

Close Air Support

Author: Roger Kufnerman ()

Date: 03-07-03 00:01

OK Mark, here goes -

First, let me state some basic guidelines:

- When speaking of battlefield air attack in this post, I am referring to close air support, i.e battlefield air attack that an on-table BF unit would see - not interdiction attacks against lines of supply/communication.

- The basic CAS doctrine of the Luftwaffe as worked out in the 1930s provided the guiding principles for almost all other air forces, with the notable exception of the USN/USMC. This doctrine held that air power should NOT be employed on the ground units' immediate battlefield area unless absolutely necessary. The reasons for this doctrine stem from the twin realities that a) battlefield air attack is inherently risky both to the air unit carrying it out and the friendly ground unit calling it in; and b) a ground force unit usually has ample artillery assets upon which it can call for support. For these two reasons, most air force officers looked upon battlefield air attack as a poor use of air assets - they felt their proper role was to hit targets well behind the front line, where artillery couldn't reach.

The USN/USMC approach was different, based on anticipation of making invasions against defended islands or otherwise isolated land masses. In such a scenario, USN/USMC air officers realized that the invading force would often not have access to much (or even any) of its own supporting artillery during the initial landing and for at least some period of time thereafter - and that naval gunfire could not completely compensate for this lack. Therefore, these officers were willing to employ battlefield air attack, not as an addition to, but as a substitute for the missing artillery. The practical results of these differing doctrines can be seen in two areas: response time and targeting proximity.

Usual Air Force procedure was to keep direct control of air assets - air commanders would try to co-operate with ground commanders, but final say as to how and when air assets would be used was held by air commanders. All requests for battlefield air attack were filtered through air unit headquarters, who would accept or decline each CAS request. In contrast, USN/USMC doctrine did not filter requests - the naval force commander (during the initial stages of the invasion) or the ground unit commander (after the force was established ashore) maintained control over air assets. A shortage of available aircraft might prevent a CAS request from being fulfilled, but if the assets were available, the CAS mission WOULD be carried out. This resulted in a significant reduction of air units' response times because the CAS request was not filtered through various chain of command levels.

The other way in which differences in the two doctrines could be seen was target proximity. Air Force (and remember, this refers to all air forces other than USN/USMC) doctrine, because it assigned a relatively low priority to battlefield air attack, and especially mindful of the inherent friendly-fire dangers, called for actual CAS attacks to have a sufficient safety margin - usually on the order of 1000 yards between target and friendly troops (though in practice, and with experience, this margin could be reduced, perhaps to as little as 400 yards). USN/USMC doctrine held that targets as close as 200 yards to friendly troops were viable CAS targets - the necessity of using air support to substitute for artillery support overcame the consideration of safety factors.

- The above should not be taken as a diatribe against "The Air Force". With objectivity, one can see the valid points raised by air force officers - ground units usually DO have ample artillery support, and such support usually IS better suited to support of ground units. To obtain consistently effective results through battlefield air attack requires high levels of training and experience, and CAS air unit losses are generally very high. The results obtained can often seem to not be

worth the costs incurred.

Now, as to practices and examples for the fighting in the desert -

When WWII began, no nation had worked out tried and true methods for CAS. The traditional picture of German victories in the 1939-41 period - a combination of tanks, infantry, and CAS working in close harmony to blitz their WWI style opponents has some basis in fact, but is much further from reality than many casual students of history might realize. As I referenced above, the thrust of pre-war German thinking was that CAS might be a useful mission, but took third or fourth place behind air superiority, interdiction, and strategic bombing. In this belief the Germans were like other nations - the crucial difference was that their air leaders were willing to try CAS, and approached the subject with an open mind. They thus often avoided the bitter debates that raged between other nations' air and ground officers.

The standard image of the Luftwaffe was that it used Spain as a testing ground to develop effective CAS. This it did, but not by developing new techniques, but rather by re-discovering and applying the techniques developed during 1917-1918. In static situations (common in the Spanish Civil War as in WWI), it was possible, through use of liaison officers, recognition signals, and extensive pre-planning, to render effective CAS. The problems arose when the situation became more fluid - how to control air assets upon a battlefield that shifted great distances in short periods of time. Recognition signals and pre-planning could not adjust quickly enough under these conditions.

In short, the methods of WWI were essentially repeated by the Luftwaffe during the period 1939-41. Missions were pre-planned by air force liaison officers acting in concert with their army counterparts. Given a sufficient period of time for coordination and planning, these methods could produce effective CAS. Particular targets or suspected targets, or suspected battlefield terrain features, could be picked and plotted, and air crews could study these targets overnight in order to conduct air strikes the next day. In mobile battle situations however, opportunities for pre-planning were greatly reduced. Instead, army officers would guesstimate how far they expected to advance the next day, and bomb-lines would be drawn on the map, in front of which air units would be forbidden to bomb. Ideally the bomb lines would be predicated on a readily identifiable terrain feature, but under battle conditions even the best pilots can become confused as to exactly which river, ridge or town they are flying over. For the ground units too, bomb lines could cause trouble. If the ground attack was more successful than anticipated, the ground unit commander was faced with a difficult decision - either take advantage of the situation before him and advance beyond the bomb line - thereby risking friendly air attack - or halt in place and thereby allow the enemy a respite.

The solution to the problem came during the summer of 1941. In preparation for Barbarossa, the Luftwaffe's air liaison officers ("Fliegerverbindungsoffiziere" or Flivos for short) had been established down to divisional HQ level (previously they were only organized down to corps level- these were the men responsible for the final decision of whether available air assets would be used for a requested CAS mission). They also established Air Signal Liaison Detachments consisting of an officer and four radio operators, equipped with an armored vehicle allowing deployment right up with the mobile spearheads - the first FACs. These units' radios at last shared a common frequency with those of the army units they were supporting - almost unbelievably given common perceptions of the effectiveness of the German war machine, the early campaigns were fought without direct ability to talk between air and ground units. The Luftwaffe could now easily communicate with the army's advance elements. The Germans also established a permanent "Nahkampf fuhrer" (close air support leader), responsible for movements of the CAS air units, coordination with the army in general, and between the Fliegerkorps (air armies) and panzer groups/armies in particular. By June 1941, the Luftwaffe had already begun moving away from bomb lines; by late summer they abandoned this practice altogether,

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instead placing much heavier emphasis on marking devices, light signals, and pyrotechnics.

Thus the CAS provided DAK in Africa began in a period of transition, but by the time of the Crusader operation in November 1941, a very modern CAS organization had come into being. One must bear in mind however, that Luftwaffe commanders, in the end, decided when and where their aircraft were to be used - acting of course in as close as possible concert with ground forces' requests. A German desert BF player must not assume that he always has a flock of Stukas overhead, just waiting to pounce - as I noted in my introduction, CAS was not the first priority.

Initial Luftwaffe CAS assets arrived with DAK in Libya during February 1942 - these consisted of elements of a single Stuka Geschwader (equivalent to an RAF "Wing"/USAAF "Group"). By May 1942, the Luftwaffe in Africa had formed a special CAS command known as "Gefechtsverband Sigel" tasked especially with battlefield air attack. It included a Stuka Geschwader (of three Gruppen, about 90 aircraft), a single Gruppe of Me-110 twin-engine fighters, and a single Staffel (about 9 aircraft) of Ju-88 twin-engine bombers converted to a heavy fighter configuration. This strength level was essentially maintained throughout the year.

In November 1942, a Gruppe of Me-210 twin-engine fighters was added, along with a Staffel of Hs-129 tank-busters - however the latter unit never saw action as the plane's engines proved unreliable in sandy conditions. By the beginning of 1943, Luftwaffe reinforcements poured into Tunisia. These included another Staffel of Hs-129s (which unit was able to keep their aircraft servicable and consequently saw quite a bit of action), another Stuka Gruppe, and two fighter-bomber Gruppe, initially equipped with Me-109Es but quickly re-equipped with FW-190As.

As for Italian CAS assets, I have already outlined their strength and equipment in my initial post under the "which units/CAS" thread. I have been unable to find hard data as to their tactics and procedures. I believe, however, that at least some times and under some conditions, they utilized Luftwaffe procedures or were integrated into Luftwaffe operations. For example, I have read that during the attack that finally captured Tobruk in the summer of 1942, Italian CAS Assalto units flew in concert with the Luftwaffe units supporting the German attack.

I apologize for the length of this post; however I am attempting to give as much information as I have available. Tomorrow or Saturday, I will continue by addressing the RAF and USAAF.

Reply To This Message

Re: Close Air Support
Author: Roger Kumferman ()
Date: 03-08-03 15:15

AS I noted above, the RAF believed, as did most other air forces, that CAS was not their main duty. A 1939 Air Staff memo stated:

"Neither in attack nor in defense should bombers be used on the battlefield itself, save in exceptional circumstances."

This attitude was shared with the Luftwaffe - the difference between the two services was that the German air force was willing to try to develop a CAS capability, while the RAF, despite a wealth of WWI experience, was not.

Other than a couple of minor attempts, during December 1940 and November 1941, no

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CAS missions were undertaken by the RAF until well into 1942. The exposure to German battlefield air attack practices, however, impelled the British to develop such a capability of their own. With the introduction of the P-40E model "Kittyhawk", the British Desert Air Force at last had a capable fighter-bomber type. By May 1942, the DAF's Kittyhawks began ground-attack missions on a wide scale. Procedures to direct and control such missions were, at first, lacking, and had to be worked out through trial and error. During 1942, battlefield air attack was only carried out during periods of offensive operations (either friendly or enemy) - between major battles, in static conditions, available ground-attack fighter-bombers were put back on to their normal fighter duties. I believe the reason for this was that, without a positive system of planning and control, the ground attack aircraft were often left to their own devices to locate targets; the dust clouds raised by moving vehicles during an offensive made spotting targets much easier than during periods of inactivity. Of course, most such ground attack was still against moving transport in the rear of the battlefield; even with the RAF's introduction of the dedicated Hurricane IID "tank-buster", CAS sorties were rare.

