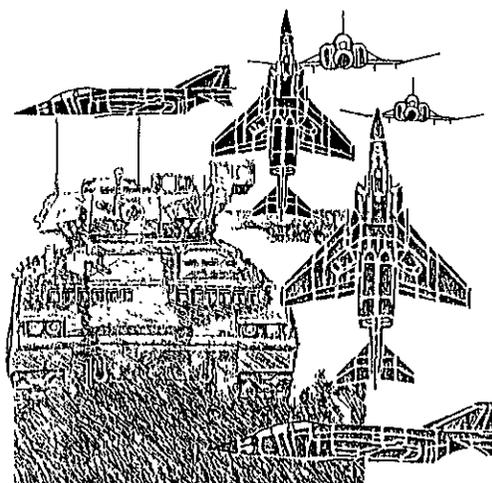


LIEUTENANT COLONEL RON OFFLEY
UNITED STATES AIR FORCE



Close Air Support For The AirLand Battle



Lately, many reports, papers, and studies have been presented on the AirLand battle as our military services attempt to nail down just how concepts such as deep attack, joint suppression of enemy air defenses (J-SEAD), joint air attack teams (JAAT), close air support (CAS), and combined arms warfare can be successfully implemented on future battlefields.

At the U.S. Army Infantry School, many questions are asked about Air Force support. To help dispel some misconceptions, this article will pose and discuss a few of

the more common questions that have been asked at the lower Army echelons during the development and refinement of one aspect of the AirLand battle — close air support, or fixed wing firepower on the friendly side of the fire support coordination line.

Although there are no clear-cut answers for most of these questions, a short discussion of each may be able to point out the factors the U.S. Air Force has to consider when deciding on who will be supported, and when, and with how much.

Will close air support be available on the first day of any future conflict?

In a September 1984 article, Assistant Secretary of the Air Force Tidal W. McCoy established the Air Force's mission priorities this way: "Air superiority is the first mission, because we believe that without control of the air, neither we (the Air Force) nor the ground forces can succeed. In effect, we now must perform counter air, air superiority, deep interdiction, and battlefield interdiction at the same time. Thus, we are structuring our forces accordingly. We have not, however, elected to pursue air superiority at the expense of all others. The A-10s, A-7s, F-4s, and F-16s in their air-to-ground modes are very capable CAS aircraft."

To phrase the answer in more operational terms, an anonymous fighter pilot put it this way: "You can shoot down all the Migs you want; however, when you return to base, if the lead tank commander of an advancing enemy motorized rifle division is eating lunch in your squadron snack bar, Jack, you just lost the war!"

The percentage of the total theater air effort that is dedicated to CAS is determined daily at the highest echelons of the theater's command. The Air Force has airplanes and crews whose *only* mission is ground attack, and if you need CAS and request it, it will be there.

Will the Army get control of the A-10 in wartime?

This rumor is without basis. The A-10 (with its 30mm gun) is designed for the close air support mission. It is centrally controlled from the theater's Air Force headquarters for its mission assignments. This central control allows the A-10 (and other CAS aircraft) to respond nearly anywhere along the front lines. During wartime, army and corps commanders will receive daily planning guidance for CAS requests, for both preplanned and immediate (on-call) missions. In certain situations the A-10 may operate from forward operating locations (small airfields) to respond more rapidly to specific engagement areas. In a temporary battle situation they may be under the scramble authority of the ASOC (Air Support Operations Center), which is the Air Force's command post at corps level.

Air Force aircraft are never placed under the Army's operational control. They respond to Army CAS requests, are centrally controlled at high-level Air Force commands, and execute their CAS missions with the aid of the air liaison officers (ALOs), forward air controllers (FACs), and tactical air control specialists (TACSSs) assigned to army brigades and battalions.

How many CAS sorties can a battalion expect?

This question is difficult to answer. First of all, has the battalion requested preplanned CAS and integrated it into its fire support plan? Just like any higher headquarters asset, fire support is not given unless it is requested. Because of the way air assets are centrally controlled, only corps or divisions are normally given planning guidance as to the number of daily sorties to expect,

although guidance may be further passed down to brigade or battalion by division headquarters.

