



CONDITIONS FOR EFFECTIVE CLOSE AIR SUPPORT

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Effective [close air support](#) (CAS) requires proper training, equipment, and an understanding of the strengths and limitations of airpower. In addition to air superiority, joint complementary operations, appropriate munitions, and favorable environment, the following factors are crucial to the effective conduct of CAS.

Planning and Integration. Effective CAS relies on thorough, coherent planning and detailed integration of airpower with ground operations. The ability to mass CAS at a decisive point and to provide the supporting [fires](#) needed to achieve the commander's objectives is made possible through detailed integration with ground forces. To achieve this detailed integration, it is critical that the ground liaison detachments are in contact with their parent battlefield coordination detachment, and have detailed contact information for units requesting CAS, in order to develop better briefings for aircrews. The preferred use of a CAS asset is to have it preplanned and briefed. Training and rehearsals provide participants an opportunity to practice operations/procedures, gain familiarity with the terrain, identify airspace restrictions, and discover any shortfalls. Participants should include aircrews, ground forces, liaison elements, and command and control (C2) agencies such as the [air support operations center](#) (ASOC) and [direct air support center](#).

Integrated C2 Infrastructure. CAS requires an integrated, flexible C2 structure to identify requirements, request support, prioritize competing requirements, task units, move CAS forces to the target area, provide threat warning updates, enhance combat identification procedures, and so forth. Accordingly, C2 requires dependable and interoperable communications among all involved forces. Any [airspace coordinating measures](#) and [fire support coordination measures](#) should allow for timely employment of CAS without adversely affecting other fire support assets.

Flexible and responsive C2 permits requests for CAS, coordinated with the appropriate agencies, to originate at any level of command within the supported ground force or by elements of the [theater air control system](#), such as air liaison officers (ALOs) and [joint terminal attack controllers](#) (JTACs). During [stability operations](#), additional restrictions may be imposed such as increased focus on collateral damage estimation or more restrictive [rules of engagement](#), which may result in decreased flexibility. The interval between a unit's request for support and the delivery of the supporting attack is a critical

factor in CAS effectiveness. Prompt response times allow a commander to exploit fleeting battlefield opportunities and to survive in a defensive situation. The [air component commander](#) may grant launch and divert authority of scheduled CAS assets to the ASOC to facilitate reduced response time. Diverted airborne aircraft from lower priority missions may also be used. However, a balance is required between the most effective use of resources and their response times. Effective C2 also enhances the ability to integrate CAS with ground operations, coordinate support, and update or warn of threats to CAS assets. The depth at which the ASOC controls operations depends a great deal on the ability to both communicate with forces and maintain situational awareness on targets, threats, and other factors. The authority to redirect aircraft to or from missions beyond the [fire support coordination line](#) (FSCL) should remain centralized at the [air operations center](#) (AOC), while the authority to flow CAS assets to and from shallow [air interdiction](#) targets short of the FSCL is often delegated to the ASOC or [tactical air control party](#) (TACP). An ASOC is normally tasked to support an Army division but can also support units from other organizations (e.g., Army Corps, special operations, multinational forces). It may also augment other missions requiring [airspace control](#) (e.g., counter threat operations and humanitarian efforts). The placement of the ASOC with Army or special operations echelons under conditions of nontraditional support requires a particular focus on joint capabilities to control the airspace, integrate fire support assets, provide high-fidelity intelligence, surveillance, and reconnaissance, communicate critical weather forecasts and reports, and to provide airlift support to ground maneuver forces.