Gradually, a system of CAS control was worked out. The initial system was in certainly in place by early 1943 for the Tunisian battles. The basic system mirrored that of the Luftwaffe. RAF liason officers were established at the various chain-of-command levels - army, corps, division (and by the winter of 1943-44, down to brigade HQ level). During the afternoon/evening of each day, the division-level liason officer would sort through the various requests for CAS made by front-line units of the division. These air force liason officers, working in close co-operation with their ground unit counterparts to compare the division's situation and the air force's available assets and mission requirements, would accept or reject each CAS request sent him. The accepted missions were then passed up the chain-of-command, to the air force liason officer at corps. Corps liason could also accept or reject the missions passed to him, again trying to work in harmony with his assigned ground force whilst also taking into account air force capabilities/requirements. The CAS missions accepted at corps level would be passed to army; there again, the filtering process would be carried out. When the final assessment was made for which prearranged CAS missions would be flown, a staff conference would be held in which available air assets would be assigned to various tasks required for the next day's operations. Of the total available air assets, some would be assigned to fulfill the accepted prearranged CAS requests; some would be assigned stand-by status to handle "call" missions (see below); and some would be assigned to work with FACs while orbiting over a particular battlefield awaiting call-in on targets as they presented themselves.

The air units assigned to handle the pre-planned missions would then be sent their scheduling and targeting information, for example:

"Mission #1 for 239 wing, with 6 aircraft within the area L8926, L9726, L9820, L8920 [map coordinates]. Aiming point will be indicated by red artillery smoke. Time on target 0800 hours."

These prearranged CAS missions could be easily employed during static situations; however targets of opportunity that appeared during mobile operations had to be handled a different way, with "call" missions (i.e. CAS missions initiated by a front-line unit's radio call to brigade/division HQ). In this case, the same filtering process used for prearranged missions was used - the division air force liason HQ would consider and accept or reject the request, based on the available air units assigned to on-call status and the overall ground and air situation. The corps-level air force liason HQ monitored these radioed requests and could squash requests accepted at division-level, if need be. If a "call" mission was accepted, the targeting info would be passed to an assigned air unit. The goal was to have these aircraft over the target within 90 minutes of the radioed request (with practice and experience this response time could be reduced to 30 minutes, depending on conditions).

The RAF first used FACs during the Tunisian fighting, but they were not used extensively until late in 1943. DAF FACs were known as Rover David or Rover Paddy

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(after Group Captains David Haysom and Paddy Green, both legendary DAF pilots). Rover David units usually consisted of six personnel mounted in one or two armored cars. The controllers - at least one ground force officer and one air force officer - would take a position affording the best possible view of the battlefield (the FAC's vehicles were meant to provide transportation between assignments, the actual FAC position would be on the ground much like a forward observer - it was only later that RAF FACs began to operate from vehicles as mobile units). Their radio equipment was manned by enlisted personnel who relayed messages from the controller's observation position back to the division air control liason officer who would accept or reject the requested mission. If accepted, the Rover David controller contacted the aircraft that had been assigned overnight to work with him, and that would by now be circling overhead (in what the RAF called the "cabrank" - such aircraft would be working in relays, generally able to circle for about 30 minutes or until their ordnance had been expended - if no FAC call came after 20 minutes they would automatically attack an alternate pre-briefed target). If the FAC called in a strike, he would "talk" the pilots in to the target while both referenced special 1/100,000 scale maps prepared from aerial photos and divided into 400 x 500 meter grids identified by letter and number combinations. A FAC-controlled CAS request could result in an attack within 10 minutes - this, of course, is the system modelled in the BF rules as written; however, as noted above, the majority of CAS missions were not FAC controlled, but either prearranged or "call" missions.

Variations in this procedure were permitted. For example, if a request for a "call" mission came in that was judged to be of particular importance and no stand-by air units were available, an air unit en-route to a prearranged CAS target could be shifted to handle the "call" mission.

I'll end this Part II here and resume with another post covering the USAAF and USN/USMC.

Reply To This Message

Re: Close Air Support
Author: Dave Choat ()
Date: 03-10-03 16:22

Man I can't wait for this, keep it coming Roger!

Reply To This Message

Re: Close Air Support
Author: Evan Allen ()
Date: 03-10-03 17:39

same!

Evan

Reply To This Message

Re: Close Air Support
Author: Hank Hodgkin ()
Date: 03-11-03 18:00

Gentlemen,

I am new at this, but I would like to make a comment if I may. The Early North

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African war (before the U. S. entry) has been a special interest of mine since I first started reading about such things in the mid 1950's. I have read a good deal about that theater and while air power seems to have been decisive against supply units, both ocean going shipping and land columns, but I do not recall having read that it had much if any effect on any actual battlefield operations. Perhaps one general air attack card pre side would be sufficient, and then only for use against supply columns or retreating units. As I say, I have not been studying your game long and I hope that you do not find my comments inappropriate.

I posted the above under "Cards we don't need" earlier. I would like to expand it to say that I quite agree with Roger. Communications between field units on the ground and air units overhead was nonexistent until late 1943 on the British side and had only been developed slightly by the Germans who were not about to squander their best equipment on the "sideshow in the desert." Any air interdiction on the battlefield would have been accidental, and could only be considered opportunity fire at best. The chance of identifying an unmarked target, covered in sand and dust in the desert from an aircraft traveling at 150 mph was very difficult. (And still is as witnessed by US units in Desert Storm that took friendly fire from A10's and Black Hawks.) Even the best ground artillery support fire was called in to map coordinates through relayed messages clear through the end of WWII. Even the huge masses of British Troops retreating before El Almain (Sp?) were not badly hurt by German aircraft because the British Desert Air Force was available to drive the Luftwaffe away.

As to the chance of damage to aircraft, under battlefield conditions, nobody was likely to shift his fire from an attacking armored unit to an aircraft. Only well trained AA units in emplaced positions really had any chance of damaging an attacking aircraft under battlefield conditions. Such units were definitely available and in use in the desert, but they would only have been found at HQ locations or perhaps supply dumps or vehicle parks. Unless you are playing a scenario involving a large supply column moving along a known route or one involving large numbers of disorganized retreating units who would not have had air cover available I would not suggest that CAS be used sparingly for this period.

Reply To This Message

Re: Close Air Support
Author: Roger Kumferman ()
Date: 03-11-03 19:42

Thanks, Dave and Evan, for your enthusiasm, and thanks Hank for your comments. Here 'tis.

During the 1930s the US Army Air Corps was among the world leaders in the development of battlefield air attack. A range of what would now be called CAS aircraft were developed by various manufacturers, equipping both US units as well as foreign air services (like China). However, by the end of that decade, USAAC interest had clearly shifted towards the twin-engine light attack bomber, which soon developed into the twin-engined medium bomber. Coupled with a dedication to the heavy, strategic, four-engined bomber program, interest and development of the CAS mission waned.

Once WWII began, the US Army Air Forces (as the USAAC became after 1940) had little in the way of CAS assets, but did have access to the combat examples and reports coming out of British experience in the Western Desert. It is therefore somewhat surprising that, after the Torch invasion, the USAAF forces in Morocco and Tunisia found themselves in the middle of a chaotic and controversial struggle with their US Army counterparts - a struggle that would result in major changes to leadership, organization, and doctrine, and that, in its own way, would lead to the creation of the independent USAF in 1947 as surely as did the pursuit of the strategic bombing program.

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At the time of the Torch invasion, Twelfth Air Force, the USAAF organization deployed to Africa, was organized to include the "Twelfth Air Support Command", responsible for providing interdiction, air defense, reconnaissance, as well as ground force support duties. USAAF doctrine at the time was covered in Field Manual FM 31-35, "Aviation in Support of Ground Forces". This doctrine held that ground force commanders were responsible for picking air units' targets; however dive-bomber and fighter-bomber operations were NOT part of the doctrine - twin-engine light and medium bombers were to provide the support. Army requests for air support were to be transmitted via the ground forces' chain-of-command until they reached division HQ which contained an "air support party" led by a USAAF officer with equipment and personnel for communication with higher HQ. This ASP would forward air support requests that had been approved by the ground forces divisional commander to an "Air Support Control" unit at corps-level HQ, which would consult with the ground force corps commander as to the efficacy of the requested mission - the ground force corps commander had final say to approve/disapprove the mission. If approved, attack orders would be given to a particular bomber unit. "Air Support Command" HQ, co-located with the field army HQ, could monitor the request net, and chime in with advice/guidance. Needless to say, the fact that aircraft were ultimately controlled by ground force officers rankled the USAAF, who felt that air units should be controlled by air officers.

American pre-war maneuvers had seen large numbers of ground-attack aircraft employed - but hardly any were used for CAS on the battlefield. Instead the missions undertaken were interdiction and observation:
"By the end of 1941, it had become clear that the AAF conducted operations according to its own concept of air power, without regard for the needs of the ground forces. Basically, it remained AAF doctrine not to attack targets within range of friendly artillery."

So it was after the Torch landings. Despite having control over USAAF targeting, most Army officers were convinced the AAF had neither the means nor the will to conduct support for the ground forces. This attitude of distrust on both sides' parts led to a crisis of command during the North African campaign.

It should also be noted, that the British Desert Air Force procedures described in my second post, above, were worked out by the DAF alone. Breakdowns in staff communications resulted in confinement of DAF doctrine to the forces involved in the Western Desert; the RAF units assigned to the Torch invasion (RAF Eastern Air Command) knew as little of proper CAS doctrine as did their American Allies. Though Churchill himself (to end the prolonged wrangling during the planning stages) had decreed that RAF units committed to Torch "should be organized on the Libyan model" (i.e. the DAF doctrine), none of these units really understood how that doctrine worked. The result was utter failure of the joint Allied air services during the Torch forces' advance into Tunisia.