To answer the original question, then, it depends on many factors. What's the scenario? Is it day or night? What's the weather? What's the threat? In the thick of fighting, a battalion may receive many sorties, or if it is holding and is not threatened, it may receive none.

Is it difficult for fighter-bombers to spot CAS targets?

Compared to the relatively short range of land-based direct fire weapons, CAS aircraft have a large operating area. Fighter-bombers have an operating radius of about 250 nautical miles or more without air-to-air refueling. Our navigation can be accomplished visually on 1:500,000 and 1:250,000 scale charts, by radar returns of prominent terrain features, with land-based radar or radio navigation beacons, and by internal navigational instruments. These navigational aids can direct a pilot to a target area but cannot locate the individual targets.

Because of our vast operating area, 1:25,000 or 1:50,000 scale maps are usually impractical to use, thereby precluding use of the UTM (universal transverse mercator) coordinate system. In most cases, a common land reference point must be found to positively identify both the friendly and the target positions. To do this, the pilot uses a combination of a FAC's verbal description, smoke marks, and laser designation. At the high speeds that our fighters fly, distinguishing smaller targets is very difficult, especially if those targets have made an attempt at concealment.

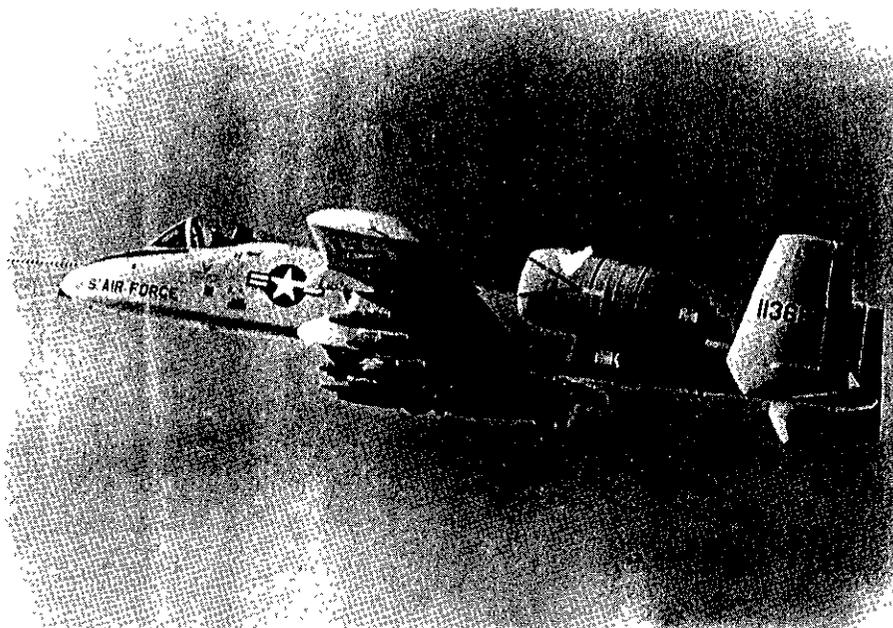
Why can't aircraft hit a target without radio contact?

Before we can drop air-delivered ordnance we must know at least where the friendlies are and where the target is, and we must have clearance to drop. Without radio contact the forward air controller cannot communicate the required minimum information and be confident that the pilot will receive and understand it. This lengthy communication includes start point, heading and distance to target, target area description, friendly position, abort codes, ADA positions, and other remarks.

The Air Force may use non-jammable radios and can use procedures in which a fighter receives the target briefing through a radio relay; that is, the briefing is relayed to a rear area command post or a forward air coordinator (airborne), who in turn relays the mission briefing to the fighter in an area away from the threat of jamming. The forward FAC then needs only minimal radio contact to put ordnance on the target. (The U.S. Air Force Air Ground Operations School teaches that CAS cannot be accomplished without at least minimal radio contact with the pilot.)

What about CAS for a land force's deep attack or for special raids?