Since CAS operates in close proximity to friendly ground units, reliable communications are mandatory. JTACs normally provide targeting instructions, final attack clearance, and friendly fire avoidance instructions to CAS aircraft. [Forward air controllers \(airborne\)](#) (FAC[A]s) can also provide this capability and are normally in contact with JTACs to determine targeting, ground scheme of maneuver, coordination measures, and details on the location of friendly forces. Since CAS procedures are used to prevent friendly fire incidents, specific communications procedures and training are required for air and ground terminal attack controllers and CAS aircrew. This process can be expedited if the ASOC provides a situation update prior to pushing the aircrew to the FAC(A) or JTAC. Standard procedures and terminology are published in Joint Publication 3-09.3, [Close Air Support](#), and Air Force Tactics, Techniques, and Procedures (TTP) 3-2.6, [Multi-Service TTP for Joint Application of Firepower \(JFIRE\)](#), and may be modified by theater and local standards.

CAS requires interoperable communications between all involved forces. Mismatched equipment slows coordination of fire support, and lack of secure or frequency-agile radios may lead to compromised, garbled, or no communicated mission data. Such simple errors as having the air and land components deploy with different codes or frequencies for their communications equipment can delay the proper execution of CAS.

As with the other aspects of CAS, the only way to ensure interoperable communications in war is to conduct fully integrated exercises during peacetime.

Target Marking. CAS effectiveness is greatly improved with timely and accurate target

Cross Domain Synergy



Successful CAS requires precise teamwork between air and ground elements

marks. Target marking builds situational awareness, identifies specific targets in an array, reduces the possibility of friendly fire, minimizes collateral damage, facilitates terminal attack control, and can greatly increase the accuracy of CAS attacks. When commanders or planners foresee a shortfall in ability to mark for CAS, they should request that capability during planning. Marking can identify both friendly and enemy positions in addition to being overt or clandestine.

Target marking can be accomplished through various means, including smoke or illumination rounds, laser designation, and flares.

With the use of low light and infrared systems becoming more widespread, the use of marking devices in those spectra can be more effective than visible target marking, depending on how the aircrew actually acquires the target and employs ordnance on it. When marking targets, JTACs should be aware there is a potential risk of highlighting their position to the enemy.

Streamlined and Flexible Procedures. CAS should be responsive to be effective. Responsive CAS allows airpower to exploit fleeting battlefield opportunities. Because the operational environment can be extremely dynamic, the CAS C2 system should also be flexible enough to rapidly change targets, tactics, or weapons. The requestor is usually in the best position to determine fire support requirements. Techniques for improving responsiveness include:

- ✦ Effective planning and rehearsal between air and ground units.

- ✦ Using forward operating sites near the AO.
- ✦ Placing aircrews in a designated ground or airborne alert status.
- ✦ Delegating launch and divert authority to subordinate units.
- ✦ Positioning JTACs and ALOs to facilitate continuous coordination with ground units, communication with aircraft, and observation of enemy locations.

Flexible and responsive procedures are critical for effective employment of CAS. The tactical employment of CAS is centrally controlled by the ASOC and decentrally executed at the tactical level. Launch and divert authority of scheduled CAS assets at the ASOC or airborne controlling agency provides reduced response time. Aircraft diverted from lower priority missions may also be used; however, a balance is required between rapid response and efficient use of limited assets. Effective C2 also enhances the ability to integrate CAS with ground operations, coordinate support, and update, or warn of threats to CAS assets.

Regardless of the intensity of the conflict, the ASOC operates the [joint air request net](#) to receive air support requests from the TACPs supporting the ground commanders. The air request net permits the TACP at each level of command to review the CAS requests as it goes up to the ASOC. This stepping-stone approach allows intermediate ground commanders to filter low priority requests (or requesting units) or use other [fires](#) to attack the target, ensuring that only the highest priority CAS requests are reviewed at the ASOC. Because CAS sorties are a high-value and limited asset, ground commanders at each level should prioritize where and when to employ CAS to maximize its effectiveness on the battlefield. The ASOC may develop abbreviated message and request formats to speed the flow of information between C2 nodes. If conducting detached, distributed, or autonomous operations, special operations forces may set up unique procedures with the ASOC or AOC to facilitate requests for CAS.