To begin with, the chain of command was awkward. Eisenhower had control over the British Eastern Task Force and the Americans in the Central and Western Task Forces. General Fredendall, CTF commander, had control over the USAAF's XII Fighter Command and Bomber Command; General Patton, WTF commander, had control over XII Air Support Command. Air Marshal Welsh controlled the air units assigned to support General Anderson's ETF, while General Doolittle, commander of USAAF Twelfth Air Force, refused to communicate with Welsh, and bitterly protested his air units' dispersion under ground commanders' control. Few resources were strained in the Allies initial landing, and subsequent short campaign against the Vichy French. But when the advance into Tunisia began, the system began to break down. There were several unfortunate occurrences (on December 4, 1942 a British ground commander ordered an air attack on a German airfield - all 10 bombers sent were lost; on January 17, 1943 General Fredendall, US II Corps commander, had denied a request for air support from the French XIX Corps, because the G-2 for US 509th Parachute Battalion felt his unit needed it more). British ground commanders complained that the RAF was only attacking German forces well behind the front lines, and providing no battlefield support at all. General Robinett of US 1st Armored Division described a German

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attack on the British, complete with perfect air-ground cooperation. He observed: "...there are many gadgets and liaison setups here to achieve it [air-ground coordination] but they have not worked."

Like most US ground force commanders, Robinett wanted more control over the AAF air units. Doolittle meanwhile, was arguing that XII Bomber Command (the USAAF heavy bombers) should be given full resources and freedom of action, in order to bomb the German forces into submission. Air commanders at all levels felt that their forces were being "frittered away in penny packets". Given the combination of faulty doctrine and command disorder, CAS for the Torch forces was almost non-existent, consisting of a few weak medium bomber raids or occasional strafing runs on German forward positions.

Air Chief Marshal Tedder, Air Officer Commander in Chief, Middle East, and the man who had built up DAF into a potent weapon, at this point spoke up. After communicating his view of the situation, a series of command shakeups began, that resulted in radical changes to the Allied Air Forces in the Mediterranean. The process of change began just before, and lasted until after, the German attack at Kasserine Pass. As a result, Allied air power had virtually no effect on that battle.

As a result of Tedder's involvement, USAAF General Spaatz, on February 15, was appointed head of Northwest African Air Forces, the joint command for all Allied forces in Tunisia. Vice Air Marshal Coningham, former commander of DAF, became head of Northwest African Tactical Air Force, a subsidiary command under NAAF, and responsible for Allied battlefield air support (it included the British and American air support forces that had come into theater from the Torch landing, as well as DAF). As part of this infusion of new leadership, General Montgomery met with many British and American officers to discuss lessons learned from the Western Desert campaign. Monty forcefully stated that aircraft assets should be centralized under the command of an air force officer, who was to work in conjunction with the ground force commander. According to this doctrine, if air assets were controlled by the ground commander, they would lose "flexibility" - according to Montgomery airpower's greatest value. He stressed the need for air and army commanders to achieve the greatest possible level of cooperation by having their respective staffs work from the same HQ. Coningham simplified the message even further stating: "The Soldier commands the land forces, the Airman commands the air forces, both commanders work together and operate their respective forces in accordance with the combined Army-Air plan, the whole operation being directed by the Army Commander."

Eisenhower was in full agreement with this doctrine. The new doctrinal changes were enforced by General Alexander, Army Group commander of Allied forces in Tunisia, who simply removed control of air units from ground commanders, issuing an edict for US benefit that he would "...never issue any orders on air matters. The Airman must be the final authority on air matters".

In practice, CAS of ground forces during the remainder of the Tunisian campaign did not radically improve, as it would take some time to alter the tactics of the USAAF and RAF units from outside DAF. However, the experienced units of DAF were put to good use when necessary, as they were during the attack to break the Mareth Line. On March 26, 1943 DAF units began a series of battlefield air attacks at El Hamma. Yellow smoke was used to mark Allied forward positions, while Allied artillery fired smoke concentrations to mark German targets. Behind the Allied front line, a large land-mark was cut into the ground and marked with red and blue smoke, while numbers of trucks were arranged into the form of letters to mark various pinpoints. The targets had been preset and the pilots pre-briefed. After an initial "pattern-bombing" by medium bombers, 26 Allied fighter-bomber squadrons began their attacks. After 30 minutes, the artillery barrage began, moving 100 yards forward every three minutes, thus defining the "bomb-line" for the air units. The attacks were completely successful - by the end of the day the breakthrough had been achieved.

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As 1943 progressed, the USAAF (and RAF) adopted the basic procedures and doctrines of DAF on a worldwide basis. The system of liaison HQ and FACs (called Rover Joe by the USAAF in the MTO) was also adopted. By July 1943, a new manual, FM-100-20 "Command and Employment of Air Power" was published, repeating nearly word-for-word the principles laid down by Montgomery and Coningham - co-equality for air and ground unit commanders and centralized air force command of air assets. It is not too much to say that the entire subsequent history of USAAF (and then USAF) and RAF employment of tactical airpower was the result of the doctrines and techniques worked out by the British Western Desert Air Force in the period 1942-43.

I'll end here, and resume with a post on USN/USMC practices.

Reply To This Message

Re: Close Air Support
Author: Roger Kumferman ()
Date: 03-13-03 20:59

As noted in my previous posts, there were profound differences between the USN/USMC practice of battlefield air attack and that of other air forces. This is not to say that American naval air officers held to a completely different doctrine of air power; in most aspects US naval air theory was in accordance with that of the USAAF. Both believed in air officers controlling air assets, and both felt that gaining air superiority was an air force's first task. But because of the differing nature of their primary operations in connection with ground forces - other air forces usually supported a large land army with many supporting assets of its own, while naval air forces supported smaller, lightly-armed (relatively) ground assault forces with many fewer supporting assets - the USN/USMC air officers were willing to grant much greater authority to ground force commanders over where and when air units would conduct battlefield support missions.

Despite a common perception that the USMC provided the CAS for the many Marine invasions in the Pacific, it was actually the US Navy that provided the great bulk of such missions. The Marines certainly had a long history of closely integrating their available air assets into a support network for their ground units, reaching back to the "Banana Wars" of the 1920-1930s. During the pre-war transformation of the USMC into an amphibious assault force, CAS was a recognized need; the 1934 "Tentative Landing Manual" stated that Navy carrier aircraft would have to provide the bulk of support during initial landing operations but added:

"Every effort should be made to provide for participation of landing force Marine Corps aircraft in the initial operations. The ideal arrangement involves the assignment of a carrier or carriers solely for the use of these units."

And by 1939, when their amphibious assault role in the expected Pacific conflict was clear, a Marine officer stated that "the primary reason for the Marine Corps' having airplanes is their use in close support of ground troops."

But during the initial 18 months of the war, there were far too few USMC air units, and far too many jobs for them to do, for much attention to be devoted to the CAS role. The heavy commitment in the Solomons campaign caused USMC air units to be used in a conventional role because there wasn't enough Air Force or Navy air units available. And it didn't help that the USMC's guiding hierarchy allowed the publicity gained by their air defense of Guadalcanal to go to their heads - caught up in a wave of aces awarded Medals of Honor, they let planning for the anticipated Central Pacific offensive drift. They should have pushed, during the first half of 1943, for stationing Marine Air Groups on board some of the Navy's escort carriers (CVEs), but didn't. So the task of CAS for the planned amphibious

landings devolved upon the Navy.

The Marines serving in the Solomons during 1942-43 did not completely forget the CAS mission. During the Guadalcanal campaign, there was little in the way of real CAS - what there was really took the form of occasional strafing attacks by Marine fighters or dive bombers, or, more often, USAAF P-39s. But by mid-1943, as the slow crawl up the Solomon Islands chain reached New Georgia, steps had been taken to provide at least a modicum of CAS. Eight officers (including six USMC pilots) and eight enlisted men were formed into the first Air Liaison Parties. Through the New Georgia campaign, teams of one or two officers with enlisted communicators were assigned to various US Army units. Their participation was not extensive - of the 44 total CAS requests, 24 actually originated from the landing force's HQ back on Rendova Island, and only 7 came from the front lines (3 of these weren't even executed). Moreover, the thick jungle made conducting air attacks very difficult, especially for pilots as yet unaccustomed to flying such missions. The great majority of missions that were flown were planned the day before execution. A real system of "on call" CAS had not yet been worked out.

Things improved though during the next step, the campaign on Bougainville. By this time (November 1943), an Air Liaison Party school had been set up to formally teach such teams. The 3rd Marine Division was required to send an officer from the Operations Staff of each battalion and regiment to be trained; for the Bougainville operation 3 ALP teams were attached to the division, and a further two to the 8th New Zealand Brigade. Extensive experimentation revealed minimum safe distances for conducting strikes using various weapons (as little as 75 yards when using 100lb bombs). And ComAirNorSol's (Commander Air Northern Solomons, the controlling HQ for air assets) was specifically tasked with planning for CAS missions when allocating available assets. The increase in quality of CAS was immediately noticeable. For example, a 13th November request was met the next day by 18 Navy Avenger aircraft, using 100lb bombs only 100 yards in front of the Marines - the pilots were credited with 95% hits which caused the Japanese to "hastily abandon" their position. During December, the landing force met their fiercest opposition along "Hellzapoppin" Ridge, and a succession of CAS strikes were called in - on 14 December, after friendly lines had been marked by violet, and Japanese positions by white, smoke, 16 Marine Avengers dropped 90% of their 192 bombs within the marked 50 x 150 yard target area. However the bombs had been fuzed to go off 1/10 of a second after impact and failed to penetrate the Japanese positions before exploding. A further try with 4/5ths of a second delay fuzes was credited by the Marines as "...the most effective factor in the taking of the ridge."

Meanwhile, the Navy was busy preparing to begin their Central Pacific campaign. The initial operation to capture the islands of Makin and Betio in the Gilberts Group revealed many shortcomings, but the basic procedure used here would be repeated through the Pacific war. Air Liaison Parties (the naval FAC) would be assigned to each battalion in the landing force (at Tarawa, only one of these teams got ashore with working equipment, severely limiting the effectiveness of CAS). These parties would transmit requests for CAS directly back to the air staff at the HQ of the landing force commander (initially a Navy Admiral during the landing phase, then a Marine General as soon as practicable after the landing). This HQ would be operating under the assumption that the front line unit that had requested the CAS had already determined that air units (rather than artillery or naval gunfire) was the best choice to provide support - there was no filtering of CAS requests. The landing force air HQ was run by an air officer, and this staff would allocate the landing force's total air assets (i.e., so much to protective CAP, so much to search, so much to strike, so much to CAS), and ground commanders could not order the air HQ to assign more assets to CAS. However, all CAS requests were to be met as quickly as possible. If all aircraft assigned to CAS missions were already in use and none assigned to other missions could be diverted, a unit requesting CAS would have to wait, but otherwise, if assets were available the request would be met. The landing force air HQ did not judge which requests were to be fulfilled and which were not - this was the first crucial difference between the USN/USMC system and that of other

air forces.

