of Army and Air Force airspace personnel with fires and Army aviation personnel allows for near real-time execution of airspace control. Army airspace personnel can procedurally control Army airspace use by either communicating directly to the airspace users or, when appropriate, through coordination with the ADAM/BAEs or air defense air management (ADAM) cells. (See FM 3-52 for additional information.)

2-21. The division airspace element and the ASOC jointly control the division airspace through the JAGIC processes of integration and coordination. Members of the JAGIC assess current airspace use and make necessary adjustments to the unit airspace plan, ACO, and current airspace control overlay. (For further information on airspace control authorities, responsibilities, and tasks during execution and assessment, see FM 3-52, chapter 4.)

RESPONSIVE DIVISION FIRE SUPPORT

2-22. The JAGIC ensures integration between division airspace use and the division commander's priorities and risk guidance for Army operations. The goal is to enable coordinated and responsive fires in support of division operations through continuous collaboration that begins once the JAGIC receives a call for fire.

INTEGRATING CAS AND JOINT FORCE AIR COMPONENT COMMANDER ASSETS

2-23. JAGIC airspace personnel coordinate and deconflict each air mission that enters division-controlled airspace. Prior to providing aircraft routing instructions, procedural controllers review previously planned airspace and active fire missions to determine deconfliction for routing aircraft to the target area. Informal ACMs and ACAs are established or activated, if required, in order to safely route aircraft to and from the target area. Once the JAGIC has deconflicted division airspace, procedural controllers direct aircraft to the contact point where they are handed off to the controlling JTAC. JTACs deconflict air missions with BCT-level fires, UAS, and rotary-wing operations. Once mission complete, aircraft proceed out of division-controlled airspace in accordance with routing instructions from JAGIC procedural controllers. The JAGIC deactivates or cancels ACMs and ACAs activated for the mission.

INTEGRATION OF ARMY AIRSPACE USERS

2-24. Army commanders exercise mission command to control Army airspace users (commander to commander) while airspace elements (including JAGIC airspace personnel) control airspace use. This is a subtle but important distinction. The Airmen in the JAGIC may have both tactical authority and airspace control authority over JFACC assets in division-assigned airspace. However, Army personnel in the JAGIC do not normally have authority to task Army aviation. Army commanders utilize mission orders to direct the employment of Army assets, while airspace element personnel direct the best use of the airspace. To exercise mission command and make the best use of airspace, Army commanders have the authority to direct the maneuver of all Army airspace users in their designated areas of operations. JAGIC airspace element personnel are responsible to the division commander for airspace control over a volume of division-assigned airspace and to operate in accordance with established procedures, the ACP, and other relevant airspace directives. Army airspace users operating in a brigade area of operations will normally be under the procedural airspace control of the brigade. JAGIC airspace element personnel continuously coordinate with the brigade ADAM/BAEs to ensure that airspace control over the entire division area of operations is integrated. When a division assigns part of its area of operations to a subordinate brigade, it inherently delegates airspace management responsibilities. However, the division airspace element must integrate all airspace users over the entire division area of operations and retains responsibility for airspace control. (See FM 3-52, for additional information on airspace control roles and responsibilities by echelon.)

RISK MANAGEMENT CONSIDERATIONS FOR AIRSPACE CONTROL IN THE JAGIC

2-25. Commanders and operations officers manage risk by designing control measures and procedures that integrate airspace users while reducing the necessity for deconfliction. This enables ground force commanders to mass fires and effects. Airspace control in the JAGIC is paramount to divisions' integration efforts. By advising and monitoring airspace users, fires, and maneuver assets, Army and Air Force airspace controllers can procedurally control the division's assigned airspace. Below are some risk management considerations for airspace control:

- Location of airspace information center (AIC). During planning, the division airspace element will determine the best location for the AIC. However, as current operations progress, the JAGIC should make recommendations to the assistant chief of staff concerning AIC displacement. For an explanation of the AIC see paragraph 2-37.
- Sustainment risks. Commanders manage risk to forces by developing sustainment plans with fixed and rotary wing assets reducing the demands on ground forces' logistics. The JAGIC must be ready to integrate these assets quickly without disrupting the scheme of fires. Training the procedures for immediate airspace requests is essential to fires and sustainment integration.

- AMD, mortars, and small UAS concerns. The JAGIC must be aware that every company commander is an airspace user equipped with short-range air defense (SHORAD) systems, mortars, and small UAS. Without making the COP illegible, with multiple control measures juxtaposed to every company on the battlefield, the JAGIC must process SAAFRs, air corridors, ACAs, and FSCMs that will not impede a commander, based on his position, from employing an organic effect. When it becomes impracticable to do this, the JAGIC must advise the ADAM/BAE on restrictions required for integration. In these cases, an appendix 10 to annex C that lists the commander's priorities for airspace users is invaluable.
- Assigning brigades portions of division airspace. In practice, brigades are not assigned control of large volumes of airspace. During large-scale combat operations when brigade command posts are displacing frequently, the JAGIC is essential to procedural control for all brigade areas, and the brigades are responsible for integrating airspace users into their respective areas of operation. Augmenting ADAM/BAEs and ADAMs with capabilities from the AIC is a technique if brigades must procedurally control large volumes of airspace for extended periods.

JAGIC INTERACTION WITH OTHER AGENCIES

2-26. The JAGIC cannot effectively operate without receiving and transmitting information to internal and external agencies. Some of the agencies the JAGIC integrates with to successfully direct fires and control airspace in support of the division are listed in paragraphs 2-27 through 2-41.

JOINT AIR OPERATIONS CENTER

2-27. ASOC personnel in the JAGIC coordinate with the JAOC for numerous tasks associated with executing air operations in support of division operations. Upon receipt of the daily ATO, ASOC personnel review mission allocations and coordinate with the JAOC to ensure synchronized execution. Division current air operations personnel conduct coordination with the JAOC CAS duty officer for all CAS related issues, including tasking ground alert CAS and retasking CAS missions to other units in support of division operations. ASOC personnel coordinate with the SODO for AI mission execution in the division-assigned airspace and for missions transiting the division area of operations to attack targets beyond the FSCL. ASOC personnel also coordinate with other joint airspace entities, such as the CRC, AWACS, and JSTARS, for deconfliction and clearance of fires. ASOC personnel and the ISR liaison officer coordinate with the JAOC's ISR division regarding the use of theater ISR assets to support specific division operations. During execution of these ISR missions, ASOC personnel coordinate with the JAOC's combat operations division senior intelligence duty officer. (See JP 3-30, chapter 2, for additional information on the division's interaction with the JAOC.)

BATTLEFIELD COORDINATION DETACHMENT

2-28. The BCD is the JFLCC's liaison element in the JAOC. During deliberate targeting, the division fires cell nominates targets through the senior Army headquarters that, in turn, submits target nominations to the BCD for representation at the joint targeting board. In dynamic targeting, JAGIC personnel may coordinate directly with the SODO at the JAOC for dynamic fires requests. When JAGIC fires personnel coordinate fires beyond the FSCL or outside Army boundaries, BCD personnel coordinate with JAOC personnel to integrate immediate division fires and airspace requirements. The BCD receives graphic control measure requests from divisions or corps during iterative planning cycles for nomination to the JAOC for inclusion onto the theater ACO. The BCD also distributes ACO updates to corps and other divisions when issued by the JAOC. (See JP 3-30, appendix F, and ATP 3-09.13, for additional information on BCDs.)

DIVISION CURRENT OPERATIONS INTEGRATION CELL

2-29. The JAGIC integrates and physically positions in the COIC of the division main command post. The JAGIC chief and SAD work closely with the division assistant chief of staff operations (G-3) and the chief of current operations to ensure the command post synchronizes division fires and airspace control with both the division's tactical plan and the commander's priorities.

DIVISION TACTICAL COMMAND POST

2-30. Normally, the JAGIC is located at the division main command post. In some instances, divisions control current operations from the TAC. In the future, divisions may employ two TAC teams to enable persistent operations against peer and near-peer threats. In these instances, the JAGIC may augment a division tactical command post with Airmen and Soldiers. These distributive capabilities will enable the TAC teams to direct fires and aviation in support of ground forces. By performing various air support control functions, JAGIC personnel in the TAC primarily serve as an extension of the JAGIC by extending the JAGIC's air operations C2 capabilities to other units or geographic areas. The Airmen and Soldiers supporting a TAC will coordinate with the JAGIC at the main command post to ensure synchronization of division fires and airspace control. When the JAGIC and the main command post displace, the Airmen and Soldiers supporting the TAC will either be augmented with everything they need to communicate with the JAOC or coordinate with an alternate command post. For additional operational considerations involving one or two TAC teams and, or command post displacement of the main, see chapter 3, Planning and Operational Considerations during Large-Scale Combat Operations.

DIVISION FIRES CELL PLANNING

2-31. While JAGIC collaboration improves joint fires execution in support of the division, it does not relieve the fires element of the planning tasks and responsibilities outlined in JP 3-09.3 and FM 3-09. The division fires element is an organization in the command post responsible for coordinating the activities and systems that provide for the use of Army indirect fires and joint fires. The fires element planners coordinate target acquisition, target dissemination, and target engagement, and they manage the division targeting process. They also integrate and synchronize airspace control requirements with Army and joint control measures, including FSCMs and ACMs, and provide input to the air tasking order, airspace control plan, and airspace control order. In addition, the fires element planning section coordinates with the TACP for preplanned CAS and AI requests. The fires element retains responsibility for forwarding CAS and AI requests through Army fires coordination channels to the BCD through Army fires channels. For immediate CAS and AI, the current operations fires element in the JAGIC requests and coordinates with the appropriate personnel internal to the JAGIC. (See FM 3-09 for additional information on the division fires cell.)

2-32. The fires element includes AMD functions and personnel. These functions include planning and coordinating AMD, providing air and ground positive and procedural identification, providing early warning, contributing to airspace control planning and execution, and contributing to joint and local airspace deconfliction and clearance of fires.

2-33. The chief of fires or the DFSCOORD leads the division fires element. The JAGIC chief ensures JAGIC personnel understand all aspects of the fires plan, including division targets, FSCMs, priorities of fire, and resource priorities. JAGIC personnel receive daily briefings from the fires element to ensure situational understanding on fires planning and execution.

DIVISION ARTILLERY

2-34. DIVARTY is a brigade level fires command organic to the division and, unless the division has a field artillery brigade, the DIVARTY serves as the division's force field artillery headquarters. As stated in chapter 1, the DIVARTY commander is usually the division FSCOORD responsible for oversight of the JAGIC and its fires cell. The DIVARTY must have a strong working relationship with the JAGIC whether it is the force field artillery headquarters for the division or not. This ensures efficient and effective delivery of surface based fires. While a DIVARTY JAGIC liaison is not yet a task organization and equipment listed position, JAGIC chiefs, in partnership with the division fires cell and the DIVARTY staff, must establish shared processes and a shared TACSOP. This practice ensures their partnership is as effective as the ASOC's partnership with the rest of the JAGIC. (See FM 3-0, chapter 2, and ATP 3-09.90 for additional information on the DIVARTY's roles and responsibilities.)

FIELD ARTILLERY BRIGADES

2-35. The field artillery brigade and the DIVARTY are the only Army field artillery organization above the BCT field artillery organizations. The field artillery brigade, however, may not be assigned to or in

support of the division. The JFLCC can direct the field artillery brigade to execute tasks for any joint, service, or functional headquarters. A division may have a field artillery brigade assigned, attached, placed under its operational control, or given a support relationship to the division. The division may employ the field artillery brigade as its field force artillery headquarters. The field artillery brigade, if they choose to do so or, *under certain command relationships* are tasked to do so, can provide appropriate personnel to the JAGIC as required. The field artillery brigade gives the supported commander a headquarters to plan, synchronize, and execute close support fires for engaged forces, and it provides strike, counter fire, and fires in support of decisive and shaping operations throughout the command's area of operations. The field artillery brigade is capable of employing or coordinating the employment of Army indirect fires, joint air and surface fires, and multinational fires. (See FM 3-09, chapter 1, for additional information on the field artillery brigade.)

DIVISION AIRSPACE ELEMENT

2-36. The division airspace element is responsible for integrating and deconflicting all airspace users operating inside division-controlled airspace during planning, preparation, and execution. It accomplishes this by providing support to the future operations and plans cells for the division's consolidated unit airspace plan and ACO inputs. The airspace element derives these products from collecting, collating, and deconflicting the subordinate brigade's unit airspace plans, and submitting the planned control measures through the BCD to the JAOC for development of the ACO. It responds to the JAGIC for the execution and assessment of current operations. When the division employs a JAGIC, the airspace element co-locates the necessary current operations airspace personnel and equipment in the JAGIC. The airspace element personnel working in the JAGIC direct the assessment of airspace use and make execution adjustments to the previously developed airspace plan, and execute immediate airspace requests based on emerging requirements. While JAGIC collaboration improves airspace control in the division, JAGIC does not change airspace control responsibilities and tasks as outlined in FM 3-52. (For further information on airspace control authorities, responsibilities and tasks during execution and assessment see FM 3-52, chapter 4.)

COMBAT AVIATION BRIGADE

2-37. The JAGIC does not provide mission command of Army aviation units. However, it must have situational awareness of Army aviation operations in order to incorporate them into the division airspace plan. This ensures friendly force identification and the prevention of fratricide. CAB personnel provide the JAGIC with real-time information on individual flights, and the control measures required to facilitate those flights, i.e. standard army aircraft flight routes (SAAFR) and air corridors (AIRCOR), so airspace personnel can integrate them into division airspace operations. Furthermore the CAB owns the division's only air traffic services company and the AIC within. The AIC is instrumental in providing C2 for select areas on the battlefield and airfields. When tasked, it can help augment the airspace control capabilities in the JAGIC. If the division JAGIC needs to displace, the AIC can be used by the division to assist the temporary JAGIC to control division assigned airspace. (See chapter 3 of this publication for more information.)

AIR DEFENSE AIRSPACE MANAGEMENT/BRIGADE AVIATION ELEMENT

2-38. All BCTs and multifunctional brigades (except sustainment) have an organic ADAM/BAE, *or in the cases of CABs and MEBs at least an ADAM*, responsible for integrating brigade airspace, including AMD and aviation functions. The ADAM/BAE coordinates with higher, subordinate, and adjacent elements to maximize the efficiency of procedural airspace control and the lethality of weapons systems. The ADAM/BAE develops, coordinates, and executes requirements at brigade level and below. The ADAM/BAE receives ACMREQs from subordinate units or develops airspace requirements during the military decision making process and submits them in the form of a unit airspace plan to the division airspace element for inclusion in the ACO during planning, and as updates to the division airspace overlay during execution. The ADAM/BAE can accomplish these tasks through several mediums, but the TAIS is the Army's program of record for doing so. During mission execution, the ADAM/BAE coordinates directly with the JAGIC for all dynamic airspace requirements. The ADAM/BAE works closely with the brigade fire support and TACP personnel to ensure all airspace requirements are in accordance with the commander's priorities. JAGIC Army airspace personnel distribute all immediate ACMs to ADAM/BAE

personnel through the ACO over TAIS. ADAM/BAEs then distribute them to subordinate units. (See FM 3-52 for more on the ADAM/BAE's roles and responsibilities.)