CAS airplanes can go anywhere a land force goes. The support air forces may operate a little differently passing over enemy territory and will probably use their own weapons for suppression of enemy air defenses (SEAD).



The A-10 (with its 30mm gun) is designed for the close air support mission.

Generally, if there is little support available for Army SEAD, the Air Force will plan mission packages both to attack the target and to protect the CAS aircraft in transit and in the target area. These packages may include CAS attack aircraft, radar suppression aircraft (wild weasels), air-to-air fighters, jamming assets, airborne radars, and the like. The CAS procedures are in effect any time ordnance is expended near friendly forces — no matter where those forces are in relation to the FLOT (forward line of own troops). The CAS sorties can be either preplanned or immediate (on-call), depending on the situation.

How responsive is immediate CAS?

One should think of CAS as belonging with the larger, more destructive ordnance that is available to land forces. Generally, the larger the ordnance, the harder it is to get and the longer it takes to get it. Mortars are more responsive than 155mm artillery, which, in turn, is more responsive than 8-inch guns, which are more responsive than CAS.

CAS attack airplanes can respond anywhere on the battle front. The immediate CAS request is called to battalion and radioed directly to corps (or the highest operational headquarters) by high frequency (HF) single sideband radios operated by tactical air control parties (TACPs). The transmitted information includes unit identification, target location and description, and requested time on target.

The headquarters (Army) approves or disapproves the request, and the Air Force must find aircraft and ordnance that are compatible with the target. These may be diverted from another mission, launched from airborne or ground alert, or be available because of poor weather or other CAS cancellations. The CAS aircraft must take off, travel to the target area, and receive the target briefing. Delays may be caused by long communication links, searching for available and compatible ordnance

loads, and travel time to the target area. The time from the request to bombs on target may be from ten minutes to one and a half hours, depending on the situation. Generally, the more specific the requested firepower, the longer the time between request and result.

Why does the Air Force prefer preplanned CAS to immediate CAS?

Preplanned CAS is requested today for tomorrow's missions. It therefore allows more effective planning since the pilots have time to study the target area and analyze the threat. The Army's ground liaison officer (GLO) stationed at the fighter base can brief the pilots on any special aspects of the Army's CAS request. Aircraft maintenance and munition maintenance personnel can plan aircraft and ordnance to make the best use of the air wing's flying sorties. Although it is difficult to plan ahead in the defense, preplanned CAS can definitely be a part of the fire support plan in the offense.

Why can't the Army's company commanders control close air support?

In the years since World War II, the Air Force has developed a system for requesting and controlling CAS that has worked well. CAS is important enough that the Air Force supplies FACs, ALOs, and TACs to the Army's battalions and higher levels of command. These personnel are charged with advising the Army commanders and their staffs on the capabilities and the use of the theater Air Force, including all aspects of CAS.

We realize that the FAC cannot be everywhere on the battlefield, so in emergency situations the Air Force's enlisted tactical air command and control specialist can control the aircraft. In Grenada, the final control of some CAS (friendly location, enemy location, and clearance to drop) was accomplished by these specialists.

Additionally, fire support officers, as well as Army personnel who attend the Joint Firepower Control Course

at Hurlburt Field, Florida, are oriented in the emergency control of CAS. That is, they know CAS procedures but have not practiced with any attack airplanes. With more airplanes having frequency modulation (FM) capabilities (F-16, A-7, A-10), the Army is better able to talk directly to CAS aircraft.

Company commanders are normally neither trained nor authorized to control CAS. It would be a unique situation in which they would effect final control of a CAS mission. Although the procedures are not difficult, they are quite different from a normal call for fire. The units' FACs or ALOs are tasked with instructing in all aspects of CAS use and procedures.

Do CAS pilots worry about weapons status or friendly artillery?