Many CAS missions, as in Europe, were of the pre-arranged variety, i.e. requested and planned the day before execution. However, for the "call" type of mission, the second crucial difference between the USN/USMC method and that of other air forces became apparent - significantly reduced response time. Because there was no filtering of CAS requests by intermediate HQ, as soon as a "call" request was received by the air HQ, it was automatically turned into an attack order for the first available air unit. And since the air units assigned to meet CAS calls could often be kept in the air, over the battlefield (since the battlefield was rather limited in geographic scope compared to those in Europe), average response time to a CAS call was just a few minutes. A measure of the effectiveness the USN/USMC method of CAS can be found in a USAAF Evaluation Board report prepared after the Marshall Islands operation in early 1944. A major component of this operation was the Army's 7th Infantry Division, of which the AAF Report said:

"The Seventh Division had, at Attu [in the Aleutians], experience in working with Army Air Force support (P-38s). At Kwajalein it had experience in working with Naval air support. Hence, it is believed that this division is better qualified than any other to judge the effectiveness of each system. Personnel of this division were unanimous in the following comments:

- 1) Close Air Support of infantry - "close" means within 200 yards of front line troops - is very effective and desirable as executed by Naval air.
- 2) Support as rendered by Army Air Force is not effective in assisting the advance of the infantry and may be detrimental.

The reasons advanced for the above statements were:

- 1) Naval air was a workable system whereby air strikes can be directed effectively at targets within close range of friendly troops without danger to them.
- 2) Naval air units practice and rehearse with ground force units so each becomes familiar with the methods to be employed, and ground forces gain confidence in the air units.
- 3) Army Air Force units have no system and hence cannot be sufficiently controlled to permit close support of ground forces.
- 4) Army Air force units do not practice or rehearse with ground force units. They do not know how ground force units operate; hence, if brought in close they are quite apt to bomb and strafe our own troops by mistake."

Escort carriers (CVEs), small flattops built on the hulls of tankers or purpose-built vessels, provided the vast bulk of Navy CAS efforts. The fast fleet carriers would often conduct pre-landing strikes, and could, of course, be called upon if needed to fulfill CAS duties, but the CVEs were specifically tasked with CAS for the landing forces (along with CAP and ASW). Each "little giant" operated a CVE Air Group or a Composite Squadron - in each case amounting to about 30 planes, 55-75% fighter-bombers and the remainder Avenger strike aircraft. The fighter-bomber type was most often the FM-2 (General Motors-built version of the Grumman-designed) Wildcat, although some CVEs operated the later F6F Hellcat and the Marine CVE Air Groups (see below) the F4U Corsair.

So, while the Navy took up the CAS burden in the Pacific, the Marine air units were nearly left by the wayside. There were two exceptions - Marine air did provide significant CAS for the 1st Marine Division on Pelelieu, in September 1944 after

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capture of an airfield ashore. At this bloody battle, the Marines ran into extremely strong Japanese prepared fortifications on the island's central mountainous spine ("The Umurbrogol"). The Marine Corsairs that operated here were often over the Japanese positions within 15 seconds of take-off - many pilots did not even raise their landing gear.

The second major exception was provided by two Marine Air Groups equipped with Dauntless dive bombers. These units had been fighting in the Solomons; with the close of that campaign in early 1944 they were assigned to provide CAS for US Army troops during the recapture of the Phillipines. Given four months training time to hone their abilities, the Marines did not disappoint. Once in action, the Marine aviators astonished the Army personnel by coming forward to the front lines, after having been assigned a particular CAS mission, to study the ground in person. Their dedication to the CAS mission inspired such accolades from the Army troops they served that "There are probably some U.S. Air Force officers who believe the concept of close air support originated with the Marine Corps". During the Phillipines campaign, the Marines operated within the regular Army/Air Force air support system, i.e. requests from the front line had to be sent up the chain-of-command to the army division HQ, which filtered the requests then sent them to corps, and so on. However the Marines brought a few techniques of their own. They provided their own Air Liaison Parties, and made sure each was staffed with a pilot. Standard USAAF doctrine said each FAC team should be led by a rated air force officer, but not necessarily a pilot (many were in fact rated Observers), and, in the Southwest Pacific, many of the actual pilots assigned to FAC duty were in fact glider pilots. The Marines ensured that their FAC officers were all pilots experienced in the type of aircraft used to give CAS - it contributed to the Marines' ability to provide effective support.

As noted above, the USMC did not press immediately for carriers of their own from which to provide landing force CAS. Only after the Marshalls operation in early 1944 did they really begin to pressure the Navy on this point, and it wasn't until August 1944 that the Navy finally gave assent to the plan. Hence, Marine CVE Air Groups did not see action until the final operation, the Okinawa attack in April 1945. By this time the USN/USMC method of CAS had been honed to a fine edge. To ensure the best possible coordination of all supporting assets, the USMC divisional TO&E, after Tarawa, had been amended to include a "JASCO" - Joint Assault Signal Company - which provided the personnel to man three fire support coordination teams for each battalion; one to control naval gunfire, one to control artillery, and one to form the Air Liaison Party (each consisting of one officer pilot and three-to-seven enlisted technicians). As described above, these ALPs would send requests directly to the landing force's tactical air control center, which would immediately turn the request into an attack order. By now, it was common to use the Marine's own small, artillery observation planes as air mission coordinators. The air control HQ attack order would be sent either to the CAS aircraft themselves, or to an airborne observation plane which could provide a link between the ground based ALP and the CAS planes, helping the two to remain in contact. If the ALP could not see the target directly, he would help the observation plane to see it, and the observation plane would actually direct the CAS strike.

I'll end here, and continue with a synthesis of the information I have available on Soviet CAS technique. I realize this has now gone beyond Desert campaign practices, but you can move individual posts around to different forums if need be.

Reply To This Message

Re: Close Air Support
Author: Jim Baker ()
Date: 03-16-03 09:02

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Roger - May I post this on the Extra's page as a consolidated article (I can extract it from this page or if you have a word document already, pls. send it). The trouble with the forum is that it ages and people can't find things.

Reply To This Message

Re: Close Air Support
Author: Ken Natt ()
Date: 03-16-03 16:38

Roger

Can I just say thanks for the work you have put in here - excellent stuff. I suppose what we really need now is some way of converting that into a BF solution. It seems clear (to me) from what you say that the current model of BF CAS is more or less the "on call" system involving FAC and what we in the UK would call a "cab rank". I would suggest that BF as stands deals with this with tolerable efficiency within the restrictions we have. The "pre planned" CAS is a separate issue and needs to be dealt with differently. If I am understanding your posts what you are suggesting is that planned CAS is either roaming around attacking targets of opportunity in advance of the bomblines, or is attacking targets around pre-designated geographical areas. Is this a reasonable first assumption to work from?

Ken

Reply To This Message

Re: Close Air Support
Author: Roger Kufnerman ()
Date: 03-17-03 13:03

Jim -

Sure, by all means, you can place this info in the Extras section.

Ken -

I believe BF needs 4 types of CAS:

1) CAS already over the battlefield, working with a FAC. This is the system as written. I think there should be some modification to this, as it permits anyone's airstrikes to hit targets as close as 5-1/2 inches from a friendly ground unit in perfect safety (using the standard large templates and assuming a worst case call-in die roll of 10). 5-1/2 inches translates as 220 yards in BF - but normal bomb safety lines in WWII were on the order of 1000 yards (25 inches) (although, in certain cases, with both ground and air units having a wealth of experience in operating with each other, this safety margin was reduced to as little as 400 yards (10 inches)). I have previously proposed not allowing non-USN/USMC airstrikes at all if the target is closer than 10 inches to a friendly stand.

2) On-call airstrikes, without a FAC available. This system would work in much the same way as the FAC rules except a)- the response time should not be as quick, i.e. the aircraft should not be available to attack on the same game turn as the CAS call is made (the aircraft were on standby at an airfield waiting for such calls, or diverted from other missions, not already circling overhead); and b)-there may need to be some procedure allowing ground troops to mark the target.

3) Pre-planned airstrikes. This system could be extremely simplistic - just have the controlling player designate the target and time of the strike, on a per-scenario

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basis - it could be handled much like pre-planned bombardments.

4) Roving, un-controlled airstrikes. The aircraft, when they arrive over the battlefield, must spot their own targets, using the regular spotting table (with a height modifier). Of course, the aircraft would have to have a designated time-over-battlefield limit.

Reply To This Message

Re: Close Air Support
Author: Dave Choat ()
Date: 03-17-03 13:22

Since CAS is manily a scenario rule, I don't see any conflicts at all here. Some players may not like the idea of preplotting a CAS mission (3) but since it is very similar to the preplanned bombardment rules it stands up very well. Number 4 would need to have some IFF flavor though (on a dir roll of a 1 say, the oppoing player places the aircraft). Number two is intersting in that it stipulates a target marking action-tracers of smoke or something. Note that the Germans were very quick to emulate these things in Europe and on the Eastern Front.

dave

Reply To This Message

Re: Close Air Support
Author: Ken Natt ()
Date: 03-17-03 15:10

OK - as they come.

1. CAS with FAC - agreed that as much as the rules allow this is the standard BF pattern - the calling of targets within certain distances of friendlies seems (to me) a complication we can do without - mainly because I am firmly in the KISS camp, but I do see the point - maybe everyone else can give a view.
2. CAS without FAC. In effect can we simply make this harder to get - ie only HQs and class it as General Support - is this an over simplification, I just want to avoid having a "carry over" from one turn to the next. Target marking would be fun, but is it an extra complication - who can mark, how, and what effect does it have?
3. Pre programmed - fine - agree similar to pre prog arty - do we need a spotting roll? - KISS suggests a target priority list within the target zone ie, specified building \ feature, V moving in open, V stationary in open, V stationary in cover (for example). Roll on turn of arrival if there are more than 1 possible target within category, natural 10 opponent designates target within pre programmed priority.
4. Wandering. I'm against self spotting simply because players will attempt to spot the most important target as far as they are concerned, rather than the one the pilots are looking for, (three moving PzIVs with a stationary Tiger around as well - Joe Wargamer will ALWAYS try and put his rockets into the Tiger) so maybe a similar priority list with a random choice of targets within it as per 3 above.