MANEUVER ENHANCEMENT BRIGADE'S AIR DEFENSE AIRSPACE MANAGEMENT

2-39. MEBs are doctrinally assigned areas of operations. They accomplish command and control of assigned forces, security operations, and may need to employ fires and CAS. In large-scale combat operations with a peer or near-peer enemy, MEBs are provided tactical combat force (TCF) maneuver units, and organic, or at a minimum, on call fires. The MEB may conduct area and route security, using ground forces and UAS, and can respond to various levels of enemy threats with internal unit forces, quick reaction forces, or employing the tactical combat force. The MEB's ADAM is the lightest manned of the brigade level ADAM-style organizations, but remains staffed and equipped with air defense and airspace management capabilities. The MEB plans for and coordinates airspace requirements, and executes airspace operations and fires, as operational requirements necessitate. Often the MEB's AO is the location of choice for sustainment unit basing, including logistics, maintenance, resupply, and medical support operations. Aerial support to these sustainment operations can place significant demands on maneuver airspace and integration in division airspace operations.

BRIGADE COMBAT TEAM FIRES CELL

2-40. The JAGIC coordinates with BCT fires cells for the execution of fires in support of current operations. The JAGIC ensures BCT fires cells have current FSCMs and ACMs and that all BCT fires are executed within BCT airspace parameters. The JAGIC may also execute fires through BCT fires cells in specific situations when the brigade's fires assets are required to prosecute a target.

BRIGADE AND BATTALION TACTICAL AIR CONTROL PARTIES

2-41. Brigade and battalion TACPs provide commanders, operations officers, and fires cells with liaisons to joint C2 nodes controlling joint fires assets. They advise the commander on the capabilities and limitations of air operations, and they provide assistance with planning for and integrating airpower into ground operations. They also provide primary terminal attack control of CAS. The brigade and battalion JTACs execute CAS missions in the brigade or battalion areas of operation.

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Chapter 3

Planning and Operational Considerations for Large-Scale Combat Operations

This chapter describes the joint planning that occurs prior to the division receiving assigned airspace. JAGIC members can take part in these efforts through parallel planning. The chapter also outlines delegated authorities. Lastly, this chapter describes operational considerations during large-scale combat operations when the JAGIC members will have to form distributive capabilities that can move quickly with the division main command post and TAC.

PLANNING CONSIDERATIONS AND AUTHORITIES

3-1. The JFC designated ACA may delegate control of a volume of airspace to components in accordance with the theater ACP. Army divisions may request division-assigned airspace within unit boundaries and below the coordinating altitude with sufficient justification – tactical necessity, demonstrated capability to control – JAGIC and ASOC, and trained ability to meet requirements outlined in airspace directives – ACP, ACO, and appendix 10 to Annex C. The ACA can assign a division commander airspace that corresponds to the division's area of operations and the division's ability to control. When the division organizes, trains, and equips a JAGIC that includes ASOC and TACP personnel, the JAGIC can normally satisfy the ACA's risk requirements for joint airspace control. The JAGIC can also better facilitate responsive fires for the division as well as deconflict joint airspace users. The JAGIC must receive division assigned airspace from the ACA before it can facilitate joint fires and joint airspace control for the COIC. Even though JAGIC members are not a part of the geographical combatant commander, JFC, JFACC, or ACA's staff, *which are primarily responsible for the development of the ACP*, they should, *if assigned to a plans cell prior to executing combat operations*, conduct parallel planning and contribute inputs and airspace requests to these higher headquarters. This is only while select members are assisting with mission analysis activities. The JAGIC is a current operations center and, once formed, is not responsible for plans. The shaping and preventing operations that precede the defensive and offensive portions of large-scale combat operations are opportunities for fires cells, airspace cells, and ASOS members to shape the tenets of the ACP prior to its publication. This practice ensures the ACP better reflects the division commander's intent and priorities.

3-2. The ACA develops the ACP during the joint planning process in coordination with components and other joint forces. The JFC approves the ACP. (See JP 5-0.) The ACP is a supporting plan to the campaign, contingency, or operations plan. The ACP supports military operations and is balanced by the JFC's acceptable level of risk for the preservation of resources and mission accomplishment. The ACP establishes procedures for the airspace control system and integrates all resources capable to control airspace. The theater Army service component command, BCD, or other Army force headquarters is responsible for ensuring the ACP supports ground forces operations. A division JAGIC must be reported and included in the ACP to be recognized as an airspace control element and for the division to be assigned an airspace control area or sector.

REQUESTING THE COORDINATING ALTITUDE AND SHAPING THE JAGIC'S AUTHORITIES

3-3. The ACP will outline the authorities a division JAGIC will have to procedurally control assigned airspace within its portion of the joint operations area (JOA). The JFC designated ACA approves the CA and recognizes airspace control elements that have the capability to control airspace above and below the CA.

3-4. Early establishment of the CA is paramount to the division's operational success. When delegated division assigned airspace, the JAGIC controls a volume of airspace and coordinates its use for Army airspace users and all joint airspace users below the CA. Missions above the CA are coordinated through approved channels and controlled by the CRC or Airborne C2. The CA can change by phase in subsequent ACOs and is not necessarily uniform throughout the JOA. Division requests to the ACA for delegated division-assigned airspace enables the division to effectively achieve objectives, synchronize warfighting functions, integrate all airspace user requirements, and dynamically deconflict airspace user requirements for more responsive fires. The requested CA needs to satisfy those specific requirements for the current concepts of operation, maneuver, and fires. Changes to the CA could be daily in a fluid operational environment. Considerations for forming CA requests include—

- Projected max ordinate for prospective munitions based on terrain, fires assets, position areas for artillery assets, enemy, and scheme of fires. Division staffs should request a CA set high enough for the JAGIC to engage the preponderance of its intended targets without the ASOC coordinating with external airspace control elements such as the AWACS or CRC. Most units request the CA be set at, or slightly above, the highest cannon and basic rocket ordinates, since the majority of guided multiple launch rocket systems and precision missions will exceed any viable CA. At a minimum, divisions should consider a CA high enough for mortar fires and low-angle artillery fire. A higher CA is required for the divisions that cannot effectively shoot most fire missions low angle. Divisions that anticipate a high volume of joint air support or joint air assets transitioning the area of operations will need a CA low enough for those airframes to operate without performance issues and not burden the JAGIC with large volumes of joint air assets to track and coordinate.
- The CA changes. It may change by phase of an operation and is not the same across the JOA. This helps facilitate joint forces operations in accordance with the JFC's priorities. Each division needs to request and justify requirements for assigned airspace and corresponding CA, and assess those requirements throughout the operations process. Although not a requirement, divisions can submit a CA justification memorandum (request for division-assigned airspace) through the chain of command to the ACA. The unit's targeting process can determine the division's primary weapon systems critical to mission accomplishment and associated airspace requirements. Divisions should request CA based on the requirements to employ primary weapon system and ability to control airspace. A corps, with multiple divisions, normally establishes main and supporting efforts, and establishes priorities of support, and therefore should review and prioritize division CA requests before sending to the ACA for approval. For example the main effort division may have more High Mobility Artillery Rocket Systems (HIMARS) firing in sector, or the Corps may have positioned HIMARS for the deep fight in a division area of operations. In such cases, the corps should make concessions with the ACA to prioritize division CA requests.
- AMD concerns and authorities. Division staffs should recommend, by phase and locality, the air defense warnings, weapon control statuses, rules of engagement, and combat identification procedures best suited for the division's area of operations beneath the CA.
- Multinational forces and local authorities. Considerations for the employment of fires, aviation, and UAS. For developed theaters and multinational operations, the ACP should address procedures that integrate non-organic brigades and local agencies into both air-ground operations and the joint fire support plan.

Additional considerations for CA selection in the form of questions:

- What are area of operations and boundaries of units?
- What is the primary killer for selected timeframes? Does that weapon system have priority for airspace use and ACMs and FSCMs required for employment?
- How many perspective sorties of air support are in the area of operations and how many transition or operate inside division-assigned airspace? How many CAS sorties per day are allocated?
- Where are the friendly artillery firing positions located? What is the artillery's primary mission during select phases of the operation, for example counter fire or direct support? And, where is the artillery's primary target?
- Does the terrain require high trajectory fire – reverse slope? Are primary fire missions low angle fire? And, do fire missions require max range shots?

- Based on above answered questions, what is the max ordinate for each system: mortars, 105mm, 155mm, and rocket and missile artillery? What are the basic loads and anticipated sustained fire rates for each system?
- What risk will the ground commander accept to employ assigned UAS?
- What manned and unmanned aircraft must be flown between the guns and prospective targets?
- Will terrain limit the range of the JAGIC communications for controlling aircraft? And, what is the ASOC's communications range?
- How is the JAGIC manned and what is its capability?
- Where are the phase lines, FSCL, and, or forward boundary?
- Do friendly forces have air superiority? Can an AWACS or CRC capability clear airspace above the CA?
- What is the threat to friendly aircraft in the area of operations and what is the SEAD plan?
- Are higher headquarters firing units inside the division area of operations?

AIR AND MISSILE DEFENSE CONSIDERATIONS

3-5. There is a close relationship between airspace control and counterair operations and air defense requirements. The JAGIC must not interfere with counterair operations and provide responsive support toward achieving and maintaining air superiority over the division area of operations.

3-6. The AMD officer in the JAGIC does not receive authorities direct from the AADC, the Army air and missile defense command (AAMDC), or the assigned RADC or SADC. Instead, the AMD officer in the JAGIC receives guidance from these agencies through higher headquarters and the JAGIC's linkage to the JAOC. Targets that affect air superiority and counterair operations can be above or inside division assigned airspace. Therefore, the JAGIC must understand the AADP and how to rapidly integrate joint airspace users supporting the AADP. The AMD officer is responsible for understanding air defense warnings, weapons control statuses, and identification authorities from the AADC and communicating them to the JAGIC and subordinate units when required. The JAGIC AMD representative must be knowledgeable about the implementation of division SHORAD and locations for theater ADA assets, such as Patriot missiles, within the division's area of operations.

UNIT AIRSPACE PLANS

3-7. The division staff participates in parallel planning with subordinate brigades. The division airspace element provides airspace guidance to subordinate brigade ADAMs and ADAM/BAEs. The brigades are primarily responsible for developing the control measures that support tactical plans and incorporating those control measures in a unit airspace plan. The brigades' unit airspace plans are integrated into the division unit airspace plan in sufficient time to be sent to higher headquarters and integrated into the theater ACO. The division is responsible for quality control of these unit airspace plans prior to collating them and forwarding them through corps to the BCD. To help facilitate this process, the division must publish appendix 10 to annex C of the operations order. Appendix 10 should highlight all the relevant information from the ACP and senior echelons' appendix 10s. It should also, in concert with the division TACSOP, inform subordinate units on the standards for unit airspace plan submissions and provide guidance on portions of the division airspace the brigades will procedurally control. For an example to appendix 10 to annex C reference FM 3-52, annex F, and for techniques on how to draft appendix 10 to annex C, reference FM 3-52, chapter 3.

CONSIDERATIONS BEFORE MOVING THE JAGIC FROM DIVISION TO CORPS

3-8. ASOCs are currently designed to aid divisions in procedurally controlling airspace and integrating airspace users in volumes of airspace comparable to a division's area of operations. However rare, there may be operational and tactical scenarios when the JAGIC's capabilities and the ASOC may be needed at echelons above division. These scenarios include—

- Fighting in a relatively small and shared area of operations, such as a city during urban operations, with Soldiers from multiple divisions within the Corps operating in close proximity. In this

scenario it may be impracticable for a division to integrate all airspace users without disturbing or negating corps effects.

- A multinational corps fighting with multinational divisions unprepared to integrate the capabilities of an ASOC, or organize as a JAGIC, presents a dilemma with the division JAGIC technique. The corps may advocate for different CAs within the corps boundaries based on subordinate divisions capabilities to control airspace. This technique will help because the corps area of operations is often too large for a single JAGIC to procedurally control a large number of airspace users.
- Corps headquarters operating as senior tactical headquarters without assigned divisions. In some tactical scenarios corps might be maneuvering brigades without division command posts to integrate effects. When the corps is acting as the tactical integrator it should employ a JAGIC.
- Early in an operation, corps command posts may be more expeditionary than division command posts and could be the first mission command node controlling fixed formations. In this scenario the corps may incorporate a subordinate division's JAGIC into an early entry command post.

OPERATIONAL CONSIDERATIONS AND DISTRIBUTIVE CAPABILITIES

3-9. While conducting large-scale combat operations, the division main command post and TAC must remain mobile to defeat the threat of enemy fires and to facilitate maneuver and follow-on operations. The JAGIC as part of the COIC will not remain static for several days or weeks as it would during security and stability operations. For these reasons, the JAGIC members, both Army and Air Force, must remain adaptive and ready to perform the JAGIC functions from vehicles, containers, and hasty shelters, and as a distributive capability during TAC movements or command post displacements.

3-10. Chapter 1 introduces the reader to a fixed JAGIC design for operations when COIC members can occupy the same command post. This is a proven design and allows the ASOC portion of the JAGIC to remain integral. To support large-scale operations, division command posts and ASOSs must explore adaptations to this design and incorporate new techniques into their TACSOPs. Given the current Army and Air Force material solutions for communications and mobility, JAGIC teams should experiment and aid the division command posts in becoming more mobile and distributive.

TECHNIQUES FOR MOVING THE JAGIC

3-11. Regardless of the division command post's design, all divisions must be prepared to relocate and develop distributive capabilities to facilitate relocation. Command post displacement places stress on the division to sustain a JAGIC capability. The foremost requirement is to maintain airspace control and enable division and joint fires. The ACA is responsible to the JFC to ensure the airspace control elements and procedures support all joint operations and forces. The division deliberately plans the JAGIC displacement and coordinates procedures with the ACA in the event the JAGIC is unable to maintain airspace control. Movement of the JAGIC will place a burden on units' resources that are external to the division headquarters. Here are two recommended steps: (1) Prepare, tailor, and relocate a distributive JAGIC capability to a TAC command post, (2) task an AIC, usually organic to the CAB, *F Company of the General Support Aviation Battalion (GSAB)*, and, or subordinate ADAMs to assist with temporary JAGIC responsibilities when the command post displaces. Developing distributive capabilities and leveraging other division assets is the only effective means of conducting displacements while maintaining a JAGIC capability to control the division assigned airspace.