Absolutely! The CAS pilots depend on the forward air controller to avoid heavy artillery concentrations. We would prefer not to shut down artillery (check fire) so, normally, local no-fire areas are coordinated for the duration of an air strike. The procedural control (tight, hold, free) of battalion air defense artillery (ADA) units is usually assigned by the division airspace management element (DAME). The weapons status depends on what the air space is used for. Thus, a typical example would be the establishment of a safe air corridor to be used by friendly aircraft for crossing the FLOT. Confusion at lower Army echelons may arise when friendly interdiction and reconnaissance airplanes cross the FLOT, since the Army will not normally be informed of these missions.

Obviously, our pilots are concerned about the safety of established air corridors and exactly whose ADA we should worry about. The deep attack aircraft will generally fly over the FLOT very low and very fast or will pick less hazardous crossing points. CAS aircraft will orbit behind friendly lines, then move forward to attack. In many cases, the pilot will never see the gunfire directed at him, because of his large workload and the speed of his aircraft. If the ADA is a factor in the attack of a target, we are normally authorized to attack enemy ADA.

What about enemy ADA in a CAS situation?

The joint suppression of enemy air defenses is initiated both at high levels of command as a long-range campaign and at low levels with local SEAD plans established at battalion level. Normally, the fire support element (FSE) will coordinate SEAD to protect both Army helicopters and CAS aircraft. They will plan attacks on local enemy ADA just before the arrival of friendly air support. The Army is responsible for SEAD out to the limits of observed fire, which means that some of the friendly artillery should be planned for SEAD missions to protect all air operations.

Can we expect CAS at night or in bad weather?

CAS airplanes visually attack point or area targets, and the sighting or guidance mechanisms are normally visually directed. To strafe or deliver unguided bombs, for

example, a pilot must visually acquire the target. Daylight CAS operations are the norm, and flare or infrared night operations are limited. Weather with a ceiling of less than 1,000 feet and a visibility of less than two miles limits fighter operations to area targets.

The CAS weapon systems cannot attack point, hard targets without visual acquisition. Bombing through the clouds relies on aircraft radar acquisition, beacon bombing, or ground controlled radar directions and normally results in the delivery of general purpose bombs on an area target that is a safe distance from any friendly forces. Some specially equipped aircraft have infrared seekers and laser target designators for night laser guided bombs. Also an infrared antitank missile is programmed for the inventory which will improve the night CAS capability. The Air Force is testing a low altitude navigation, targeting for night (LANTIRN) system for the A-10 and the F-16. This system should greatly improve the Air Force's night and poor weather target acquisition capability.

In short, CAS at night and in bad weather is limited today but should improve in the near future.

What are the best targets for CAS?

Concentrated groups of light armor, supplies, fuel, ammunition, or troops are excellent for general purpose ordnance. Hard mobile targets such as tanks can be good targets, too, provided our ordnance is compatible. Dispersed targets are difficult to find and are likely to waste ordnance. CAS is very flexible as to where it can attack and in what direction. For example, reverse slope attacks are relatively easy to accomplish.

We avoid concentrations of enemy ADA whenever possible both during attacks and while flying to and from target areas. When no SEAD support is available and a target warrants the risk — in support of an air mobile raid, for instance, or a joint air attack team mission beyond the limits of Army observed fire — CAS aircraft can assume the SEAD mission. We prefer not to be responsible for SEAD in a CAS environment because it decreases the ordnance load we can use against offensive enemy weapons.

What is battlefield air interdiction (BAI)?

Battlefield air interdiction is a preplanned attack by Air Force interdiction assets on targets nominated by the Army. BAI was developed in Europe and is a common mission for NATO forces.

Basically, BAI targets are those that may have a near-term effect on friendly forces — such targets as the second echelon division (and higher) targets of armor, troops, and vehicles. BAI sorties are integrated into the theater interdiction effort and are flown by Air Force aircraft using Air Force tactics.

A BAI attack can be planned to divert, disrupt, delay, or destroy BAI targets. For example, to interdict a second echelon division, attacks can be made on their command posts, enroute bridges, fuel dumps, assembly areas, and

massed armor formations, with each attack timed to produce the most advantageous result.

Extensive target planning is done by high level Army and Air Force planners, and excellent intelligence is required to identify the BAI targets. A pressing demand for the enemy assets to be moved forward facilitates an effective interdiction effort.