Lastly Roger (looking forward to your USSR post btw) - what is the correlation between inbound air and arty - do we restrict or not?

Ken

Reply To This Message

Re: Close Air Support
Author: Roger Kumferman ()
Date: 03-17-03 17:13

cas.txt

Ken -

As regards 1) - I agree it's a slight complication; however without this restriction, BF is not showing this important doctrinal difference;

2) - it might be possible to do it as you suggest - allow battalion command stands to call for an airstrike, but up the die roll needed. I would prefer to have a variable turn delay, but understand the desire for simplicity. Perhaps the procedure could be:

Turn 1, mark target with smoke (from on-board or off-board artillery assets using normal IDF procedures, or from vehicles capable of direct firing smoke); Turn 2, have the battalion command stand make a call-for-airstrike (using reduced die roll numbers) upon the marked target;

3) and 4) - the target priority system makes sense. For pre-planned airstrikes, players could use a pre-game spotting attempt, or simply declare an airstrike on a terrain feature (like random shelling, with a results' die roll modifier).

There should definitely be restrictions on artillery and CAS combined use. At the minimum, they should not be able to be used against the same target on the same game turn.

Reply To This Message

Re: Close Air Support
Author: Hank Hodgkin ()
Date: 03-17-03 17:17

Roger, I have very much enjoyed reading your concise and very informative four-part mini-series on the development of Close Air Support during WWII. Thank you for all of your hard work and good writing.

As I have re-read over all of the postings it occurs to me that perhaps there needs to be some manner of time line in place for CAS. In the western Desert in 1940 with the English and Italians facing off across "the wire" there were neither the air assets nor the technical capabilities for anything more than standing (roaming) patrols or directed bombing missions called on targets specified by map coordinates. Even at the final battle of El Alamein, the British used artillery almost exclusively, the Desert Air Force did not come into play substantially until the Germans began their retreat, and then only as roaming patrols searching for targets of opportunity. By 1943 the situation was quite different. When you get into Russia in 1941 there will have to be the same sort of National differentials applied as with the artillery rules. Basically the Germans did and the Russians didn't.

I believe that "CAS without FAC" in any army in WWII would require a call by the infantry or armoured unit to their HQ who would in turn call the air strike in by map coordinates. I believe that in 99 out of 100 cases fire support would have been artillery.

Ken, as to war gamers on "wandering" or roaming air patrol picking the biggest, fattest, juiciest target: if they pick the Tiger over the PzK III, they also greatly reduce the chance for a kill. I think that you do have a valid concern. I doubt if a Tomahawk pilot with dirty goggles flying at 150 knots 500 feet off the deck in the western desert could have or would have bothered to distinguish between a Tiger and a PzK I. I strongly suspect that he would have hit the closest or the slowest or the most visible target and got the hell out. But that is the real difference between wargaming and real life. There is very little "fog of war" involved on the table in the family room on Saturday afternoon.

Perhaps a "first in the line of sight" rule would be appropriate?

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Perhaps there might also be a random die role as to which side the aircraft actually hits.

One trick that Rommel used to cover his lack of armour in attack was to spread his tanks across the front followed at about twenty yards by every truck available. All that the British could see was an immense dust cloud with tanks in the lead. They assumed that they were in the path of a mighty armoured attack. I doubt that in an armoured battle the visibility would have been much better even from the air.

There is an excellent two-part PBS mini-series misnamed "A Fighter Pilot's Story" which is about the experiences of a Thunderbolt pilot from his early training clear through to the end of the war. If you have a chance to view this, it is worth the time.

Reply To This Message

Re: Close Air Support
Author: Ken Natt ()
Date: 03-17-03 18:06

Roger

1 - granted. I suppose it needs to be reflected.
2 - target marking - here's a problem - most tanks and guns have a limited ability to fire smoke historically, but BF limits smoke to those units that have it regularly available in significant amounts. It's not a major problem, but one where we would be creating a bit of a contradiction. My preference would be that we allow the marking of targets anywhere within range \los, or to restrict target marking to CHQ+ units. I am assuming here that the decision to mark a target would come from a commander not a squaddie\lanser\grunt.

I like the idea that marked targets allow for easier calls, but I would like a bit of time to think it through with the game turn sequence in mind. What actually happens - turn 1 I mark the target, my opponent sees the marker and moves away (fast!) turn 2 I make the call - if my dice fall right the strike comes in - does it then hit the marker, the target, or does it use the marker as a starting point for a target search? Without a FAC (and the direct radio link implied) it would be very difficult to tell the pilot that the target was actually now x yards north-east of the marker.

2a - target marking - one point that springs to mind is that marking friendly units shortly prior to (or even during) CAS attacks - yellow smoke seems to have been popular.

The rest we seem in broad agreement, although again we need to try it on table.

Hank's point about timelines is well made - as I understand we need to specify when the various types of control become available to the different nations.

As to the pilots eye view - my main role in these forums is to be devils advocate and try and apply that perverse "gamers" eye to my better researched and more experienced counterparts suggestions. I have never flown anything other than a desk or fired a live round in my life, but I can usually spot an opportunity for a bit of rule abuse. The reason I love BF is that it rewards historically realistic tactics (IMHO) and I really want to keep it that way.

All the best

Ken

Reply To This Message

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Re: Close Air Support
Author: Roger Kumferman ()
Date: 03-17-03 20:15

Hank -

I agree, a timeline would be useful. What is really needed is a CAS tutorial like that for artillery.

Ken -

You're right, having a delay for CAS arrival does give the defender a chance to move away; however this will mean he a) may be abandoning a strong defensive position, and b) may become spotted by ground units that can fire upon him. There would certainly have to be some guidelines for how far a unit would have to have moved in order to become "un-targeted" by the target marking smoke.

The procedure for marking could be a simple declaration by the controlling player of which target is marked, subject to los/range restrictions.

A further note - if it is accepted that even FAC-controlled, non-USN/USMC airstrikes cannot target an enemy stand closer than 10 inches to a friendly stand, than such airstrikes, even if a 10 is rolled, would never hit a friendly stand. I would argue that, even for FAC-controlled strikes, an un-modified 10 (or a 1 ???) should result in a mis-strike - the air strike would be placed by the opposing player.

Reply To This Message

Re: Close Air Support
Author: Ken Natt ()
Date: 03-18-03 02:45

Roger

Agreed - there is need for a total messup as opposed to a danger close, probably in all CAS situations as opposed to danger close.

Target marking is still a bit of a problem though - how long before a strike would marking take place? If more than 10 mins then it should give the opponent time to move away, but if the target is marked as the strike approaches it should not, and therefore needs to be in the same turn as the strike, otherwise we will have created a mechanism which is mechanically accurate but which imposes or suggests an historically inaccurate response in game terms.

Minimum safe distances - how rigid were they in practice?

Ken

Reply To This Message

Re: Close Air Support
Author: Roger Kumferman ()
Date: 03-19-03 00:28

Ken -

I believe they were fairly rigid. According to Christopher Shores in "Ground Attack Aircraft of WWII", when describing CAS activities in Italy during the winter of 1944-45:

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"So accurate was Allied target identification by now that fighter-bombers were working to a bomb-line only 1000 yards ahead of the forward troops."

The closest minimum safe distance for non-USN/USMC CAS that I have reference for is provided in Richard P. Hallion's "Strike from the Sky" when talking about USAAF Ninth Air Force operations in Europe:

"Operating with 500-lb general purpose and 260-lb fragmentation bombs, fighter-bombers - particularly the rugged P-47 - routinely conducted close-in strikes within 300-500 yards of friendly troops."

In contrast, I have found several references to USN/USMC airstrikes within 100 yards (a few even less) of friendly troops.

For example, on 20 May, 1945, at Okinawa, eight Navy Avengers joined four Marines to attack a Japanese reverse-slope hilltop position within 100 yards of troops of the Army's 96th Infantry Division. The aircraft had to actually make their attack runs TOWARDS the friendly troops, releasing bombs at the extremely low altitude of 15 feet. The 96th Division's history states:

"He, the squadron leader, came in at a terrific speed. It appeared as though he would never come out of the dive. Observers behind the U.S. lines lost sight of the plane below the 200-foot crest of the hill. Then suddenly the plane came up out of nowhere with a terrific roar, climbing almost straight up...The rest of the squadron dived on the hill, each loosing a bomb...A second bomb run was made. Then the torpedo bombers made a second strike while the Corsairs strafed...Not one plane overshot its mark, which would have been disastrous to the awaiting doughboys who, once the runs were over, advanced and seized the hill which had held up their progress."

Reply To This Message

Re: Close Air Support
Author: Roger Kumferman ()
Date: 03-19-03 00:44

Ken, I forgot to add the following quote from W.A. Jacobs' essay concerning Allied operations in Northwest Europe, from "Case Studies in Close Air Support":

"There were also problems with the "bomb line", the imaginary line identified by terrain features that served as a boundary beyond which aircraft were free to attack any military target [aircraft could only attack specifically marked/identified targets within the bomb line]. Bomb lines were difficult to recognize in the bocage country, and they provided inadequate protection, as forward positions lost their linear character in fluid operations. The rule in both the RAF and AAF was that the bomb line should be set where friendly troops were expected to arrive two hours hence. On at least one occasion, Air Marshal Coningham complained bitterly that the Canadian Army had been too optimistic about its rate of advance, had set its bomb line too far ahead, and thereby deprived Second Tactical Air Force of many profitable targets. An RAF study of close support in this period suggests that this practice was less the product of unwarranted optimism about the rate of advance than an overconservative reaction to incidents of short bombing and strafing by Second Tactical Air Force."