3-12. Recommendations for JAGIC personnel and equipment to move to the TAC for the purpose of displacement are as follows:

Note. This compliment of personnel represents 12 hours of sustained capabilities. For 24 hours of sustained capabilities, each service member will have to have an additional compliment displace with them to the TAC command post. Additionally, Service members and equipment required for operation of the mission command and joint C2 systems listed below must relocate to the TAC without degrading capabilities in the main command post. Lastly, the SAD must either be dual hatted as the ASM or add the ASM to the list.

- JAGIC Chief.
- Army airspace control personnel, one shift.
- SAD.
- JAGIC Airmen, one shift.

Remaining JAGIC personnel will have to assist with command post displacement.

3-13. TAC command posts are resourced with adequate fires, ADA, and Army aviation to provide JAGIC support. The TAC command post's Army airspace control and Air Force JTAC sections require augmentation to assume JAGIC responsibilities. The additional personnel in paragraph 3-12 provide the capabilities for a smaller JAGIC.

RISK MANAGEMENT CONSIDERATIONS FOR MOVING OR DISTRIBUTING THE JAGIC

3-14. As with any displacement of a mission command node, there is inherent risk to mission and friendly forces when moving or distributing the JAGIC. Commanders and staffs must rehearse command and signal concerns to identify friction points and make refinements. JAGIC members must train more in the field to validate personnel, vehicles, and systems for large-scale combat operations. All JAGIC members must also be experts on systems, allowing the JAGIC flexibility to move a limited number of people to the TAC for a short duration without losing capabilities. Furthermore, JAGICs must train with the CAB's AIC and select members of the DIVARTY, field artillery brigade, or force field artillery headquarters to rehearse scenarios that require those separate agencies' capacities. In addition to the risk management considerations listed in chapter 2, below are some considerations unique to command post displacement:

- Authorities. Commanders ensure that authorities are in place to empower subordinates and help them build working relationships based on trust. When the JAGIC displaces or becomes a distributive capability, the division staff must develop a table of authorities and create shared understanding for the responsibilities of each mission command node.
- Command interaction. Once the JAGIC becomes a distributive capability, the staff must build processes into the battle rhythm to ensure JAGIC members are receiving the commander's intent. Brief updates over the division's satellite radio net is a technique to distribute command guidance.
- Enemy collection and effects. Before the JAGIC displaces, the division staff should create effects that disrupt or neutralize the enemy's collection and fires capabilities. Selecting periods in the battle when joint fires and other divisions' effects overwhelm the enemy, or the enemy is displacing themselves, may be ideal times to displace the JAGIC and avoid detection and interdiction.
- Simulations and war gaming. The JAGIC should conduct exhaustive rehearsals and war game displacements prior to execution. A deficit in fires integration and mission command of airspace users is unacceptable and will impede the commander's ability to apply persistent pressure on the enemy.
- Battle handoff. The JAGIC should develop standard operating procedures for battle handoff with an alternate command post and procedures for receiving the battle back once the main is reestablished. This will help validate that the alternate command post has all of the required capabilities to mission command and that fire support missions will not be lost during transitions.

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Appendix A

Joint Air Ground Integration Center Procedures

Note. Because the following procedures are not in color, a star shape signifies the procedure's start. The intent of this shape is for the reader to more quickly determine where to initiate the procedure. The star in no way signifies rank or a commander's decision point.

JAGIC PROCESSES AND PROCEDURES

A-1. This appendix identifies some JAGIC processes and procedures that may assist the units with developing battle drills and checklists. Units are responsible, however, for developing TACSOPs and battle drills.

TACSOP DEVELOPMENT

A-2. Establishment of relationships with Army and Air Force optimize the JAGIC's collaboration and functionality. The details for procedures or complex steps each crewmember or duty position consistently performs must be documented and standardize between Services and shifts. The JAGIC members work together to provide the JAGIC chief the right decisions in a minimum amount of time. All crewmembers have execution tasks necessary to rapidly implement those decisions. It is highly recommended that units incorporate the use of digital tools into JAGIC battle drills and provide systems operators proficiency training. Lastly, JAGIC battle drills often become too cumbersome when units attempt to develop standard procedures for every possible contingency or situation. Therefore, units should develop a few basic JAGIC battle drills from which other real situations can deviate.

ACM PROCESS AND ACM CONFLICT RESOLUTION

A-3. Battalion and brigade staffs develop ACMs that support operations for inclusion into unit airspace plans, the division airspace overlay, and the ACO. No plan is perfect, however, so JAGICs must train to develop unplanned or immediate ACMs to support emerging requirements and changes. This paragraph provides examples of the tasks involved in this process. The Army airspace officer in coordination with the Air Force airspace manager leads this process. The Air Force and Army both have systems and request forms they use to process ACM requests. The key steps in creating or activating an ACM are relatively simple. First, the incoming request is validated and conflicts are reviewed and coordinated. If no conflicts exist, the ACMREQ is approved. If a conflict exists, the JAGIC chief and SAD make a decision to accept or reject the requested ACM, and notify airspace users. If an ACM is accepted and has a conflict, the owning airspace element is required to provide the JAGIC with a detailed plan on how they will deconflict the ACM, either by time or airspace separation (vertically, laterally, or a combination of both). The ACM is activated and monitored for compliance, and is deactivated when no longer required. In the JAGIC, the Air Force airspace manager and Army airspace personnel perform duties next to each other and collaborate, not only on ACM deconfliction, but also on macro level issues affecting the assigned airspace. The JAGIC controls a large number of assets executing operations in a relatively small area. While this may be the shortest of the JAGIC processes, it is also one of most important as airspace deconfliction and integration is a critical factor in reducing fratricide and optimizing the joint kill chain. (See figure A-1 on page A-2 for a detailed flowchart of the process to create and activate immediate ACMs.)

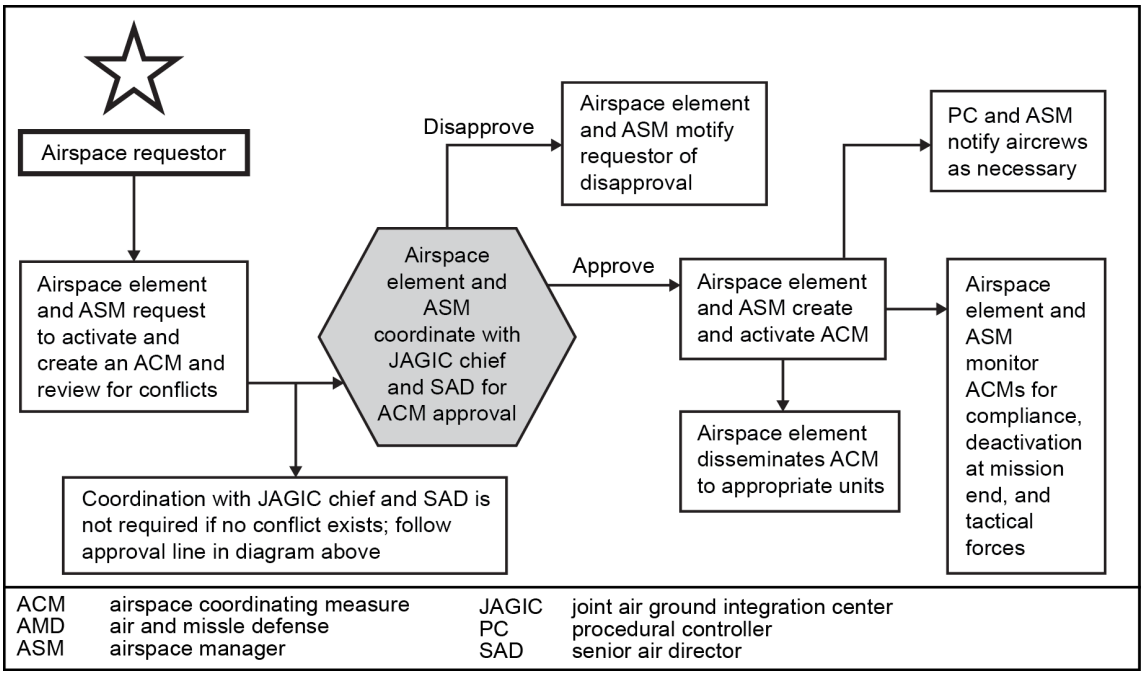


Figure A-1. JAGIC create and activate airspace coordinating measure

A-4. ACM conflicts can occur in many different circumstances. In most cases, ACM conflicts arise when an airspace user *(this can include fires, UAS, manned fixed wing, and rotary wing assets all from joint and unified action partners)* enters an ACM without prior approval, or if an aircraft fails to maintain a predetermined altitude or location in an ACA. In either case, the first person observing the conflict must take action to resolve the conflict with the appropriate authority controlling the asset, or the authority controlling that airspace and the ACM. This means the JAGIC acts quickly to resolve observed conflicts.

A-5. Once an airspace conflict is observed, a procedural controller or Army airspace representative, depending on the Service platform, contacts the asset or its controlling agency (for examples, an Army UAS or UAS control station) to monitor and resolve the situation. If a procedural controller or Army airspace representative is unable to contact the asset, that controller contacts the CRC, airborne C2 elements, or subordinate ADAM/BAE to contact the asset and resolve the situation. If this conflict occurs due to an interdiction mission or an UAS, the interdiction coordinator or SAD helps resolve the situation.

A-6. Anyone with a radio who observes an airspace conflict is responsible to act immediately and assist in correcting that conflict. A key enabler for identifying conflicts is an accurate air picture as provided by the AMD element, combined with maintaining and displaying the latest air picture with current and planned ACMs, thus maintaining a current air picture. (See figure A-2 on page A-3, for a detailed flowchart of the ACM conflict resolution process).

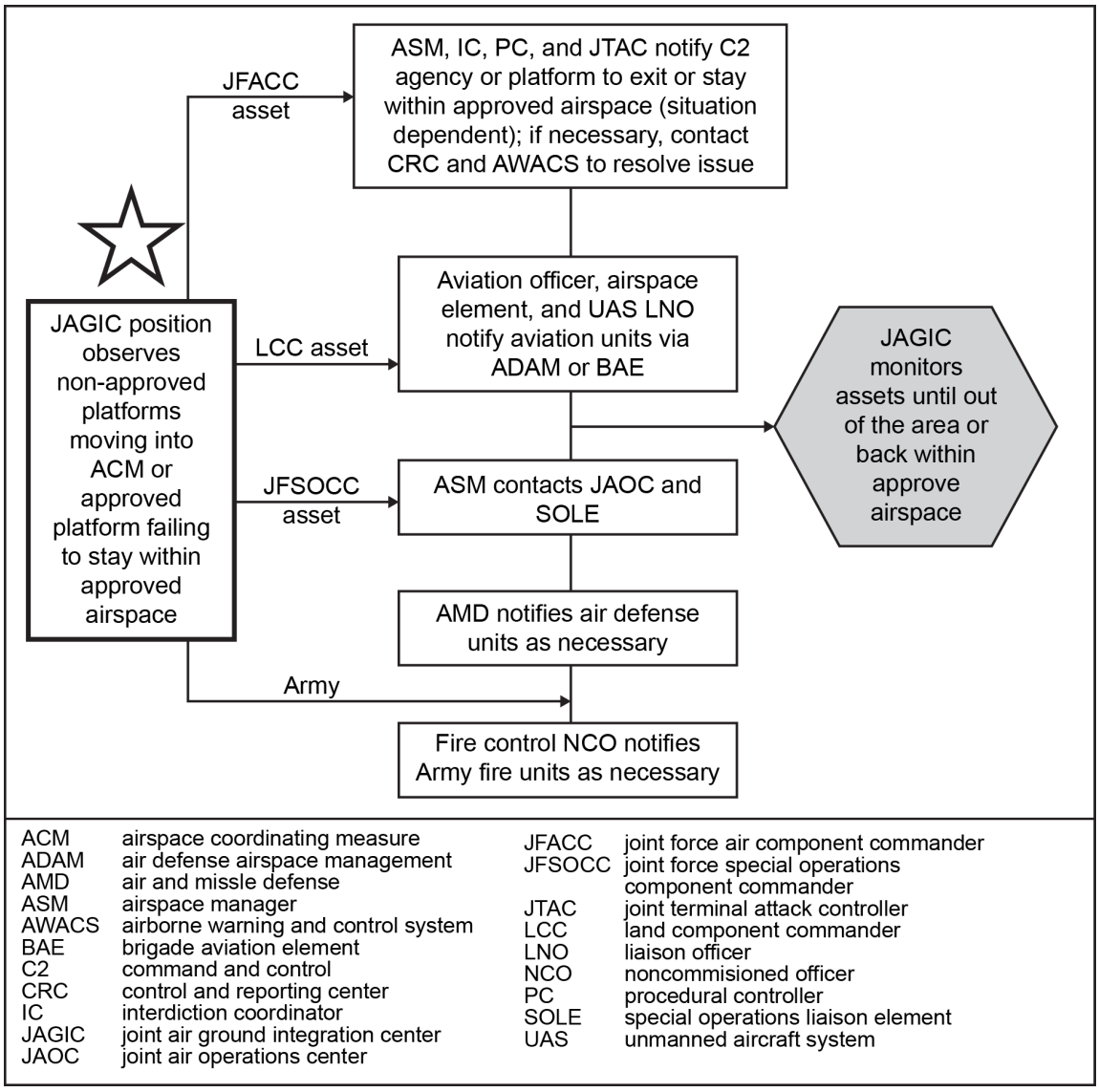


Figure A-2. JAGIC resolve airspace coordinating measure

CALL FOR FIRE

A-7. The execution of fires processes can occur with multiple permutations. Paragraphs A-6 through A-9 provide an example of the general tasks involved in this process. In reviewing the call for fire process, the first issue to document is how calls for fire enter the JAGIC. Previously, calls for fire entered the fires element and organic assets were reviewed in order to determine the level of effect and weapon required to execute against the target. Using the JAGIC, the positions extracted from the current Army fires cell will reside in JAGIC. These positions (FSO, targeting officer, and fire support NCO) will support execution against targets on the battlefield.

A-8. Calls for fire come in from various external sources, including BCT FSEs, JTACs, intelligence sources, and other locations. Once a request is received, the fire control NCO is the first person to process the request. The fire control NCO transmits the target to the targeting officer or representative who analyzes the target, verifies target data, validates the target, and performs target development, including weaponeering, collateral damage estimation, and target number assignment. The next portion of the call for fire process requires further explanation. The JAGIC concept brings together co-located Army and Air Force personnel to form

an integrated center. Co-location in the JAGIC, not just in the same command post, provides enhanced opportunities for joint fires. Targets entering JAGIC, regardless of type, are reviewed jointly. Units then use the appropriate weapon against the target. The JAGIC makes it possible to immediately use tactical aircraft if they are best suited to create the desired effect. As a request comes into JAGIC, the JAGIC chief can make an immediate decision on the best and most efficient weapon to use against a target.

