

Altitude Separation at the National Training Center

A Method for Deconflicting Indirect Fires and Close Air Support

by Major Christopher Irrig

Deconflicting indirect fires with Close Air Support (CAS) attacks is a difficult task to accomplish at the National Training Center (NTC). Historically, rotational units exhibit a lack of understanding in using altitude separation which has resulted in poor execution of simultaneous CAS and artillery attacks. This lack of Tactics, Techniques, and Procedures (TTP) is not entirely a unit's fault, as there exists a lack of TTP between the Army and the Air Force. *Joint Pub 3-09.3, Joint Tactics, Techniques, and Procedures for CAS* is a valuable publication but doesn't provide specific techniques for control and computational procedures necessary for artillerymen and the Tactical Air Control Parties to utilize in safely deconflicting artillery fires with CAS attacks. The NTC's Live Fire Team (Dragons) has aggressively pursued TTPs that will reverse these trends that units routinely exhibit. This article is intended to identify evolving trends with altitude separation.

In March 1997, NTC's Operations Group and the USAF Air Warrior staff revised the CAS rules of engagement (ROE) to include a third method to deconflict CAS and artillery fires. This method is called Altitude Separation and the procedure includes both lateral and altitude/vertical separation control measures. This method provides the brigade commander and his task force commanders the ability to mass CAS and artillery fires simultaneously on the same target or nearby separate targets.

In order to attack the same target simultaneously with CAS and artillery, we use a procedure called "ORD 1." This procedure refers to the altitude of the artillery trajectory one kilometer short of the target. ORD 1 is calculated, using artillery firing tables, to ensure fighters stay above (SA) the artillery fragmentation and artillery trajectories at the target area.

During simultaneously separate target attacks with CAS and artillery, we use a procedure called "MAX ORD + 1000 FT." If the fighters must cross an artillery gun target line (GTL), short of the artillery target area, then the FSO/ALO will restrict the aircraft above the maximum



ordinate + 1,000 feet. In order to derive the maximum ordinate, the artillery fire direction center (FDC) must report the maximum ordinate for the target they will fire. Add a 1,000 feet vertical buffer to it, and pass this altitude as the minimum SA altitude at mean sea level (MSL) to the pilot. These two gunnery computational procedures ORD 1 and MAX ORD +1,000 FT clearly determine the minimum safe SA altitudes for fighters during a specific target attack. Time and lateral separation procedures are still valid methods for some types of attacks, but they do not enable commanders to mass assets simultaneously. Altitude separation is simply another option and not the "sil-

ver bullet" for rotational units' CAS problems, nor is it appropriate for all types of CAS employment options. Commanders, based upon the tactical situation, may decide to use another method other than altitude separation.

During the Leader's Training Program (LTP) conducted at the NTC prior to the unit's rotation, the brigade commander and his key leaders receive a briefing on altitude separation TTP and rules of engagement (ROE). Immediately following the briefing, the Brigade/Task Force Fire Support Officers (FSOs) and Air Liaison Officers (ALOs) are taught a class and then given the opportunity to work

through several practical exercises in order to reinforce their understanding of the procedures. This process began in March 1997 with the revision of the CAS ROE, and every brigade commander that has received this Leaders Training Program class has decided to use this method. Once the brigade commander has decided to implement this procedure, the brigade must develop, train upon, and rehearse their Standard Operating Procedure (SOP) during their train up at home station. During force on force operations, the unit can continue to refine its procedures.

When the brigade transitions to live fire operations, the Commander of Operations Group (COG), the brigade commander, and the appropriate O/C Team Senior Trainers (07s) conduct a risk assessment. Based upon this assessment the unit may decide whether or not to use the altitude separation TTP during live fire operations.

June 1997 was the first time that altitude separation TTPs were executed in a live fire exercise. The brigade's mission was to conduct a deliberate attack with a Line of Departure (LD) time of 0700. The brigade commander's guidance was to shoot artillery-delivered smoke at the point of penetration (POP) and simultaneously engage the Motorized Rifle Company (MRC) at the POP with CAS. The Forward Air Controller-Airborne (FAC-A) was on station at 0730, and the first sorties were available at 0800. The FAC-A developed the tactical situation, received the safe SA altitude from the brigade FSO, and passed the 9-line briefing and target identification to the fighters. The fighters identified the target and were cleared hot from the FAC-A. Having set the conditions for a simultaneous attack, the brigade's field artillery then executed its first essential task (providing obscuration smoke at the POP) while the fighters dropped their ordnance on the MRC. As the CAS target was approximately 300 meters northeast of the artillery-delivered smoke, the two A-10s were able to deliver a total of six MK-82s on the MRC by using the smoke as a reference.