Reply To This Message

Re: Close Air Support
Author: Ken Natt ()
Date: 03-19-03 03:22

Roger

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Thanks for the work - excellent, however to me it looks as though there are now 2 issues here (forgive me if I have the wrong end of the stick). Your quotes about the bomb line seem to apply to what we have classified as roaming CAS rather than FAC controlled. I am happy with the bomb line idea - (actually it raises an interesting point - do we need to represent free roaming CAS as our BF battlefield may well be within the bomb line?) However the quotes from the Pacific are less specific to the type of mission being flown - ie which of our categories is this mission. Do we have any evidence that FAC controlled CAS had a minimum safe distance? (above the 1+1 template that is currently in use).

Ken

Reply To This Message

Re: Close Air Support
Author: Dave Choat ()
Date: 03-19-03 08:43

Hmm it certainly appears to define a minimum radius of support for the two theaters (at it most mature usage). In the Pacific, one can theoretically call support in within two inches and usually expect it to BE there while in Europe the minimum at best could be about twelve inches. I also note that the Pacific strike was multiple aircraft in BF scale- 2-3 corsairs and five TBFs (ouch).

Reply To This Message

Re: Close Air Support
Author: Roger Kumferman ()
Date: 03-19-03 13:21

Ken -

My understanding is that bomb-lines would be drawn up by the ground forces; on the friendly side of the bomb-line, CAS was only supposed to attack targets that it had been specifically called to attack (and that were marked or identified in some way whether by FAC or not); on the enemy side of the bomb-line CAS was allowed to hit anything it might see (the assumption was it could only be the enemy). From what I have read, USN/USMC airstrikes on the friendly side of the bomb-line were allowed on targets as close as 100 yards (75 yards in a few cases), while non-USN/USMC strikes were not allowed on targets closer than approx. 400 yards.

I agree that for some BF battles, roving airstrikes would be outside the game map, but for others they could be part of the game - I think it would depend on the scenario being played.

On a different though related point - you had asked on another CAS thread about the ratio of rockets to bombs carried by 2nd TAF Typhoons. I haven't found information for the entire campaign, but on one day - August 7, 1944 - the 19 Typhoon squadrons fired 2088 rockets and dropped 80 tons of bombs - this would equate to 261 sorties with rockets (at 8 per plane) and 80 sorties with bombs (at 2 1000lb bombs per aircraft).

Dave -

You bring up a good point. In BF as it stands, airstrikes are usually single events - one or two BF models striking a single template area. I believe it should be possible for an airstrike to consist of up to a squadron (9-20 real aircraft, 4-10 BF models), and that they should be permitted to either all strike the same template area, or multiple, adjacent templates (like an artillery battalion).

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Reply To This Message

Re: Close Air Support
Author: Roger Kumferman ()
Date: 03-19-03 14:04

Here is some information on CAS availability and FAC allocations for the ETO:

"Just how the American system worked can be seen more clearly by examining the records of what the Army official history called a "typical" day - July 18, 1944. On the evening of the 17th, the Combined Operations Headquarters of IX Tactical Air Command and U.S. First Army allocated the air effort for the following day as follows: 1) forty percent dedicated to close support of First Army, then engaged in heavy fighting in the bocage country; 2) thirty percent assigned to direct support of the British Second Army, which was to open Operation Goodwood the next day; 3) twenty percent for offensive fighter sweeps and defensive assault area cover; and 4) ten percent for attacks on rail lines and other communications targets.

The Combined Operations Center processed fifty-three requests, either during the evening of the 17th [pre-planned missions] or at various times during the 18th [call missions]. 27 of these originated at the Tactical Air Command/Army echelon, thirteen were from corps, and the balance came either from divisions or were unspecified. Twenty-one of the TAC/Army requests were aimed at rear areas - twelve bridge attacks and nine armed reconnaissance. The remainder of the TAC/Army requests were directed at a variety of targets ranging from supply dumps to "horse artillery" that turned out to be French evacuees. Fortunately, the pilots discovered the error and attacked enemy tanks in the area.

Six of the thirteen Corps requests were rejected for a variety of reasons. In three cases, no aircraft were available; in the other three, an "improper target" was involved. Among the latter were two "CRs" (crossroads) and one town. Accepted targets included supply dumps, a command post, a corps headquarters, and some gun positions.

Two requests from the 83rd Division for attacks on an observation post and on some self-propelled guns were also accepted, but the missions were aborted due to weather. A third was rejected, as it had been covered in an early request from a higher echelon. The remaining requests came from unspecified origin for fighter sweeps or cover in the assault area.

Ordnance for the missions consisted of 500lb GP bombs, with variation only in fuzing. Most attacks were dispatched in formations of twelve aircraft, one flight of four provided top cover while the other two bombed.

There often was an unfortunate time lapse in notifying ground units when targets had been refused. In one case, more than nine hours elapsed between the time of request and notification that an attack was scrubbed. In other instances, the elapsed time varied between four and six hours.

Average response times for all missions cannot be calculated from the available records. The vast majority of requests came late in the evening or very early in the morning and were not graded urgent. Some requests for immediate action probably were diverted from armed reconnaissance [roving missions]."

"The British do not seem to have developed forward attack control as extensively or as quickly as the Americans. This is puzzling, as they had pioneered the concept in the Mediterranean. The primary Allied Expeditionary Air Force memorandum on air support, which probably reflected Coningham's ideas, stipulated that his form of control would best work only with a prearranged plan and would be employed only at

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the direction of Coningham himself. And, according to that document, forward attack control by what the British called Visual Control Posts was to be provided on a limited scale - one post per Corps. By contrast each American Air Support Party [the USAAF liaison unit co-located with its assigned Army unit] was potentially a forward control post [FAC], on an equivalent scale of one per division (two or three in armored divisions [i.e. one per Combat Command])."

From the above it can be seen that a) CAS in BF terms, even for the late war western Allies, was not overwhelming (of the 53 processed air support requests {note that this was the total for an entire U.S. Army}, the 12 strikes on bridges would have no place in BF); and b) FAC availability was limited.

Reply To This Message

Re: Close Air Support
Author: matt laing ()
Date: 03-19-03 14:45

Gentlemen,

Minimum safe distances for air strikes are not dependant upon whether the strike is controlled by a FAC. The MSD for CAS is more closely related to doctrine and the ability and willingness of the air forces to commit air assets to a dedicated CAS role. As Roger mentions, the air forces of most nations during the war viewed CAS as a secondary role to strategic bombing, aerial interdiction, and controlling the skies, and were therefore reluctant to dedicate much of anything to a dedicated CAS role. Much of the CAS used in NW Europe by the Allies was as far as I can tell, of the preplanned type. In fact, on call CAS was quite rare overall. In his book Company Commander, Charles MacDonald, then a Captain with the 23rd Inf Regt, 2nd US Inf Div cites only one instance of CAS over a period of about 8 months, and that CAS mission was a pre-planned mission. Even after the allied air forces could operate at will, the tendency of FBS was to operate behind the bombline.

CAS missions on the enemy side of the Bomb Line should really be called interdiction missions since CAS implies some sort of direction from ground observers. Missions flown beyond the bomb line are generally not controlled by ground observers and are different in scope when compared to CAS in direct support of ground troops. Pilots on interdiction missions are free to engage targets of opportunity (providing of course for the rules of land warfare, ie your not supposed to target refugees) or if they happen to spot them, troop and vehicle concentrations. Preplanned Interdiction missions generally target infrastructure like bridges, railyards, and utilities, and or known or suspected troop concentrations. If when flying back to base, the pilots of an interdiction mission happen to spot a target of opportunity on the enemy side of the Bomb Line, and have any ordnance left, they are free to attack the target. Even FBS on CAP missions were free to engage ground targets once the CAP mission was over.

In BF terms we may well need to model Interdiction missions depending upon the scenario. However BF IS a ground game not an airplane game and unless you plan on using telescoping scales for your BF games the usefulness of modeling Interdiction may only apply rarely to a specific scenario. However, many of the re-routed CAS missions that Roger mentions began as free roaming interdiction missions where no targets of opportunity existed, or the need for CAS was more important at that moment, than the interdiction mission.

I agree with Roger that provisions for large air strikes should be made.

I think it is important to model the differences in CAS doctrines. Just as important however is how that model is applied to scenarios. There is nothing wrong with providing CAS assets for NW Europe, Desert, Blitz. etc pick up games and scenarios.

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However, if you were to play a campaign game and follow the progress of battalion X from D-Day to Berlin, the availability of CAS at any one time should be very rare. On the other hand, artillery is relatively more abundant. It is entirely plausible that any games, whether a pick up game, hypothetical scenario or a historical re-fight involving USMC and USA units in the PTO, after Guadalcanal should involve some CAS. As a general rule, the later the engagement the more CAS was available.

Matt

Reply To This Message

Re: Close Air Support
Author: Roger Kumferman ()
Date: 03-19-03 15:49

A possible procedure for conducting "call" attacks (without a FAC present) could be:

Turn No. 1 - controlling player rolls a die (requests support); the result determines if the request is denied or CAS will arrive on turn "x" (a variable number based on doctrine and scenario-specific concerns).

Turn "x" - the controlling player marks a target (procedure still needs to be worked out) during the "Resolve IDF" segment; then an aircraft attack is conducted on the marked target normally.

To avoid players' abuse of the procedure, the request must designate a particular class of target (Troops/Guns or Armored Vehicles) that has already been suspected/spotted by friendly stands - though not a specific target stand on the game table. If a CAS strike arrives, the marked target it attacks must be of the same class as specified in the request.

Reply To This Message

Re: Close Air Support
Author: Hank Hodgkin ()
Date: 03-20-03 17:48

Roger,

Here is the method I have used in several WWII games. It has worked well in Russia, 1941 and France 1944. For air support with no FAC: The ground attack aircraft in the early 1940's traveled at roughly 80 to 150 knot. A good headwind over the desert could slow them down considerably. If the aircraft are not circling overhead, they could take some time to reach your location. I used a die role on a 6d to call in air cover. The sequence goes: You make the call by map coordinate (you could put in target type here i.e. tanks, artillery etc.) and the referee makes the die role in secret. 1 your lucky and support arrives next turn, 2 or 3 support gets there in two turns, 4 or 5 support gets there in three turns, 6 you're just out of luck. This takes into account enemy AA fire or enemy fighter intervention delaying or stopping you CAS. On the turn when the planes arrive, I used a direction die with arrows and a 6d (1 to 6 inches along the direction of the arrow.) to de-termined the actual point of impact. It is quick, easy and effective, but it does not allow for the pilot(s) opting to change targets or take into account moving targets. In Russia 1941 and in the bocage (sp) country in 1944 there wasn't the amount of rapid movement that you would find on a desert battlefield.