A-9. Next, the targeting officer or representative reviews available attack options. The ATOM reviews potential air attack assets to use against the target. As the targeting officer and ATOM review target options, other actions occur. The ASOC intelligence officer or technician views the target area to search for threats to friendly aircraft. The aviation officer provides assessments of weapons impacts to Army aviation assets in the target area. The AMD officer reviews the impact to on-going air defense artillery activity in the target area, and the Army airspace personnel and Air Force airspace manager review airspace availability. If the element requesting fires has requested fires outside of their area of operations, the JAGIC should coordinate within the COIC to ensure there are no conflicts with units on the ground. Additionally, the fires cell must ensure that the target does not violate any fire support coordination measures. Furthermore, JAGIC members assist the COIC with identifying any mission impacts to the area of operations and required ground clearances.

A-10. Once the JAGIC members review all available information, the SAD and targeting officer discuss targeting options with the JAGIC chief. If the JAGIC chief decides the best attack option is an air asset, this process will proceed as either a CAS, an AI, a SEAD, or a target of opportunity mission based on target type. If surface fires are selected against the target, the first step is to deconflict airspace. Mission information is passed digitally and includes a graphically depicted munition flight path (MFP), an associated artillery position area, gun-target line orientation, and maximum ordinate of the likely munition. During assessment of this fire mission, the Army and Air Force airspace managers create or activate required ACMs. Once the JAGIC has deconflicted airspace users, the airspace team delivers a digital or verbal response to the fire control NCO and the JAGIC chief. With the JAGIC chief's order, the fire control NCO transmits the fire command to the executing fires unit and supervises its execution until complete.

A-11. Tactical level resources conduct battle damage assessment as soon as practicable and report it to all JAGIC members for situational awareness on the target. The next step in this process is deactivating ACMs put in place to support the mission, unless the JAGIC chief, following the battle damage assessment, anticipates another iteration of the process. The call for fire process is continual and iterative. The JAGIC chief ends the mission only after it meets criteria from the commander's intent and scheme of fires. (See figure A-3 on page A-5 for a detailed flowchart showing the immediate call for fire process.)

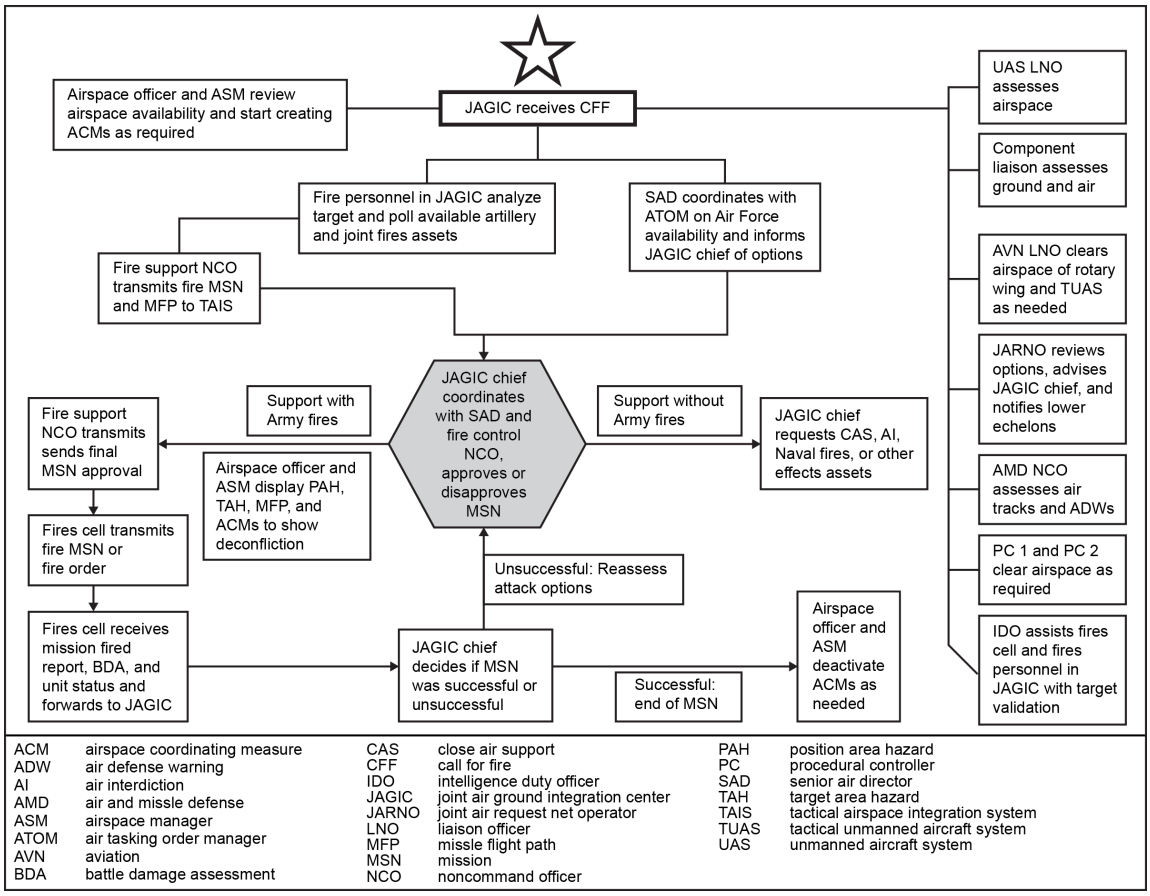


Figure A-3. JAGIC call for fire

CLOSE AIR SUPPORT REQUEST

A-12. The execution of CAS requests can occur with multiple permutations. Paragraphs A-12 through A-16 provide examples of the general tasks involved in this process. Requests for CAS can come from several sources, echelons, and nodes. Most CAS requests come via the JARN from JTACs, operational detachment alpha teams, or joint fires observers at brigade or battalion echelons. These teams use either the TACP-CASS, high frequency communications, tactical satellite communications, voice, or chat applications. The process begins when the JARNO receives the request, assigns a target number, and verbally announces receipt of the request. The next steps in the process occur simultaneously as JAGIC members execute normal duties.

A-13. The ASOC intelligence duty technician checks the target area for threats to airborne platforms. If threats are found, the ASOC intelligence duty technician alerts the SAD and recommends a SEAD mission be executed either by field artillery fires or through coordination with the joint air operations center. If SEAD is required, JAGIC participants involved in a CAS request will continue coordination actions to ensure a mission is available once SEAD is complete.

A-14. The fires cell is responsible for ensuring any requested fires do not violate established fire support coordination measures. Additionally, if the CAS request targets a location that is not in the requestor's area of operations, the fires cell will coordinate with the COIC to deconflict ground units. Army fires personnel in the JAGIC (primarily the targeting officer's representative and the Fire Support NCO) coordinate for an initial determination as to whether or not surface fires are an attack option. They also work with the aviation LNO to determine if Army aviation is an available and practicable alternative to the CAS request. Similar to the call for fire process, JAGIC provides the capability to review all potential attack options prior to the execution of a CAS mission. In most cases, the JAGIC will execute a CAS mission, as surface fires would

have been used if available in brigade or battalion areas. However, there are times at the division level, when field artillery fires is an acceptable attack option and should be used instead of CAS.

A-15. The JAGIC chief, SAD, and ATOM work closely together in determining what air assets should be used as the attack option. The ATOM checks for available aircraft resources and coordinates with the SAD. In some instances, the JAGIC chief may determine the CAS request to be a higher priority than existing missions and the SAD will reassign an aircraft.

A-16. Concurrent with the determination of air asset availability is the JAGIC chief and SAD's decision to select either an Army or air component resource as the attack option. In some cases, the decision may be delegated to the SAD. If CAS is selected, the SAD informs the JARNO to send the approval message back to the requestor, the ATOM tasks the asset, and Army and Air Force airspace managers determine if ACMs are required. If an ACM is required, Army airspace personnel and the Air Force airspace manager create and distribute the ACM. The SOF fires liaison officer verifies locations of any special operations elements near the target area and alerts them of incoming fires. The component liaisons, if any, do the same. If the JAGIC chief selects surface fires, the chief notifies the fire control NCO who enters the data into the fire direction system, checks for airspace conflicts, and transmits the fire mission to the appropriate firing unit(s). When possible, the JAGIC should attain an accurate characterization of detected objects in the operational environment sufficient to support an engagement decision; this process (called combat identification) is further discussed in JP 3-09.

A-17. A procedural controller assumes control of the aircraft from the CRC or AWACS and provides the aircrew with updates on the tasking, targets, and transit instructions. The procedural controller then instructs the aircraft to contact the JTAC for mission execution. The JTAC provides a CAS mission briefing, as required, and provides final control of the CAS aircraft. Upon exiting the target area, the CAS aircraft submits an in-flight report to the JTAC controlling the CAS mission and the procedural controllers in the JAGIC. The in-flight report is submitted to the ASOC intelligence officer or technician and the JARNO. Finally, if ACMs were activated, the Army airspace personnel or the Air Force airspace manager deactivate the ACMs. (See figure A-4 on page A-7 for a detailed flowchart of the immediate close air support process.)

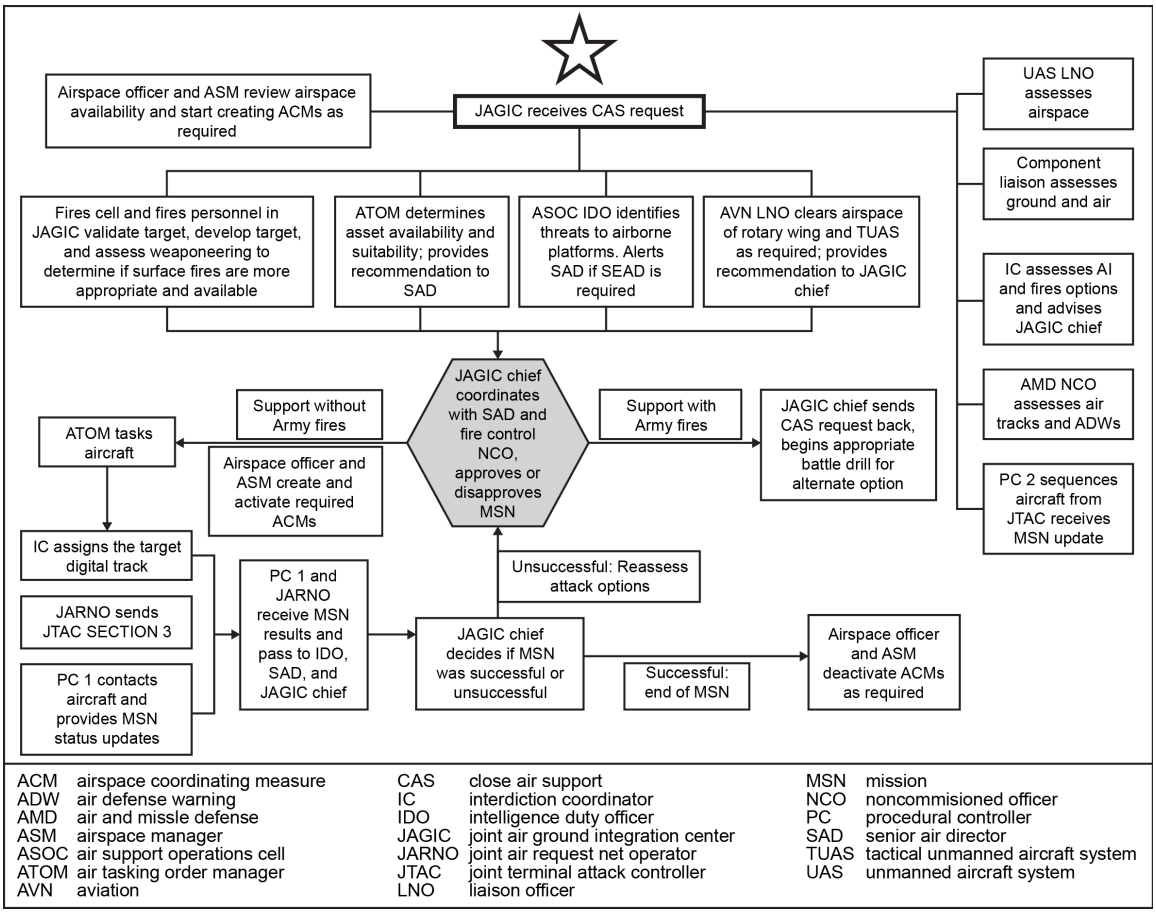


Figure A-4. JAGIC close air support

INTERDICTION

A-18. The JAGIC executes dynamic interdiction missions differently depending on the target type, location, and priority. Paragraphs A-18 through A-24 provide an example process, and they depict the general tasks involved in the interdiction process.

A-19. Deliberate interdiction missions are normally preplanned and executed at either the JAOC level (for JFACC selected targets), or at the Army component fires cell. For immediate interdiction requests, the JAGIC supports prosecution in support of the JAOC or as requested in support of the division commander in the area of operations.

A-20. *Interdiction* is an action to divert, disrupt, delay, or destroy the enemy's military surface capability before it can be used effectively against friendly forces, or to otherwise achieve objectives (JP 3-03). In most instances, requests for immediate interdiction missions are sent to the division staff from brigade-level forces, or identified through use of information collection platforms controlled by the JFACC or division.

A-21. Once interdiction targets are identified, the division staff (normally the [G-2] and fires element) initiates coordination with the targeting officer or qualified representative within the JAGIC. The targeting officer and the interdiction coordinator begin analyzing the target by reviewing target type, location, and proximity to ground forces. They discuss potential organic fires at the divisions' disposal, to include Army aviation, to execute against the target. The interdiction coordinator then coordinates with the SODO on assets available to the JFACC to execute the mission and discusses potential use of Army surface fires. Prosecution of interdiction targets is normally a JFACC-supported mission. This means the JFACC has ownership of the mission and decides if air assets will support the request. If the JAOC determines it has available assets to

support the request, the senior offensive duty officer tasks the mission and accepts ownership and responsibility for the target. If the JAOC cannot execute against the target, the interdiction coordinator reviews other options. These options are described in paragraphs A-21 through A-24.

A-22. During the decision process for target prosecution, the ASOC intelligence officer or technician analyzes the threat to air component assets and relays the results to the interdiction coordinator. The AMD personnel monitor enemy air threats with the potential to affect the interdiction mission, and the ATOM reviews air to surface attack options from the current air tasking order, including redirected CAS assets.

A-23. If the JAOC has not taken responsibility for the tasking, the interdiction coordinator and targeting officer inform the SAD of potential attack options and coordinate findings with the JAGIC chief to approve or disapprove recommended attack options. The JAGIC chief, in coordination with the SAD, then selects the attack option.