This successful simultaneous attack on the target was a preplanned mission. The brigade FSO and ALO developed the plan based upon their commander's intent, availability of aircraft from the Air Tasking Order (ATO), and the scheme of maneuver. This attack was briefed at the OPOD and practiced during the brigade combined arms rehearsal, which ensured complete dissemination throughout the

brigade. The attack plan was further refined and rehearsed throughout the direct support field artillery battalion's fire direction centers.

During another rotation, a brigade exhibited proficiency using the altitude separation technique during force on force operations. However, during the live fire offense FAC-A aircraft were not available to the brigade. The COLT/ETAC observation plan did not compensate for loss of FAC-A support by positioning them far enough forward to observe and control the air strikes, resulting in the unit having difficulty in synchronizing their attack. When CAS was on station, the ETACs were not in a position to provide direct control of the aircraft and the fighters were not cleared hot from the initial point (IP) to the CAS target. The ETAC's displacement criteria, movement triggers, and subsequent positions need to be well thought out in relation to where units expect to employ CAS.

As a trend, TF-level ETAC teams rarely get the opportunity to direct CAS attacks, and this attack provided a perfect opportunity to hand off the CAS from the BALO to the lead TF. Despite the fact that the majority of CAS attacks at the NTC are executed at the brigade level with FAC-A aircraft providing "direct control," TFs must still have ETAC positioning plans that support the commander's intent in case the aforementioned situation occurs.

The next unit had difficulty establishing informal ACAs that would support simultaneous artillery missions and CAS attacks. In some cases, the ACAs were too large and covered a great deal of the area of operations, thus preventing the artillery from engaging targets. Eventually, the FDC had to cancel some of the informal ACAs in order to engage these targets with artillery fires. This caused problems with both air and ground terminal controllers who were not aware of the changes in the informal ACAs, resulting in aborting aircraft due to the confusion over which ACA was active. Some fighter pilots were aware of the current ACA, but spotted artillery rounds impacting inside of it and aborted their CAS attack. The pilots were either not aware and/or did not fully understand that the brigade was using the ORD #1 procedure to deconflict CAS and artillery attacks.

During the deliberate attack missions units tend to use altitude separation with preplanned CAS. When the preplanned CAS requests DD 1972 are approved and aircraft sorties and time on station are

confirmed based upon the ATO, this enables units to rehearse their plans early on during the brigade combined rehearsal.

As units develop confidence in altitude separation procedures, then immediate CAS will be routinely executed this way at brigade and TF level. Eventually, NTC Operations Group and Air Warrior staff will develop the stay below (SB) altitude procedures with the necessary ROE and give the brigades the option to use it. The U.S. Marine Corps has used altitude separation for years and routinely trains to fly below the gun target line at its Air-Ground Combat Center at Twenty-Nine Palms, Calif.

This altitude separation TTP is now incorporated into the Field Artillery Officer Advance Courses for future BDE/TF fire support officers and fire direction officers. This method is clearly a step in the right direction in terms of bridging the gap in altitude separation TTP between the Army and the Air Force. The Air Land Sea Application (ALSA) Center is working to develop a JTTP handbook for ALO, FAC, ETAC, FSOs, S3, and commanders. This handbook will help all services in terms of joint commonality and interoperability. The Air Ground Operations School (AGOS) at Nellis AFB has incorporated this TTP into their POI for future classes. Further down the road, the AF believes that this may be a viable candidate for Tactics Test Review Board consideration as a TD&E test and inclusion in AFTTP 3-1. This TTP is a proven, safe, quick, and effective technique for deconflicting simultaneous CAS and artillery attacks.

MAJ Chris Irrig, a field artillery officer, is currently attending the Navy Command and Staff College at Newport, R.I. He served at the NTC for 34 rotations, including assignments as firing battery trainer, TF live fire FSO trainer, and, most recently, as brigade live fire FSO trainer. During live fire operations, he deconflicted surface danger zones (SDZs) for all direct fire weapon systems, and additionally, cleared all indirect fire missions and deconflicted simultaneous CAS and artillery attacks. He commanded battery Delta, the "Alexander Hamilton" battery with 1st Battalion, 5th Field Artillery at Ft. Riley, Kan.