Ken,

I think that anyone who gets into this hobby enough to be interested in writing rules be-comes quite adept at "playing the rules" instead of the scenario. "Target making" with smoke could become a slippery slope in that respect.

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If I am in command of an infantry/armoured unit, and my position is suddenly marked, possibly even outlined by smoke rounds, what am I going to do? I might consider with-drawing. I might consider hunkering down. I might also consider tossing a few smoke rounds at the enemy position(s). If the enemy seems to be marking their position with yellow smoke, I might just do the same to my position. If there is too much smoke, you might start obscuring the aiming point. If you have the artillery available to heave smoke rounds at the enemy, why aren't you shelling him yourself? If you are using smoke grenades/candles to mark the enemy, how are you getting close enough? If you mark the target on a previous turn, 10 minutes is a long time for smoke to drift in the wind, which hopefully isn't blowing your way. I would suggest that any marking rounds be fired at the beginning of the turn and the aircraft arrive in the same turn.

By the by, I have been using an old copy of "VISIO Technical" to draw my battlefield maps. It is effective, but a bit slow and cumbersome. Are any of you using anything that is a bit more modern?

Reply To This Message

Re: Close Air Support
Author: Roger Kumferman ()
Date: 03-20-03 23:34

Hank -

I like the simplicity of your system, but I think I would expand it to a D10 roll for BF, rather than D6. A D10 system would give a greater range of possible results - I think the chances of "no CAS available" would need to be increased, along with a greater variation in response time.

You're quite right about the problems inherent with target marking - the NVA were very adept at mimicing US smoke markers during the Vietnam war. US forces learned to vary the color used, and to not confirm the color over the radio until the airstrike pilots had first indicated what color smoke they were seeing.

Reply To This Message

Re: Close Air Support
Author: Roger Kumferman ()
Date: 03-25-03 13:42

The following information concerns CAS during the Okinawa campaign:

The ground force involved at Okinawa was Tenth U.S. Army, composed of III Amphibious Corps (2 USMC divisions) and XXIV Corps (four US Army divisions). An organization called Tactical Air Force (TAF) was set up to provide the land-based tactical air support for Tenth Army. TAF's primary tasks were 1) establishing HQ and squadron units ashore as soon as practicable after the initial landing; 2) providing air support missions as needed; and 3) air defense in conjunction with USN fleet air units.

Prior to the landing, and for some time after, CAS was controlled from the Air Support Control Units (ASCU) on board the command ships Estes, Panamint, Teton, and Mt. McKinley. These units received CAS requests and assigned air assets to the various missions. The great majority of CAS were flown off 18 CVEs (4 of which had USMC Air Groups). During the period 21 March (pre-landing) to 30 April (one month after landing), these CVEs provided 9361 "sweep and strike" sorties, the majority against targets on Okinawa, and about 20% of which were called for by front-line

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troops. Altogether, during the 82-day campaign (1 April to 21 June), ASCU was responsible for controlling 6908 support sorties, about 50% of which could be considered CAS.

Within 7 days of the landing, combat aircraft were operating from airfields ashore. Normally, procedure was to transfer control of air support assets from ship to shore as soon as practicable, but the severe Kamikaze threat at Okinawa delayed this plan. It wasn't until May 17 that TAF, the shore-based air HQ, took over full control of all air assets supporting the land campaign. However, three Marine Landing Force Air Support Control Units (LFASCU) were established ashore within a week of the landing. Although overall air asset control was maintained afloat, these units were established ashore to control the CAS for the ground forces. Nominally outside of TAF chain-of-command, in practice the LFASCU units provided TAF's CAS control. LFASCU was assigned to III Amphibious Corps; LFASCU 2 was assigned to XXIV Corps; and LFASCU 3 was the co-ordinating HQ, responsible for overall direction. Ironically, the land-based USMC fighter-bomber squadrons provided but little of the CAS (only 600 sorties during the period 7-30 April). Despite being specifically trained for CAS, these squadrons were instead almost exclusively utilized in the anti-Kamikaze air defense role because 1) land-based fighters had longer loiter time than ship-based units; and 2) the Kamikaze threat was so dire that all fighter types were needed to handle it. It wasn't until late in May that shore-based fighter-bomber squadrons began to conduct significant amounts of CAS missions (though of course there were shore-based attack bomber squadrons that were widely used in this role).

Marine preference was to use the Air Liaison Parties (ALP), the FACs assigned to each Marine Battalion, to direct each airstrike. This was the method used by the Marine dive bombers supporting the Army in The Phillippines, and, in fact, this was the way 1st and 6th Marine Divisions (the component units of III Amphibious Corps) trained during the work-up for the Okinawa campaign. However, once the battle started, it was decided NOT to employ FAC airstrike direction for most strikes. Col. Megee, who headed LFASCU 3, explained:

"...to have permitted each battalion air liaison party to control striking aircraft on a corps front of only ten miles, when many simultaneous air strikes were being run, would obviously have led only to pandemonium and grave hazard for all those concerned. On the other hand, where conditions approximated those in the Phillippines, i.e., battalion or regimental actions in an uncrowded area, actual control of aircraft was frequently delegated to the air liaison party."

As a result, the majority of CAS during the Okinawa campaign, especially after the initial landings and once the ground troops came up against the main Japanese defense line, was of the pre-planned variety. Once set-up the LFASCUs controlled 10,505 CAS sorties through June 30. A study of the 1388 missions flown through May 17 showed that 37% originated from ALP requests. The average response time between request and strike was 55 minutes (this compares to an average of 75 minutes for the Allied air forces in the MTO, which itself was slightly shorter than for the ETO).

Although CAS at Okinawa was highly praised ("superior throughout" according to 96th Infantry Division's commander), there were some criticisms - the most common being 1) aircraft not available, and 2) bad weather (of 850 missions requested of LFASCU 1, 370 were denied - 109 for lack of available aircraft, and 104 because of weather conditions). The system of pre-planning the strikes was also criticized. The 6th Marine Division report stated: "The basic difference between air support as carried out in the Okinawa operation and that which is desired by this command is that instead of having the ASCU direct the strike group it is advocated that the ALP's be permitted to contact the airplane directly..."

Reply To This Message

Re for Hank about drawing tools
Author: Jim Baker ()

Date: 03-27-03 06:02

Hank - If you have access to Powerpoint (ie, if you have given Uncle Bill gates your money), it has a lot of drawing tools that allow you to define shapes and areas and get precise control over sizes. You can then save the product as a .tif file (one of the "Save As" options) and then manipulate the picture with a graphics editor (I use Paintshop Pro, but Dave and Rich, who are a lot better at this than I, use Adobe).

Reply To This Message

Close Air Support
Author: Roger Kumferman ()
Date: 03-27-03 20:06

SOVIET CAS DURING WWII

Like the United States, the Soviet Union devoted great attention during the 1930s to battlefield air attack. Soviet doctrine viewed air power as it did artillery, i.e., its purpose was direct support of the land forces. During WWII the Soviets employed massive amounts of air power for battlefield air attack.

Unlike other nations, considerations of a separate, strategic role for aircraft did not significantly affect Soviet use of air power during the pre-war or wartime eras. However, in accord with other air forces, the Soviet Air Force (Voenno-Vozdushnye Sily, or VVS - which actually came in 5 varieties, long-range aviation; frontal aviation; army aviation; corps aviation; and reserve aviation; plus a separate national air defense force) saw its first task to be the winning of air superiority, so that other tasks could be performed without enemy interference. As a consequence, fighters formed a significant portion of the air strength. Hence it may seem surprising that the VVS was so nearly destroyed (one Soviet source admits the loss of 1500 aircraft on the first DAY) by the initial German attacks. Besides the tactical surprise of the German assault, the Soviets' poor showing can be attributed to the lingering effects of Stalin's purges, as well as the Soviets' own early rearmament - Soviet aircraft designers had created some world-beating aircraft in the mid-1930s (like the I-15 and I-16 fighters), but by 1941 these designs had become obsolescent, at best.

Soviet air command was not well organized either. The High Command controlled "long-range", "corps" and "reserve" aviation, Front (the Soviet equivalent of the Western "Army Group") commanders controlled "frontal aviation", and Army commanders controlled the aviation units assigned directly to them (these were the CAS air units - at corps and division level there were equivalent "troop aviation" commands). Aviation units were organized as air divisions, each containing 3-5 air regiments (each pre-war regiment comprised 5 squadrons of 12 aircraft each; wartime strength was usually 2 squadrons, rising to 3 or 4 later in the war). Air divisions could be either wholly equipped with a single aircraft type, or be composite units with regiments having different aircraft types.

The heavy losses suffered during Barbarossa's initial weeks, combined with the dire conditions of the Soviet ground forces, led to a command shuffle. Front commanders took over operational control of VVS "army" aviation units, and began concentrating their attacks upon the advancing German forces rather than upon rear areas as had been done initially. Meanwhile, so complete was German air superiority that, by the end of June, even the Luftwaffe's medium bombers were being used for battlefield air attack. But, by trading space for time, the Soviets were able to stabilize the line. As they fell back on Moscow, numbers of air defense fighters could be added to the VVS order of battle, and air units supporting the defense of Moscow were united under a single command. By December 1941, the Soviets were able to achieve a temporary superiority of their own. As a result of the success of the Moscow battle, the Soviets undertook a complete reorganization of their air units - the unified control exercised during the defense of Moscow was extended to the entire air force.