A-24. If retasking of a CAS asset is required, the interdiction coordinator informs the JAOC and the ATOM. The ATOM selects and tasks the appropriate platform. The ATOM then notifies the ASM and Army airspace personnel to deconflict airspace or activate the control measures required to support the mission. The Army aviation officer notifies adjacent aviation units of the impending interdiction mission(s). Procedural controller 1 assumes procedural control of the asset and provides an updated mission brief on threats, locations of friendly forces, aircraft in the area, and other important information. After the target is struck, the ASOC intelligence officer or technician receives the in-flight report from the interdiction coordinator or procedural controller 2.

A-25. Regardless of the engagement option selected, JAGIC personnel deconflict airspace users and establish and disseminate any required ACMs. The targeting officer coordinates with the airspace element prior to sending an execution of surface fires, so that airspace users can be advised. After execution of a fire mission, battle damage assessment is collected, either by forward observers or information collection platforms, and relayed to the JAGIC Chief. Once the mission and all engagements are completed, advisories are sent as required, and ACMs are deactivated. (See figure A-5 on page A-9, for a detailed AI process flowchart.)

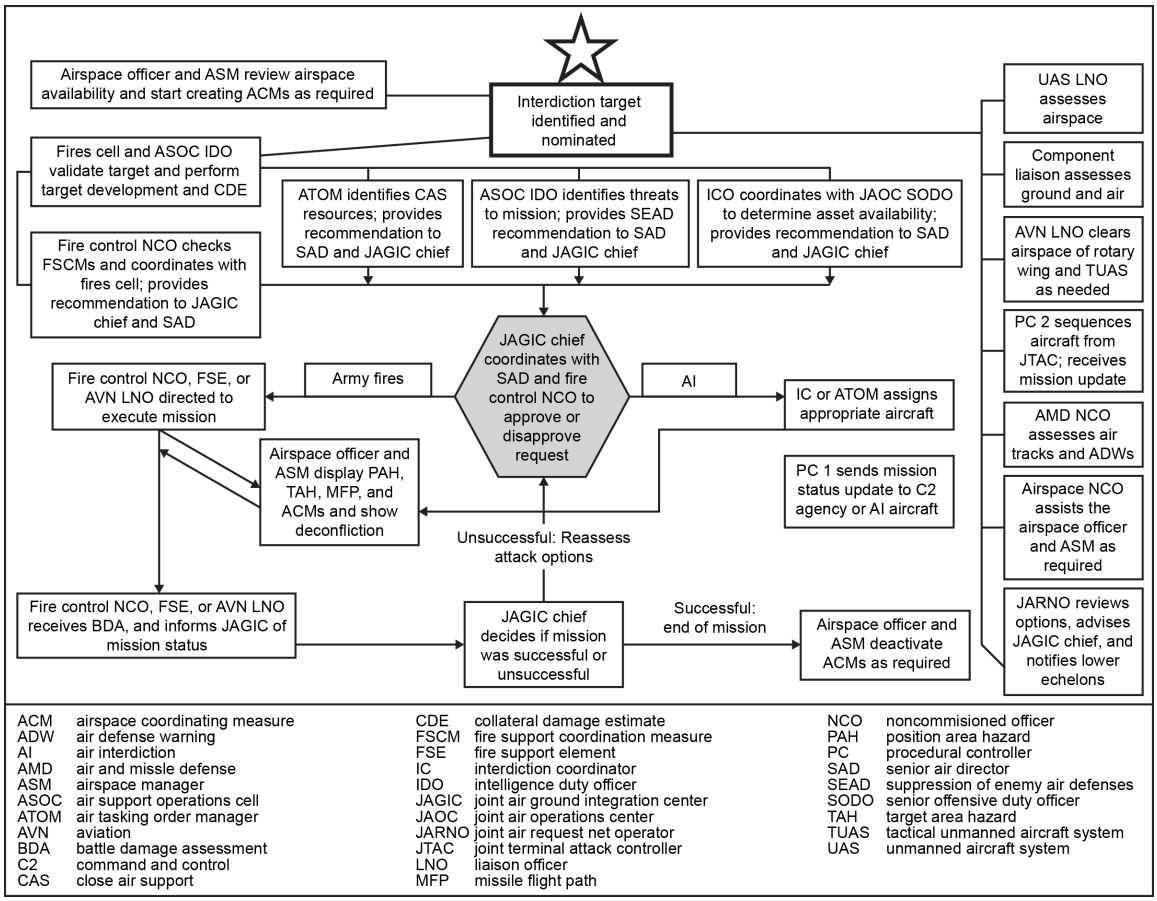


Figure A-5. JAGIC interdiction

SUPPRESSION OF ENEMY AIR DEFENSE

A-26. SEAD missions are executed differently depending on the target type and priority. In most cases, airborne SEAD requests are submitted directly to the JAOC for execution and to the JAGIC to support (as required). If the JAOC-controlled airborne SEAD missions are not available, the JAGIC will consider other attack options in coordination with the JAOC. The JAGIC may be called to execute SEAD with surface fires or CAS aircraft. Paragraphs A-26 through A-28 provide an outline of how SEAD is executed by the JAGIC.

A-27. The tasks involved in executing SEAD missions are similar to those of a surface fires request. SEAD targets are identified and enter the JAGIC from sources including the JAOC, the G-2, JTACs, FSEs, and SOF. Once the target is received, JAGIC members (from both Services) work on attack options. The targeting officer or a qualified representative, working closely with the fire control NCO, performs weaponeering functions to determine if field artillery fires are an acceptable option. The fires cell will also ensure that SEAD effects do not violate any FSCMs or pose unacceptable risks to friendly units. The ATOM coordinates with the JAOC to determine if air component assets are available or if CAS or other attack options are better suited for the mission.

A-28. The SAD or JAGIC chief coordinates attack options after internal and external coordination actions are complete. If the JAOC designates the JAGIC for mission execution, the targeting officer or representative, or JARNO, assigns a target number and the Army airspace personnel or the ASM build and activate ACMs as required. The next step depends on which Service provides the attack option.

A-29. If the JAGIC chief selects a ground attack method, the fire control NCO transmits the mission to the appropriate firing unit and supervises execution until complete. If the JAGIC chief selects an air attack

method, the ATOM tasks an asset and receives the battle damage assessment either through in-flight reports or information collection sources. Once the mission is complete, Army airspace personnel or the ASM deactivates required ACMs. (See figure A-6 for a detailed flowchart of the SEAD process)

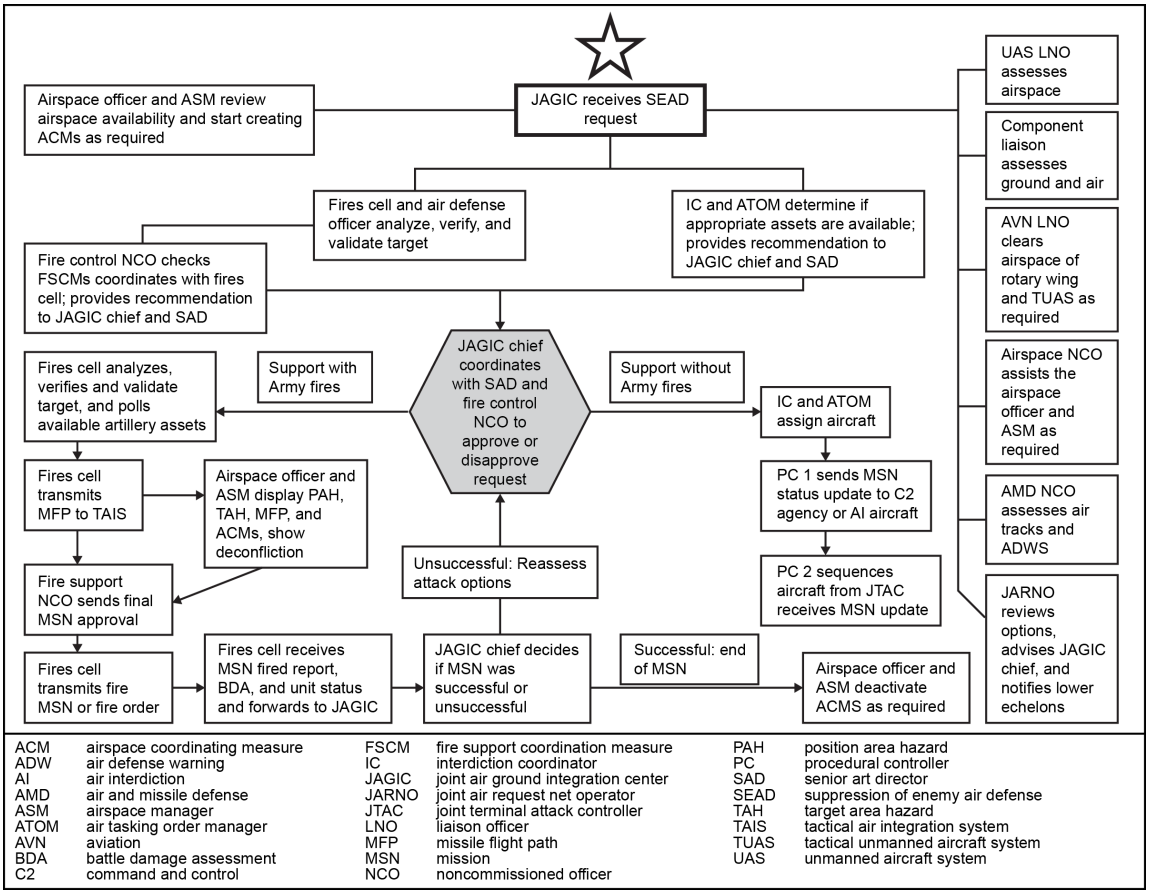


Figure A-6. JAGIC suppression of enemy air defense

ATTACK TARGETS OF OPPORTUNITY

A-30. JAGIC executes target of opportunity missions differently depending on the target type and priority. Paragraphs A-30 through A-34 provide examples of the tasks in this process. A target of opportunity is a joint force commander validated target or set of targets requiring immediate response because it is a highly lucrative, fleeting target of opportunity or it poses (or will soon pose) a danger to friendly forces. The JFC designates targets of opportunity and identifies them in the JFC's concept of operations and scheme of fires. The JFC's objectives and guidance set the procedural framework for components to expedite target of opportunity engagements. Components establish planned and reactive procedures for attacking prioritized targets of opportunity. In most cases, targets of opportunity require immediate responses because they are highly lucrative fleeting targets of opportunity which pose a direct danger to friendly forces

A-31. The criticality of targets of opportunity generally requires them to be planned in advance. Staffs plan expected locations for acquisition, sensors, triggers, attack options, and prospective effects. With adequate planning and rehearsals, a specific target can be positively identified and the advanced plan reviewed to assure it is still viable. Once the plan is deemed viable, it is quickly executed with the aforementioned planned assets. There are occasions where targets of opportunity are acquired that do not align with previous planning. Rapid execution through alignment of available assets is the key to successfully attacking these targets.

A-32. The first step in the target of opportunity process occurs prior to execution of combat operations in understanding the JFC's target of opportunity guidance and criteria. This guidance includes engagement

authority, coordination, deconfliction, and synchronization procedures. Once established target of opportunity criteria is detected, the G-2 and external intelligence assets work to identify threats and make them known to executing agencies. In the case of the JAGIC, when a target of opportunity is identified in the division's area of operations by the JTAC, joint fires observers, or other means, the JAGIC has the responsibility to use available ground or air assets to attack the target. If unable, the JAGIC should coordinate with the JAOC dynamic targeting cell (or JFC-designated target of opportunity entity) to have the target serviced.

A-33. The JAOC senior operations duty officer can assign the target of opportunity to the JAGIC if it is determined that the division has the most appropriate resources. If the JAGIC receives the mission, the process is executed in much the same way as a call for fire or CAS request, except that servicing the target of opportunity is the highest priority.

A-34. The targeting officer, fire control NCO, ATOM, and interdiction coordinator work to determine available attack options. The targeting officer or qualified representative conducts weaponeering and assigns a target number. The IDO reviews the target environment looking for potential threats to air platforms. If threats are discovered, the SAD initiates a SEAD mission. The fires cell ensures that the planned effects do not violate any fire support coordination measures or pose an unacceptable risk to friendly units. Once the SAD or JAGIC chief have a full understanding of the target and have determined attack options, they notify the JAGIC of their intent and initiate the actions necessary to execute the mission. Army airspace personnel or the ASM then review the airspace requirements for the mission and create required ACMs.

A-35. If surface fires or Army aviation was selected, the fire control NCO transmits the mission to the division firing unit or the Army aviation liaison officer assigns attack aviation. Both then work with intelligence personnel to conduct battle damage assessment after mission execution. If the JAGIC Chief selects an air asset, the ATOM tasks the aircraft and receives battle damage assessment either through in-flight reports or information collection sources. Once the mission is completed, Army airspace personnel or the ASM deactivates the ACM(s). (See figure A-7 on page A-12 for a detailed flowchart of the attack target of opportunity process).

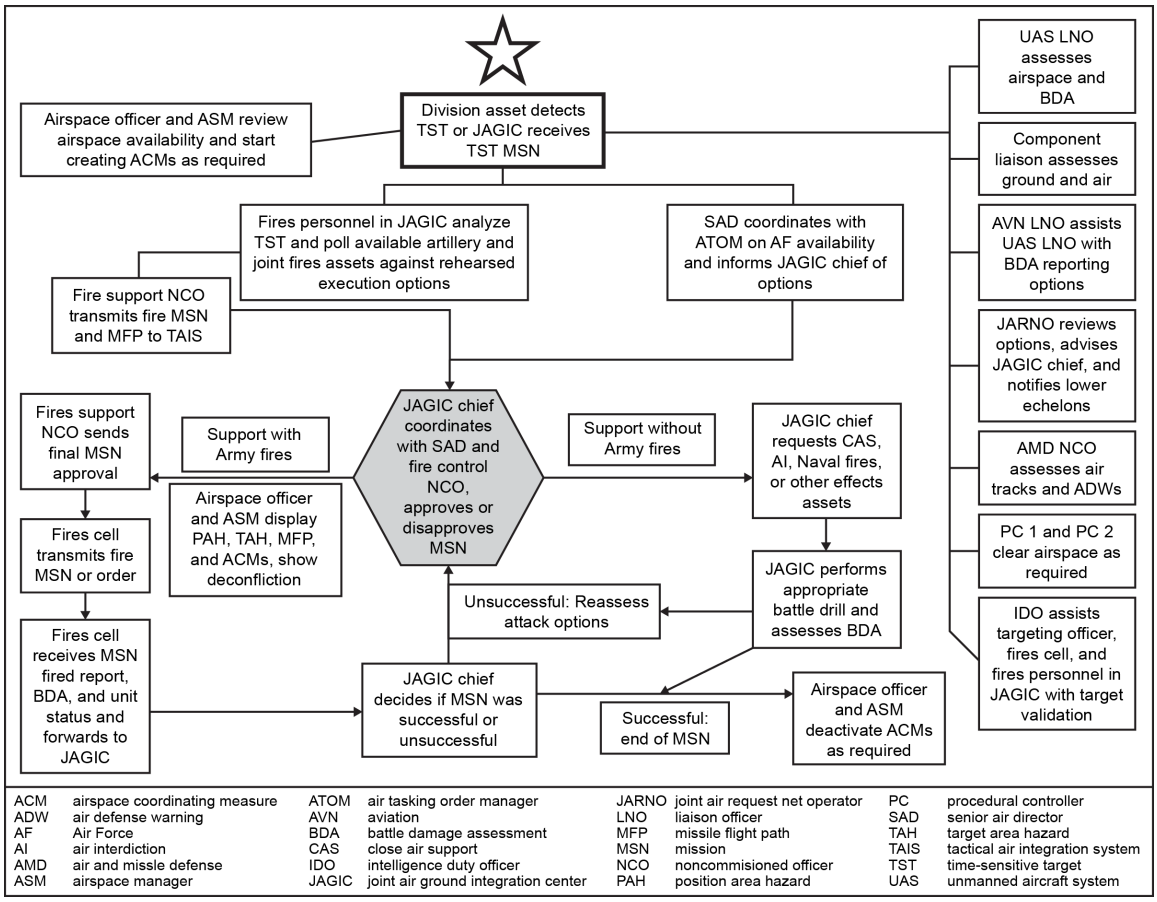


Figure A-7. JAGIC attack Target of Opportunity

COMBAT IDENTIFICATION AND FRIENDLY FORCE IDENTIFICATION

A-36. This process was developed due to enhanced adversary capabilities in using UAS for information collection and attack missions. Development of capabilities to track and positively identify these types of threats is underway in the joint community. While not a function or an operation of the JAGIC, combat identification is identified as a JAGIC-supported process.