What about attacking enemy helicopters with CAS aircraft?

If the ground forces have no other options, certainly the Air Force will attack enemy helicopters. Tests have shown, however, that fast-moving aircraft have only limited success in attacking low-flying helicopters. Some multi-mission aircraft have guns and heat-seeking missiles that can be used to engage helicopters, but the counter-helicopter mission is not our primary one.

With the ever-increasing attack helicopter threat, each battalion must analyze the enemy threat and effectively deploy and use its friendly ADA. The chances are slim that CAS airplanes will be at the right place and time to counter specific enemy air threats.

What is the danger-close distance for air-delivered weapons?

While the Air Force doesn't use the term "danger close," a good rule of thumb for reasonably safe distances is about 1,000 meters in unprotected positions and 200 meters when protected. Depending on how controllable the ordnance is, these distances may vary. Strafing, for example, can be controlled down to 25 meters, as long as the friendly troops are not in the line of fire, but an area weapon such as cluster bomb units (CBUs) requires a minimum safe distance of 500 meters in protected positions.

The FAC is responsible for the safety of the ground troops during CAS missions, although his recommendations can be overruled by the ground commander.

What is so special about using a smoke grenade to mark positions for attack aircraft?

The omnipresent smoke grenade is the most commonly used overt friendly mark. Again, in reference to identifying the target and friendly positions, the hardest task in the CAS mission is establishing a common reference point on the ground that is recognized by both the pilot and the ground personnel. The smoke grenade is easy to use, readily available, and easy to see from the air.

There are other marks that can be used — flares, ground panels, or mirror flashes to identify friendly positions, and artillery smoke marks, tracers, or laser designators to identify target positions — so it is up to the ground personnel to brief the FAC when a smoke grenade or other overt mark may not be advisable.

What's a JAAT?

A joint air attack team (JAAT) is a combination of

U.S. Army attack and scout helicopters and U.S. Air Force close air support aircraft operating together to attack lucrative high priority targets. Employment tests have shown that the combined effects of these aircraft produce exceptionally good results. This joint attack supports the ground commander's scheme of maneuver and includes coordination of fire with the fire support officers. It can be requested through normal CAS procedures when attack helicopters are available.

How is CAS accomplished in an area where there is a high enemy ADA threat?

High-threat CAS tactics usually rely on the use of a known geographic point called an initial point (IP) from which an attack is started. The heading and distance from the IP to the target is relayed to the attack airplane. The aircraft flies low and fast toward the target and, at two to four miles from it, starts a climb to acquire the target and establish a dive angle for weapons release.

The target must be marked or the pilot must have a detailed word description of it to facilitate target acquisition. The CAS aircraft should attack on its first pass and will probably expend most of its ordnance on that pass, especially if the enemy ADA is concentrated. Re-attacks may be acceptable if the ADA is not heavy or if it is suppressed.

These tactics are a compromise that gives the aircraft a minimum time of exposure to ADA, a reasonable chance of hitting the target, and a reasonable chance of surviving. This method of attack is not unique to high threat CAS; most interdiction sorties are flown using similar tactics.

The preceding questions cover many aspects of close air support. With more emphasis today in the Army on light divisions and air deployable assets, a large part of the heavy firepower will be accomplished by CAS. A unit TACP's job is not only to advise the commander and his staff on CAS but also to educate the unit's officers and NCOs. This education is strictly voluntary, since there are no battalion training management system (BTMS) requirements for CAS.

As its name implies, though, close air support occurs in an area that should be considered a ground commander's front yard. To make it work effectively and accomplish his objective, the ground commander must understand how the system works — from request to ordnance expenditure. His TACP can make the system work for him, helping to insure successful operations for his unit and, ultimately, *our* total combat effort.

Lieutenant Colonel Ronald D. Offley, USAF, is an instructor at the U.S. Army Infantry School. He has flown close air support and interdiction missions in F-100 and F-4 fighter-bombers in Vietnam, Korea, and the United States. He holds a master's degree from the University of Michigan.