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On May 5, 1942 all air units were re-organized into Air Armies, and "army" aviation was completely abolished as a separate entity ("long-range aviation" remained under STAVKA control). These Air Armies were commanded by air force officers charged with working in cooperation with their assigned Front (an arrangement very similar to that used by the Luftwaffe or as was being developed at the same time by the western Allies). The Air Army commander located his HQ in close proximity to that of the Front commander, and the subordinate air division and regiment HQs were located near forward observation posts within 2-3 kilometers of the front line. The ground unit corps/divisions had air liaison officers attached to their HQs, to monitor, direct, and control air operations based on the ground situation. By the end of the war, 17 Air Armies had been created, with a total of 175 air divisions. At the same time, Reserve Aviation Groups were created, each of 3-5 air regiments and controlled by STAVKA, to be shifted as needed to critical points in the line. Soviet air formations were extremely mobile. An Air Army consisted of about 1400 aircraft, and could have up to 4000 trucks, which permitted its rapid relocation as the situation demanded.

Hand in hand with this reorganization came greatly improved aircraft designs. There were four major types of Soviet combat aircraft that first began appearing in large numbers during 1942, and these four designs, in gradually improved forms, carried the Soviet Air Force's load for the remainder of the war. Two were fighter types - the Lavochkin and Yakolev series. Both types were also used in fighter-bomber roles, especially the Yaks, of which several models were specifically designed as fighter-bombers (the Yak-9B carried a 450kg load in an internal bomb-bay; the Yak-9T was designed for anti-tank duties and mounted a 20, 23, or 37mm cannon firing through the propeller hub).

There were also two attack types - the Ilyushin Il-2 "Shturmovik" and the Petlyakov Pe-2 twin-engine attack/dive-bomber. The famous Il-2 was actually not very popular initially - it was slow, heavy on the controls, and not very maneuverable. Its first operations did not result in any great achievements - approaching and attacking at low level, using RS-82 rockets or regular bombs, the IL-2s suffered heavy losses. But the superlative Pe-2 was another story. Sleek, maneuverable, and as accurate a dive-bomber as the Stuka, the Pe-2, performance-wise, was the equivalent of the famous British DeHavilland Mosquito. Moreover, the 150th Bomber Regiment, led by the great Colonel Ivan Polbin (the Soviet Air Force's equivalent to Hans Ulrich Rudel), showed the way to proper ground attack tactics. Polbin devised the "vertushka" (dipping wheel) maneuver - the aircraft would adopt line-astern formation over the target, at altitudes of 10-20000 feet. The aircraft would then enter steep, diving turns, releasing bombs at 2-4000 feet, then climbing back to altitude and maintaining the formation's circular track over the target area. This method was soon adopted by the Il-2 units (although they usually approached the target area at about 4000 feet, with weapons release at about 1500 feet), who called it the "Circle of Death". The diving approach allowed the full-weight of the plane's firepower to be employed, and results could be observed to determine the need for follow-up attacks. The Il-2 itself was also improved, adding a rear gunner to protect against German fighters, an increased bomb load, and heavier cannon (initial models were equipped with two 20mm weapons; these were replaced with 23mm guns, and finally 37mm weapons, quite capable of taking out any German tank). In addition, by early 1943, the PTAB hollow-charge, anti-tank/anti-personnel cluster bomb became widely available. According to a German officer:

"The bombs would fall within a radius of a hundred meters in such a dense pattern that no living object within the effective beaten zone could escape the splinters. The bombs fell into even the narrowest trenches and, because of their great fragmentation, were very dangerous and greatly feared."

With improvements to aircraft, weapons, and tactics, the Il-2 units began to earn the reputation as a premier CAS platform that they have enjoyed ever since. The Germans began to call them "der Schwarze Tod" - the Black Death. The same German officer quoted above said the Il-2 was...

"...a very effective and unpleasant ground-attack plane...invulnerable to rifle and

machine-gun fire of any caliber. Its armor also withstood 20mm flak projectiles.”

The Il-2s' main form of attack was normally an echeloned assault by 4-12 aircraft; however it was also common to send out 2-4 planes on free-ranging armed reconnaissance missions to attack targets of opportunity. In such cases, the “Ilyushas” would start with one or two diving passes, then switch to flat attacks delivered at very low level to try to escape the now-alerted flak defenses. By 1944-45, during major “breakthrough” offensives, concentrated attacks would be made in full regimental or divisional strength (even in multi-division strength on some occasions). Against very heavily defended targets (if known in advance) the Il-2s conducted “blowthrough” attacks, single high-speed passes followed by immediate withdrawal to friendly lines.

The VVS's main weak point throughout the war was the quality of its pilots. The heavy losses of trained aircrew suffered during the German invasion were never totally made good; the average quality of Soviet aircrew always lagged behind that of the Western Allies and, for much of the war, behind that of the Luftwaffe. Nevertheless, average aircrew quality was eventually brought to acceptable levels, and there were, of course, very exceptional Soviet air force units, like the above-mentioned 150th Bomber Regiment, or the 4th ShAP (Shturmovoi Aviapolk or Ground Attack Air Regiment), which was renamed during 1942 as 7th Guards ShAP - the first Guards sturmovik unit created.

As for CAS control procedures, initially the Soviets had no established methods. Each Front HQ worked out its own signals to designate friendly and enemy forces, and to mark targets, which were almost always close to the front line. By the beginning of the Stalingrad offensive in November 1942, the VVS claimed to have already flown more than 850,000 sorties, of which 66% were classed as CAS. By 1943, every Soviet aircraft had been fitted with reliable radios, and a more organized system of control had been worked out.

Air units were controlled by air force officers, but these officers received direction and guidance as to when and where to employ the aircraft from the ground commander. CAS air units operated either in “support” (under centralized control) or “assignment” (attached to specific ground formations, usually tank or mechanized corps) mode. The later permitted greater freedom in target choice to the air unit commander. There was widespread use of constant, roving patrols to try to seal off the designated battle area - this practice began to fall out of favor in 1945, but the VVS always operated best when concentrated on a specific, clearly delineated battlefield area. Some problems arose when trying to coordinate CAS with mobile ground units; but the Soviet air force became masters at sealing-off encircled German forces during the set-piece, deep penetration offensives of 1944-45.

The Soviets' air control system utilized joint air-ground Command Posts at every level from Front down to division. At tactical level, the CPs had both an Air Liaison and a Ground Liaison officer, who received reconnaissance and ground observer information, consulted with their respective air and ground organizations, and then accepted or rejected CAS requests. In this procedure, the Soviets' radio traffic was conducted in the open, so that the widest possible range of air and ground forces would be kept apprized of the situation. Of course, the Germans did not hesitate to tap in to this radio traffic, thereby being able to vector Luftwaffe fighters onto Soviet airstrikes, as well as warn ground units of impending attack - Soviet lack of electronic sophistication, both in equipment and personnel, was a handicap throughout the war.

At the immediate front were located Traffic Control Posts, also containing both an air and a ground officer. These were responsible for actually directing incoming airstrikes, or for cancelling them if necessary. The TCPs would always be located on the most distinctive terrain feature available, to make it as easy to see as possible for the aircraft (of course, this too was a weakness, as it made the TCP more easily located by enemy forces). The incoming airstrike would check in over the

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TCP, looking for particular signal panels or smoke markers, before commencing their attack. This type of final check-in was done visually, not by radio. Soviet CAS airstrikes were often conducted as close as 200-250 meters from friendly forces; pre-attack planning using photo-mosaics, large-scale maps, and stressing the use of designated ground-to-air signals tried to prevent friendly-fire incidents. For a large-scale ground offensive, no later than 10 minutes prior to the attack, Soviet artillery would be informed of the approach of CAS strikes, and artillery fires would be lifted or shifted. The incoming strikes would then make a "concentrated blow" against the German front-line positions. Once the offensive began, Soviet fighters and CAS aircraft would loiter over the battlefield area in roving patrols, looking for targets of opportunity.

Reply To This Message

Re: Close Air Support
Author: Ken Natt ()
Date: 03-28-03 06:27

Excellent again Roger.

I suspect we need to mull over Roger's work, identify the styles involved and then have a crash playtest.

I need more Sturmis :-)

Ken

Reply To This Message

Re: Close Air Support
Author: Jim Baker ()
Date: 03-29-03 07:00

Roger - As this thread keeps evolving, I took the easy way out and put a link to it from the extra's page. Thank you for one of the best historical threads we have seen.

Reply To This Message

Re: Close Air Support
Author: Roger Kufnerman ()
Date: 03-31-03 13:43

CAS/Friendly Fire

First, I'd like to say thank you for the compliments.

As a followup to the post on CAS during the Okinawa campaign, the following is information on mis-strikes, taken from "History of Marine Corps Aviation in WWII" by Robert Sherrod:

There were a total of 851 CAS missions (10,506 sorties) actually flown during the period April 7-June 30. During this period, there were 10 recorded instances of mis-strikes/friendly fire, or 1 every 85 missions/1050 sorties, on average:

- 1) April 17 - 2 casualties due to hung bombs (late drop).
- 2) April 18 - 1 KIA, 3 WIA due to aircraft rocketing a battalion CP 3000 yards short

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of target.

- 3) April 20 - 7 KIA, 15 WIA due to bomb landing within 400 yards.
- 4) April 30 - 7 KIA, 18 WIA due to three unidentified Corsairs' attack behind friendly lines.
- 5) May 11 - 6-8 Avengers dropped bombs on 1st Marine Division troops (no casualties).
- 6) May 18 - 1 KIA, 1 WIA due to bombs intended to help XXIV Corps Army troops landing within adjacent 1st Marine Division lines.
- 7) May 19 - 1 casualty due to hung bombs (late drop).
- 8) May 26 - Several casualties due to strafing attack upon hospital by a single "dilbert" (period slang for a "zany pilot") who got out of his assigned zone.
- 9) May 29 - 10 WIA by 3 bombs and 8-10 rockets fired into friendly lines.
- 10) June 8 - 5 aircraft supporting XXIV Corps accidentally hit 1st Marine Division lines (no casualties reported).

These were the only recorded instances of mis-strikes. It is possible there were a few in early April that went un-recorded - it is known for example that Marine General Roy Geiger was strafed accidentally during this period. Nevertheless, it is remarkable that so few instances of friendly fire occurred.