A-37. AMD forces react automatically to target theater ballistic missile threats. When a sensing node detects a launch, a notification is immediately displayed on the AMDWS and distributed throughout the mission command network to all aircrews and ground forces. Upon detection of unidentified targets, the first step is to determine whether the target is friendly, hostile, or neutral. Once the target is determined hostile (using a combination of cooperative and non-cooperative target recognition techniques), JAGIC personnel determine what the adversary asset is through the AMD systems architecture. Once the threat is confirmed, the air defense artillery fire coordination officer, typically assigned to the Army Air Missile Defense Command headquarters, provides direction to defeat the threat. If an engagement must occur through division airspace, airspace element personnel deconflict and advise airspace users. Typically, air defense engagements have priority over most other ongoing missions. JAGICs activate required ACMs immediately and rapidly clear engagement airspace, allowing systems to defeat enemy air threats. Upon destruction of the enemy threat, or its departure from division-assigned airspace, airspace element personnel make the appropriate advisories and deactivate ACMs as required. (See figure A-8 on page A-13 for a detailed flowchart of the combat identification and friendly force identification process.)

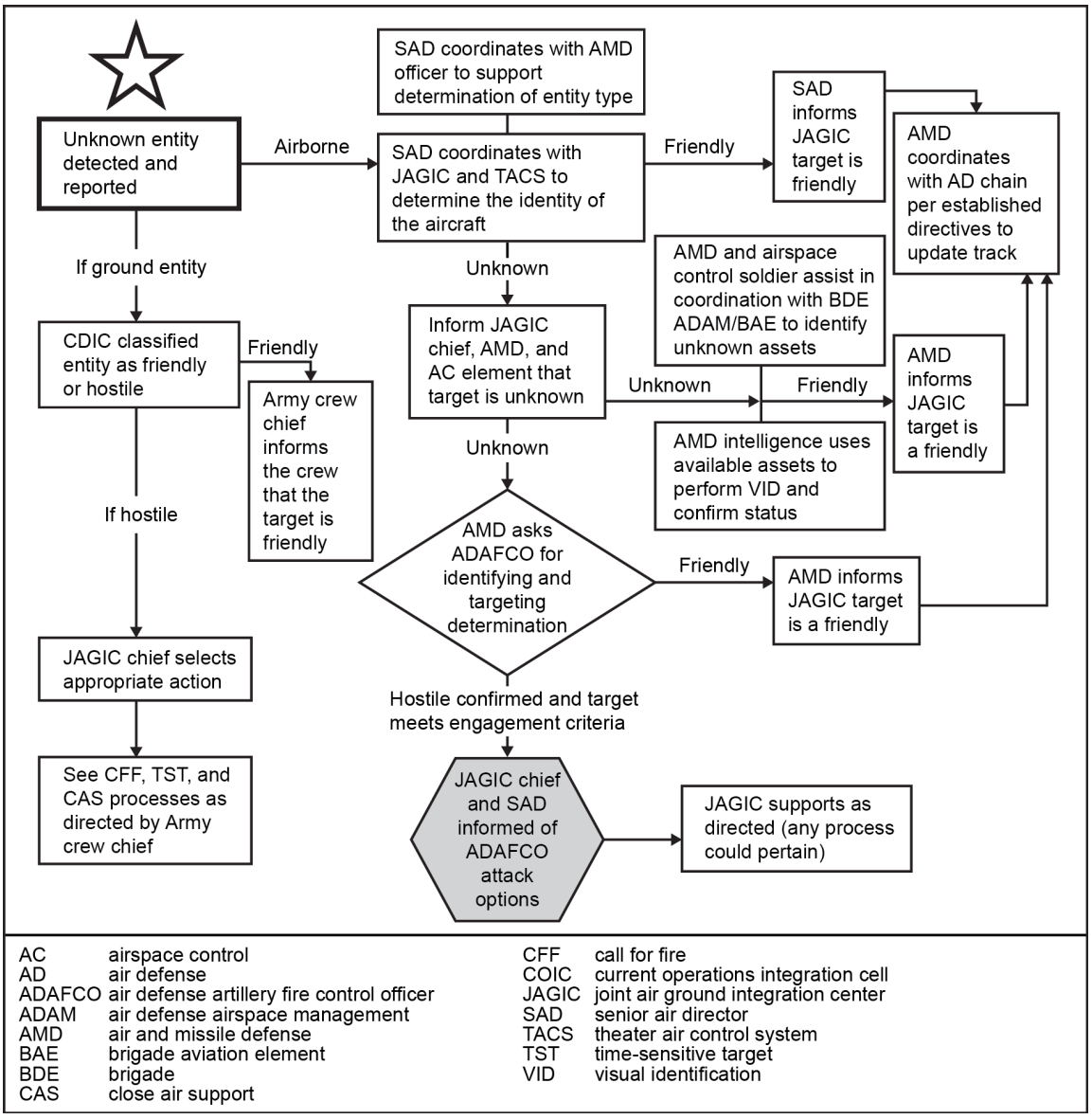


Figure A-8. JAGIC combat identification and friendly force identification

CALL FOR DEFENSIVE COUNTERAIR (WITHOUT ESTABLISHED TRACK)

A-38. The JAGIC executes the call for DCA mission differently depending on whether a threat track is established or not. The procedure discussed in paragraphs A-38 through A-43 is used when division assets identify a threat aircraft operating in the division area of operations that is below the CA, but division assets either do not have the assets to readily detect, track, identify, and engage it, or division assets do not have the authority to engage it under the rules of engagement or weapons control status. The procedure discussed in paragraphs A-44 through A-45 is used when divisions do have the assets and the authority to readily detect, track, identify, and engage an enemy threat, or can request a higher echelon to engage it. (For actions both with or without an established track, see figure A-9 on page A-15, call for DCA.)

A-39. When a threat or unknown aircraft is detected, both the AMD officer and NCO in the JAGIC are notified. These individuals ensure the air defense artillery fire control officer (ADAFCO) is co-located with the SADC or RADC, and is aware of the threat. The ADAFCO is responsible for updating the SADC or

RADC, as required. The AMD officer must be prepared to recommend the best resource to track, identify, and engage the threat aircraft. If the SADC or RADC determines that joint assets will have the greatest effectiveness, the JAGIC AMD officer or NCO coordinates with the SADC or RADC using the ADAFCO. As stated in chapter 3, while the AMD officer in the JAGIC does not have the same authorities as the ADAFCO, the AMD officer is responsible for involving the division command post in a support role for the joint kill chain, especially for enemy threats operating in or above division assigned airspace.

A-40. Although this procedure may be used to call for DCA for manned aircraft, a threat may be a low, slow, small UAS. Small UAS are a concern to ground maneuver commanders due to their ability to interfere with operations and the challenges they present to systems in terms of detection, tracking, identification, and engagement.

A-41. Once ground forces are aware of an unknown or hostile UAS, the JAGIC determines the best resources to track, identify, and (if necessary) engage the UAS. When friendly forces observe an unknown aircraft and submit a spot report, JAGIC personnel immediately forward this report to the AMD officer in the JAGIC.

A-42. Upon receipt of the spot report, the AMD officer inputs the enemy aircraft coordinates into the FAAD C2 system and notifies the ADAFCO. Simultaneously, the targeting officer or qualified representative, ATOM, and aviation liaison officer collaborate to determine what organic assets are available and can most effectively identify and engage the UAS. The fire control NCO, Army airspace officer, and Air Force ASM assess the impact of DCA operations on fires and begin planning to integrate defensive counterair aircraft and fires, and deconflict other airspace users as required.

A-43. The AMD officer recommends to the JAGIC chief and SAD either Army or joint DCA assets to identify and engage an UAS. If organic assets are chosen, the JAGIC chief will coordinate this action with the COIC chief of operations. If the JAGIC chief and SAD choose joint assets, the SAD and ATOM determine if CAS assets are available to support DCA operations. If assets are not available, the SAD requests DCA assistance from the SADC or RADC and then notifies the JAGIC chief and COIC what assistance is available. If CAS assets are available, the SAD will coordinate with the CAS duty officer at the JAOC to retask the assets to perform DCA. If the JAGIC has been delegated the authority to dynamically retask assets to DCA, the JAGIC will inform the CAS duty officer and senior air defense officer of any retaskings.

A-44. Once the JAGIC chief approves using CAS assets, the ATOM and procedural controllers 1 or 2 task the joint assets and pass control to the SADC, RADC, or appropriate air battle management center or platform for the identification and engagement of the target. As required, the fire support officer clears fires, the Air Force airspace manager and Army airspace officer coordinate airspace using either ACMs or near real-time airspace control. The SAD coordinates these actions with the SADC or RADC. Throughout this process, the AMD officer provides continual UAS position updates to Army and theater air defense forces.

CALL FOR DEFENSIVE COUNTERAIR (WITH ESTABLISHED TRACK)

A-45. When an air defense asset has detected a threat aircraft and has established and is maintaining a track on it, the AMD officer notifies the ADAFCO of the threat aircraft. The ADAFCO then notifies the SADC or RADC. If the track can be integrated into the SADC or RADC COP, the AMD officer will not be required to provide continuous track updates. If the track cannot be maintained or cannot be integrated with the SADC or RADC, the AMD officer provides continuous updates to the ADAFCO.

A-46. The JAGIC chief and SAD collaborate and determine whether division or joint assets will be most effective to identify and engage the aircraft. If joint assets are used, the JAGIC chief and SAD consider and coordinate airspace and fires with the SADC or RADC.

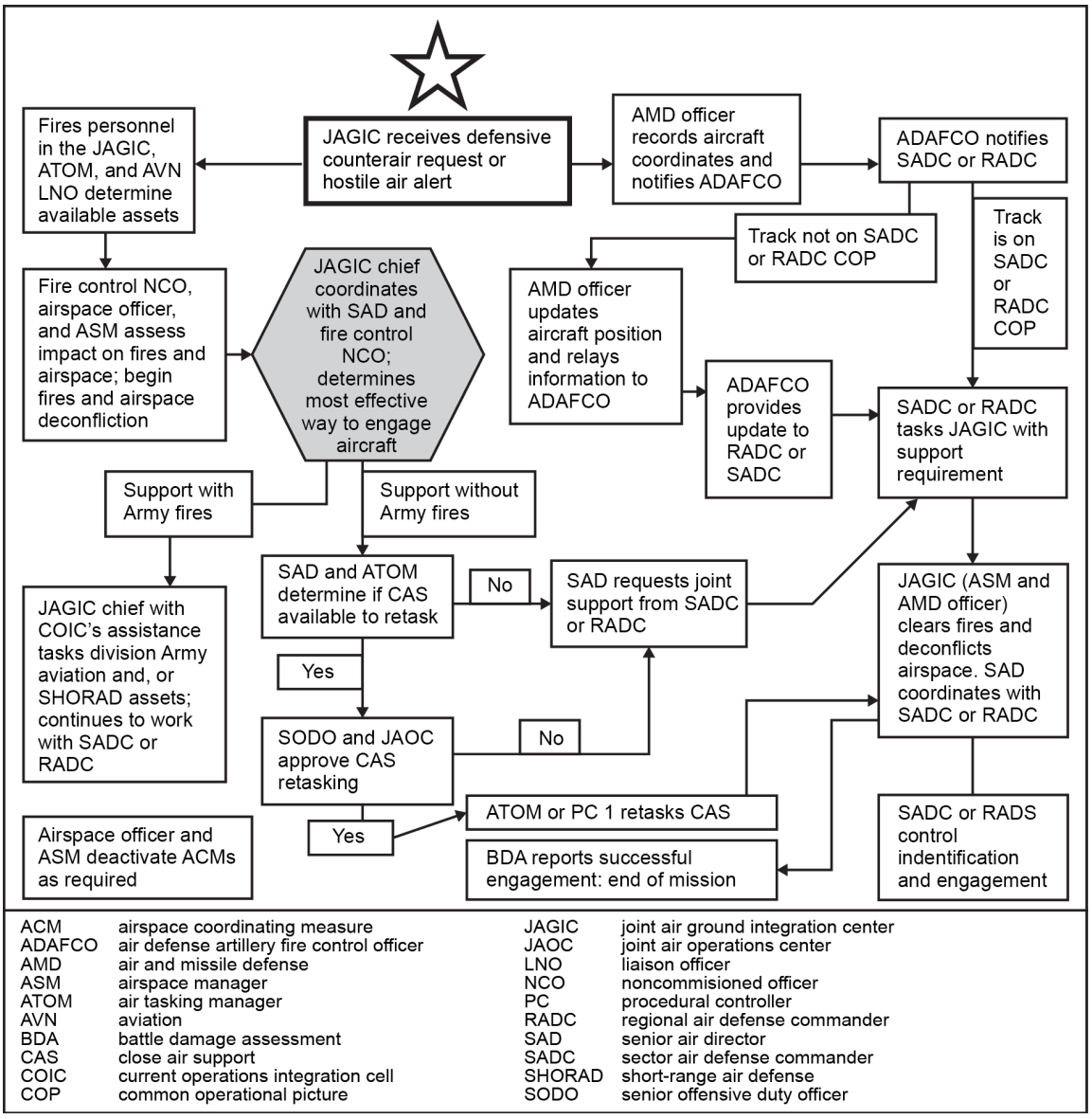


Figure A-9. Call for defensive counterair

MEDEVAC, Personnel Recovery, and Downed Aircraft

A-47. During large-scale combat operations, the JAGIC will have responsibilities concerning integration of airspace users to facilitate subordinate brigades' responses to contingencies. When there are requirements for a ground or air MEDEVAC, isolated service member, or downed aircraft, manned or unmanned, the JAGIC may have to build the control measures required to deconflict fires and maneuver forces. Furthermore, the JAGIC will be responsible for retasking assets to meet the commander's intent for allocation during any of the above mentioned events. Figure A-10 on page A-16 shows a base procedure the JAGIC can use to synchronize deconfliction and allocation efforts and assist brigades with contingency plans.

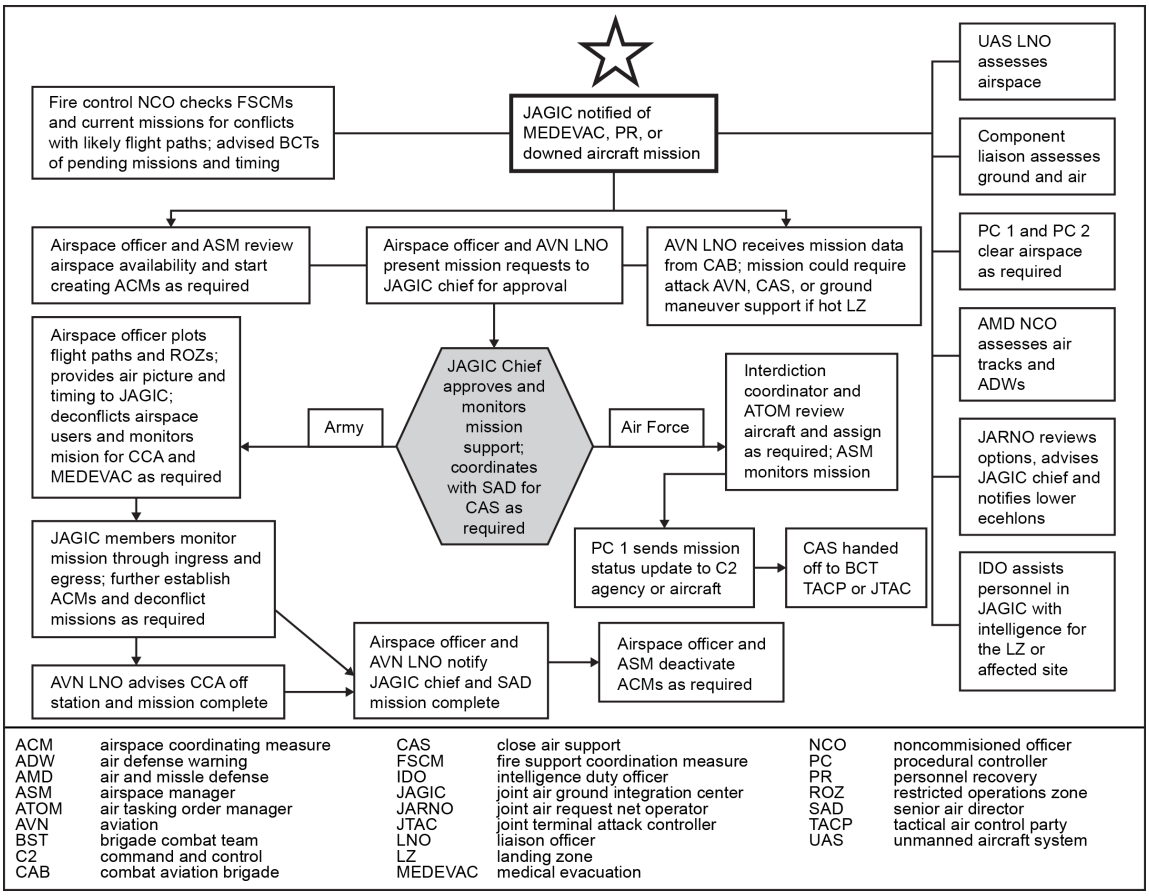


Figure A-10. MEDEVAC, PR, Downed Aircraft

Appendix B

Joint Air Ground Integration Center Systems Configuration

JOINT C2 AND ARMY MISSION COMMAND SYSTEMS

B-1. The following explanations for JAGIC systems, and systems external to the JAGIC, are by no means all-encompassing. Systems integration is challenging work, and the training required to integrate and operate JAGIC systems is extensive. This appendix is designed for the uninitiated to gain a working understanding for at least some of the system capabilities and requirements within the JAGIC. Joint C2 and Army mission command systems explanation begins with the theater battle management core systems (TBMCS). TBMCS are force-level integrated air C2 systems. While most TBMCS do not reside in the JAGIC, several subapplications do. The TBMCS provides hardware, software, and communications interfaces to support the preparation, modification, and dissemination of the force-level air battle plan. The air battle plan includes the air tasking order and airspace control order. The TBMCS supports the development and sharing of a relevant COP of theater air and surface activity. Common TBMCS applications and interfaces provide a network for joint force data sharing. The TBMCS intelligence and targeting applications at the theater JFACC level, at the ASOC, and at the direct air support center support the coordination of precision engagement fires, safe passage zones, and near real-time warnings of impending air attack. The air and surface surveillance and weapons coordination engagement options enable synchronized operations and employment of the correct weapons for each target to generate the desired effects. The primary users of TBMCS subapplications in the JAGIC are the SAD, the procedural controllers, the Air Force airspace manager, the air tasking order manager (ATOM), the JARNO, interface control technician, and the Air Force ASOC intelligence officer or technician. The primary subapplications used in TBMCS include the WARP, the web-based airspace deconfliction, and the execution status and monitoring tool. These subapplications are described in paragraphs B-2 through B-4 and are depicted in figure B-1 on page B-2, as TBMCS clients alongside other JAGIC and Army mission command systems described in paragraphs B-6 through B-14.

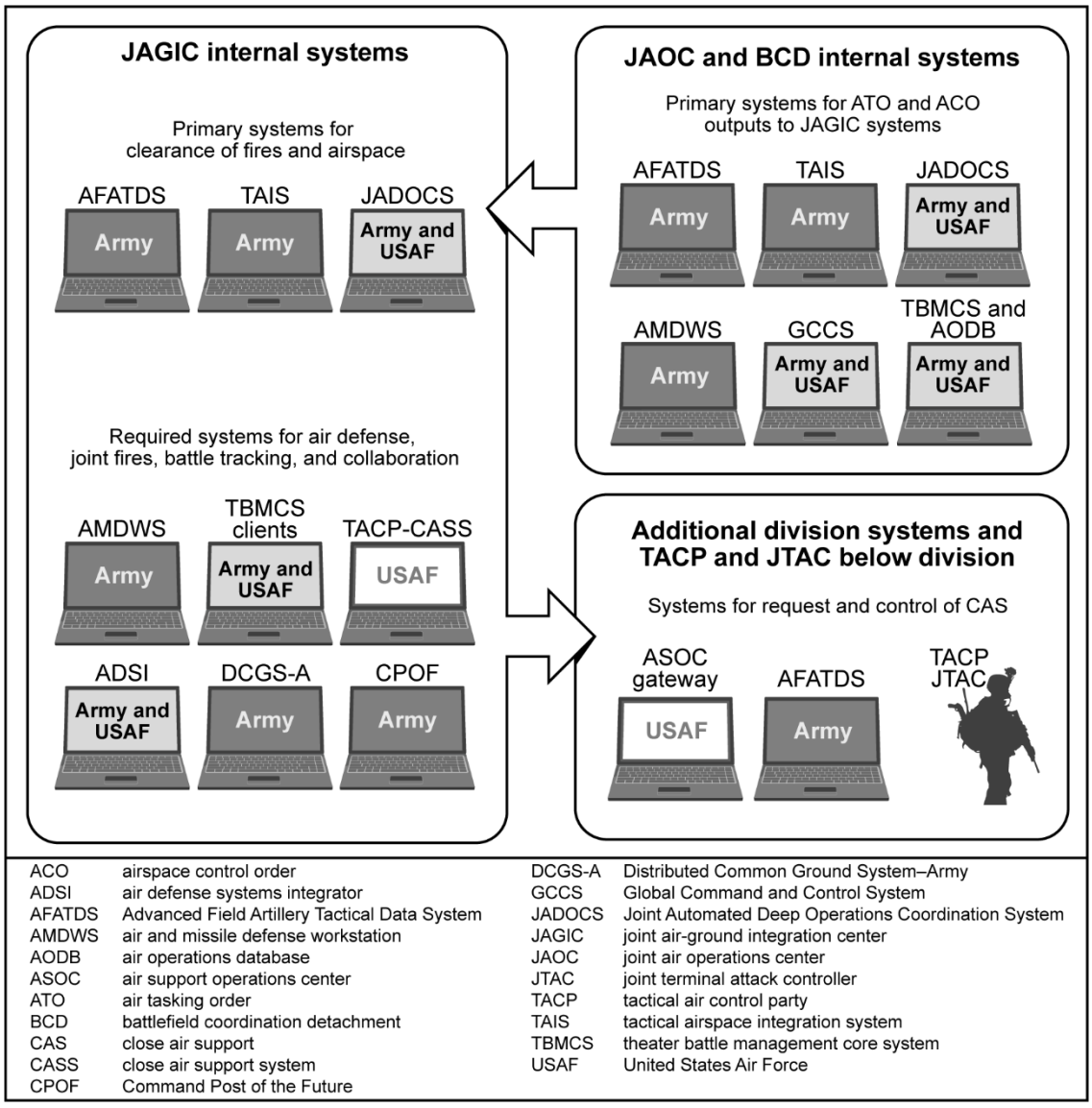


Figure B-1. JAGIC systems architecture

TBMCS Web Air Request Processor

B-2. The WARP is an application used by warfighting units to submit, process, and monitor immediate air support requests. The ASOC also uses it for assigning aircraft to support immediate air support requests. The primary purpose of the WARP is to support immediate air support requests. However, the WARP is also used to track preplanned air tasking order missions supported by the ASOC.

TBMCS Web-based Airspace Deconfliction

B-3. The web-based airspace deconfliction application is used to construct and manage four-dimensional (latitude, longitude, altitude, and time) airspaces and determine if conflicts exist between airspaces. It provides deconfliction analysis based on estimated launch times and routes. It uses minimal amounts of data including the departure base, the estimated time of departure, the target location, and the estimated arrival time at the final landing location.

TBMCS Execution Status and Monitoring Tool

B-4. The execution status and monitoring tool is the software application that allows the user to display, manage the ATO, and update the mission status of airborne assets.

THE TRIAD OF SYSTEMS FOR FIRES AND AIRSPACE DECONFLICTION IN THE JAGIC

B-5. As depicted in figure B-1, the next three systems: JADOCS, AFATDS, and TAIS are JAGIC systems instrumental to the execution of fires concurrent with airspace user integration. When any combination of these systems are unavailable, the JAGIC uses external data sources to continue the scheme of fires, scheme of maneuver, and air battle plan.

JOINT AUTOMATED DEEP OPERATIONS COORDINATION SYSTEM

B-6. The JADOCS facilitates the integration of fires. JAGICs use JADOCS to coordinate the timely execution of targets of opportunity, high-payoff targets, and high-value targets. JADOCS allows for internal and external coordination and execution of targets by providing a suite of tools and interfaces for horizontal and vertical integration across functional areas. JADOCS has the capability to receive and, or import the ATO and ACO, as well as subscribe to the division DDS to receive data from other mission command information systems (MCIS) and Army battle command systems (ABCS).

B-7. The primary users of JADOCS are the SAD, ATOM, Air Force airspace manager, interdiction coordinator, procedural controllers, targeting officer, ASOC intelligence NCO, and the JAGIC chief. Other JAGIC positions such as the aviation LNO or UAS LNO that do not use AFATDS, TAIS, or other designated system, may use JADOCS to maximize the use of a common system for coordination of fires and airspace integration.

ADVANCED FIELD ARTILLERY TACTICAL DATA SYSTEM

B-8. The AFATDS is a multi-Service integrated fire support system that processes fire missions, air support requests, and other related information to coordinate and maximize the use of all fire support assets. AFATDS meets the needs of the JAGIC fires cell by using critical resources in managing, collecting, and passing vital fire support data throughout fire support channels - initiating fire missions and sharing target information. AFATDS can create, store, and check FSCMs and ACMs. It can also identify control and coordination measure violations during fire mission processing. If needed, AFATDS can process immediate air support requests to the JAGIC, and ASOC. Furthermore, the AFATDS supports planning, execution, movement control, artillery mission support, field artillery fire direction operations, and target analysis and engagement. It is interoperable with all fires subsystems including gun display units, artillery fire control systems, Fire-finder Radar, Airborne Target Handover System, and the forward observer system. It interoperates with the ABCS suite. The system also interoperates with joint level automated systems such as TBMCS and the Global Command and Control System (GCCS). The primary user of the AFATDS in the JAGIC is the fire control NCO. AFATDS can process digital coordination requests for airspace deconfliction with the TAIS and receive the airspace control overlay and ACO from TAIS.

TACTICAL AIRSPACE INTEGRATION SYSTEM

B-9. The TAIS airspace workstation provides automated airspace control planning and enhanced airspace control execution. TAIS is used to process airspace control means requests and integrate ACMs. TAIS is also used to develop unit airspace plans and coordinate ACMs with higher headquarters and the ACA. TAIS interfaces with Army and joint command and control systems. It is integrated through the Army air-ground systems and provides a direct link to the theater air-ground system through an interface with the TBMCS. It also has an added civil and government interagency capability.

B-10. For the JAGIC, TAIS provides a visual three-dimensional airspace picture with near real-time air tracks. TAIS combines multiple input sources into a single airspace picture for situational awareness and

airspace control, to include deconflicting airspace for immediate fire missions and fratricide avoidance. The primary TAIS user is the airspace element.

TACTICAL AIR CONTROL PARTY-CLOSE AIR SUPPORT SYSTEM

B-11. The TACP-CASS is a digital machine-to-machine close air support and surface-to-surface field artillery targeting system. It receives and transmits digital joint tactical air strike requests from forward deployed JTACs and allows digital communications between aircraft and ground command elements via Link-16, situation awareness data link, variable message format, and the AN/PRC-117 portable radio. The TACP-CASS communicates with the TBMCS, Air Defense System Integrator, and the AFATDS. The primary TACP-CASS users are the JARNO, interface control technician, and the division JTAC.

AIR AND MISSILE DEFENSE WORKSTATION

B-12. The AMDWS is the AMD component of the LandWarNet Battle Command system, which provides the tactical picture of aircraft and missile tracking and alert information to the battlefield users down to the Soldier and platform level. The AMDWS incorporates situational awareness information from many sources: the Joint Datalink Network (JDN), the MCIS network, national intelligence assets, and tactical and strategic sensors, providing a CTP combined with automated planning tools for commanders at all echelons. The AMDWS provides tactical initialization of AMD coverage, so strategic and tactical missile systems are able to comply with operations orders and weapon employment directives issued by Army or joint forces headquarters. The primary AMDWS users are the AMD officer and the AMD NCO.

FORWARD AREA AIR DEFENSE COMMAND AND CONTROL

B-13. The FAAD C2 provides automated engagement operations and force operations capabilities. The engagement operations capabilities include real-time early warning and target cueing information to short-range air defense weapons systems, friendly aircraft identification, and air-battle management. The force operations capabilities include automated planning and interoperability with other C2 systems. The FAAD C2 effectively uses joint and multinational operations by processing air picture information from Air Force and Navy aircraft and from high to medium altitude air defense sources such as the Patriot missile system. The FAAD C2 uses three modes of operation: the commanders' engagement operations and identification authority system in the AMD fire operations center, as part of the counter-rocket, artillery, mortar (C-RAM) family of systems, or as part of the brigade ADAM cell. The primary FAAD C2 users are the AMD officer and AMD NCO.

COMMAND POST OF THE FUTURE

B-14. The CPOF is an Army executive-level decision support system providing situational awareness and collaborative tools to support decision making. The CPOF is used to display all unit COPs. CPOF enables warfighters to visualize the battlefield and plan the mission through a dynamic view of critical resources and events. Collaborators across echelons and distances can maintain situational awareness while automating many daily tasks. CPOF is the integrator of all of the Army mission command information systems. CPOF does not communicate directly with other Army systems in the JAGIC, rather CPOF, AFATDS, AMDWS, and TAIS exchange information by publishing and subscribing to the DDS. While CPOF is the primary system within the COIC, it is not a primary JAGIC execution system. JAGIC Airmen, and most JAGIC Soldiers, use a range of other USAF and Army information systems to accomplish tasks. Several Army members of the JAGIC use CPOF to collaborate with other members of the COIC, FUOPs, and subordinate units while also ensuring that a COP is maintained between the JAGIC and the rest of the COIC. Though not required, the AMD officer, aviation officer, airspace officer, or JAGIC member without a specific system may use CPOF to remain nested with the COIC.

Note. It is not recommended that the JAGIC Chief be tied to a CPOF terminal. Standing in place and conferring with other JAGIC members is the best way to maintain situational awareness and make decisions.

Appendix C

JAGIC Information Management Plan

C-1. The JAGIC is noisy. There are ways to mitigate some of the noise, but techniques that are exclusive to using chat, or machine-to-machine communications, have the potential to degrade the performance of the JAGIC. Seating Air Force and Army personnel with other agencies and organizations in close proximity can replace dependency on chat rooms by enabling face-to-face communication. When chat rooms are used, commanders need to limit them to ensure warfighters are not inundated with unnecessary communications. A chat room communication matrix makes chat room communications more efficient. Commanders may revise it as necessary to further enhance warfighter communications. (See table C-1 on page C-2 for an example chat room matrix.)

C-2. Developing a strong chat room matrix, however, does not address all the JAGIC members' information management concerns. Regardless of the battle drill, JAGIC function, or JAGIC operation, special consideration needs to be given to the various routine communication tasks JAGIC crewmembers use to accomplish missions and the best means for accomplishing each task. For example, when the JAGIC receives a call for fire (see figure A-3, on page A-5), how is the call for fire communicated to the other JAGIC crewmembers? Since it normally includes grid coordinates, simply shouting it out can result in transcription errors by JAGIC crewmembers; chat may be preferred. Additionally, when multiple agencies need to be coordinated with, to include external C2 elements, chat rooms may be the only means possible. However, in cases where rapid coordination between crewmembers is required, face to face communication is often the best means. For example, if fires needs to engage a target near aircraft, a simple "Can you keep the aircraft east of the FG gridline for the next five minutes?" can be communicated much quicker verbally than through a chat room. In all these instances, consideration for the exact process is important; information requirements of each agency and actual verbiage make all the difference for successful fires and airspace integration.

Table C-1. Chat matrix example

Joint Air Ground Integration Center Duty Position	*Chat Rooms*				
	Airspace Coordination	*Surface Fires Coordination*	*Close Air Support Interdiction Coordination*	*Intelligence Coordination*	*Command and Control Coordination*
Joint air-ground integration center chief	Monitor only	Participant	Participant	Monitor only	Room owner
Targeting officer	Participant	Participant	Monitor Only	Participant	Monitor only
Fire control noncommissioned officer	Monitor only	Room owner	Participant	Monitor Only	Monitor Only
Aviation liaison officer	Participant	Participant	Participant	Monitor Only	Participant
Airspace officer	Room owner	Participant	Participant	Participant	Participant
Airspace noncommissioned officer	Participant	Participant	Participant	Participant	Secondary, Monitor Only
Air and missile defense officer	Participant	Monitor only	Monitor Only	Monitor Only	Monitor Only
Air and missile defense noncommissioned officer	Participant	Monitor only	Secondary, Monitor Only	Monitor Only	Monitor Only
Senior air director	Participant	Monitor only	Room Owner	Monitor Only	Participant
Air tasking order manager	Participant	Monitor only	Participant	Monitor Only	Monitor Only
Air Force airspace manager	Participant	Participant	Participant	Monitor Only	Participant
Procedural controller 1	Participant	Monitor only	Participant	Participant	Monitor Only
Procedural controller 2	Participant	Monitor only	Participant	Participant	Monitor Only
Air Force air support operations center intelligence officer	Monitor only	Monitor only	Participant	Room Owner	Monitor Only
Interdiction coordinator	Participant	Monitor only	Participant	Participant	Monitor Only
Joint air request net operator	Participant	Monitor only	Participant	Participant	Participant
Division joint terminal attack controller	Participant	Monitor only	Participant	Monitor only	Monitor Only
Special operations fires liaison	Participant	Participant	Participant	Participant	Participant

Notes:
A-1.The airspace coordination room contains those duty positions that require close coordination and deconfliction of airspace prior to mission execution.
A-2.The surface fires coordination room contains those duty positions that require close coordination and deconfliction of surface fires prior to mission execution.
A-3.The close air support and interdiction coordination room contains those duty positions that send, receive, request, task, and prosecute close air support or interdiction missions.
A-4.The intelligence coordination room contains those duty positions that send, receive, request, or coordinate for intelligence products.
A-5.The command and control coordination room contains those duty positions that plan, direct, coordinate, and control forces and operations in the accomplishment of the mission.
A-6. A brigade combat team (or equivalent) participates in the airspace coordination, surface fires coordination, and close air support interdiction coordination chat rooms.

Glossary

The glossary lists acronyms and terms with Army, multi-Service, or joint definitions, and other selected terms. The proponent publication for terms is listed in parentheses after the definition.

SECTION I – ACRONYMS AND ABBREVIATIONS

AADC	area air defense commander
AADP	area air defense plan
AAGS	Army air-ground system
AAMDC	Army Air and Missile Defense Command
AAR	after action review
ABCS	Army battle command system
AC	airspace control
ACA	airspace control authority
ACE	all-source collection element
ACM	airspace coordinating measure
ACMREQ	airspace coordinating measure request
ACO	airspace control order
ACP	airspace control plan
AD	air defense
ADA	air defense artillery
ADAFCO	air defense artillery fire control officer
ADAM	air defense airspace management
ADAM/BAE	air defense airspace management/brigade aviation element
ADCON	administrative control
ADRP	Army doctrine reference publication
ADSI	air defense systems integrator
ADW	air defense warning
AE	airspace element
AF	Air Force
AFATDS	Advanced Field Artillery Tactical Data System
AFI	Air Force instruction
AFTTP	Air Force tactics, techniques, and procedures
AI	air interdiction
AIC	airspace information center
AIRCOR	air corridors
AJST	Army Joint Support Team

AJP	allied joint publication
ALO	air liaison officer
AMC	air mobility command
AMD	air and missile defense
AMDWS	Air and Missile Defense Workstation
AMLO	air mobility liaison officer
AMSO	aviation mission survivability officer
AOC	air operations center
AODB	air operations database
ASL	air support list
ASM	airspace manager
ASOC	air support operations center
ASOS	air support operations squadron
ATO	air tasking order
ATOM	air tasking order manager
ATP	Army techniques publication
AVN	aviation
AWACS	Airborne Warning and Control System
BAE	brigade aviation element
BCD	battlefield coordination detachment
BCT	brigade combat team
BDA	battle damage assessment
BDE	brigade
BN	battalion
C-RAM	counter-rocket, artillery, mortar
C2	command and control
CA	coordinating altitude
CAB	combat aviation brigade
CAS	close air support
CASS	close air support system
CCT	combat control team
CEMA	cyberspace electromagnetic activites
CFF	call for fire
CFL	coordinated fire line
COA	course of action
COIC	current operations integration cell
COMAFFOR	Commander, Air Force Forces
COMEX	communication exercise
COP	common operational picture
COS	chief of staff
CP	command post

CPOF	command post of the future
CRC	Control and Reporting Center
CTE	culminating training exercise
CTP	common tactical picture
DA	Department of the Army
DCA	defensive counterair
DCGS-A	Distributed Common Ground System-Army
DD	Department of Defense
DDS	Data Dissimination System
DEV	development
DFSCOORD	deputy fire support coordinator
DIV	division
DIVARTY	division artillery
DST	decision support template
EAB	echelons above brigade
EASOG	expeditionary air support operations group
EASOS	expeditionary air support operations squadron
FAAD C2	forward area air defense command and control
FAC(A)	forward air controller (airborne)
FAIO	field artillery intelligence officer
FB	forward boundary
FC	Fires cell
FM	field manual
FRAGO	fragmentary order
FSCL	fire support coordination line
FSCM	fire support coordination measure
FSCOORD	fire support coordinator
FSO	fire support officer
FUOPS	future operations
G-2	assistant chief of staff, intelligence
G-3	assistant chief of staff, operations
G-35	assistant chief of staff, future operations
GCCS	Global Command and Control System
GLD	ground liaison detachment
GLO	ground liaison officer
GTL	gun target line
HIMARS	High Mobility Artillery Rocket System
HPTL	high-payoff target list
IC	interdiction coordinator
IDO	intelligence duty officer
ISR	intelligence, surveillance, and reconnaissance

JACCE	joint air component coordination element
JADOCS	Joint Automated Deep Operations Coordination System
JAGIC	joint air-ground integration center
JAOC	joint air operations center
JARN	joint air request net
JARNO	Joint air request net operator
JCR	joint capabilities release
JFACC	joint force air component commander
JFC	joint force commander
JFLCC	joint force land component commander
JFSOCC	joint force special operations component commander
JOA	joint operations area
JOC	joint operations center
JP	joint publication
JSTARS	Joint Surveillance Target Attack Radar System
JTAC	joint terminal attack controller
JTAR	joint tactical airstrike request
JTF	joint task force
LCC	land component commander
LNO	liaison officer
MAAP	master air attack plan
MAF	mobility air force
MCIS	mission command information system
MCTC	mission command training center
MDMP	military decision-making process
MEB	maneuver enhancement brigade
MFP	munition flight path
MSN	mission
MTT	mobile training team
NCO	noncommissioned officer
NGLO	naval gunfire liaison officer
NIPR	non-secure internet protocol router
NSL	no-strike list
OPCON	operational control
OPD	officer professional development
PACE	primary, alternate, contingency, and emergency
PAH	position area hazard
PC	procedural controller
PCC	pre-combat check
RADC	regional air defense commander
RB	rear boundary

RLD	reconnaissance liaison detachment
ROZ	restricted operating zone
RTL	Restricted target list
SAAFR	standard Army aircraft flight route
SAD	senior air director
SADC	sector air defense commander
SCAR	strike coordination and reconaissance
SEAD	suppression of enemy air defenses
SHORAD	short-range air defense
SIPR	secret internet protocol router
SJAT	specialized joint air-ground training
SODO	senior offensive duty officer
SOF	special opeations forces
SOLE	special operations liaison element
S-VoIP	secret voice over internet protocal
TAC	tactical command post
TAC(A)	tactical air coordinator (airborne)
TACP	tactical air control party
TACP-CASS	Tactical Air Control Party - Close Air Support System
TACON	tactical control
TACS	theater air control system
TACSAT	tactical satellite
TACSOP	tactical standard operating procedures
TAH	target area hazards
TAIS	tactical airspace integration system
TBMCS	theater battle management core systems
TCF	tactical combat force
TIDAT	target intelligence data
TSS	target selection standards
TST	time-sensitive target
TTP	tactics, techniques, and procedures
TUAS	tactical unmanned aircraft system
UA	unmanned aircraft
UAS	unmanned aircraft system
U.S.	United States
USMC	United States Marine Corps
USMTF	United States message text format
USTRANSCOM	United States Transportation Command
VID	visual identification
WARNO	warning order
WARP	web air request processor

WFX	war fighter exercise
WG	working group
WOC	Wing operations center

SECTION II – TERMS

airspace coordinating measures

Measures employed to facilitate the efficient use of airspace to accomplish missions and simultaneously provide safeguards for friendly forces. Also called ACMs. (JP 3-52)

airspace coordination area

A three-dimensional block of airspace in a target area, established by the appropriate commander, in which friendly aircraft are reasonably safe from friendly surface fires. Also called ACA. (JP 3-09.3)

air interdiction

Air operations conducted to divert, disrupt, delay, or destroy the enemy's military surface capabilities before it can be brought to bear effectively against friendly forces, or to otherwise achieve objectives that are conducted at such distances from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required. (JP 3-03)

close air support

Air action by manned or unmanned fixed-wing and rotary-wing aircraft against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces. Also called CAS. (JP 3-0)

coordinating altitude

An airspace coordinating measure that uses altitude to separate users and as the transition between different airspace control elements. Also called CA. (JP 3-52)

dynamic targeting

Targeting that prosecutes targets identified too late, or not selected for action in time to be included in deliberate targeting. (JP 3-60)

interdiction

An action to divert, disrupt, delay, or destroy the enemy's military surface capability before it can be used effectively against friendly forces, or to otherwise achieve objectives. (JP 3-03)

mensuration

The process of measurement of a feature or location on the earth to determine an absolute latitude, longitude, and elevation. (JP 3-60)

strike coordination and reconnaissance

A mission flown for the purpose of detecting targets and coordinating or performing attack or reconnaissance on those targets. Also called SCAR. (JP 3-03)

weaponeering

The process of determining the quantity of a specific type of lethal or nonlethal means required to create a desired effect on a given target. (JP 3-60)

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