

TARGETING AIR INTERDICTION IN SUPPORT OF AIRLAND BATTLE
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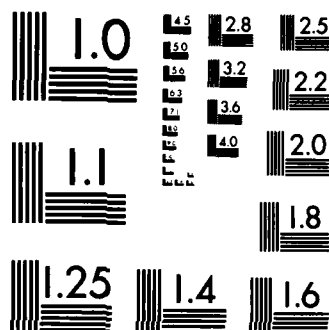
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INDIVIDUAL ESSAY

Colonel William K. Rader, USAF

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ABSTRACT

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AirLand Battle is the new fighting doctrine of the US Army. Under AirLand Battle, deep attacks against enemy follow-on echelons will be a key feature of any operational plan against Soviet forces. However, since the range of its organic assets is limited, the Army will have to rely on tactical air support to conduct many of these deep attacks. This essay describes how the Air Force will provide responsive air interdiction in support of the deep attack requirements of AirLand Battle despite the fact that AirLand Battle has not been adopted as Air Force doctrine. Functions and responsibilities of the Air Force Tactical Air Control Center (TACC) and the Army Battlefield Coordination Element (BCE) are defined. Coordinating procedures used by the TACC-BCE to plan and execute air attacks against Army nominated targets are described in detail. The impact of emerging technology in the form of advanced sensors, automated intelligence processing equipment and new control facilities is outlined, as is the plan for capitalizing on these new capabilities to allow synchronization of air and land weapon systems against important, high payoff targets in real time.

TARGETING AIR INTERDICTION IN SUPPORT OF AIRLAND BATTLE

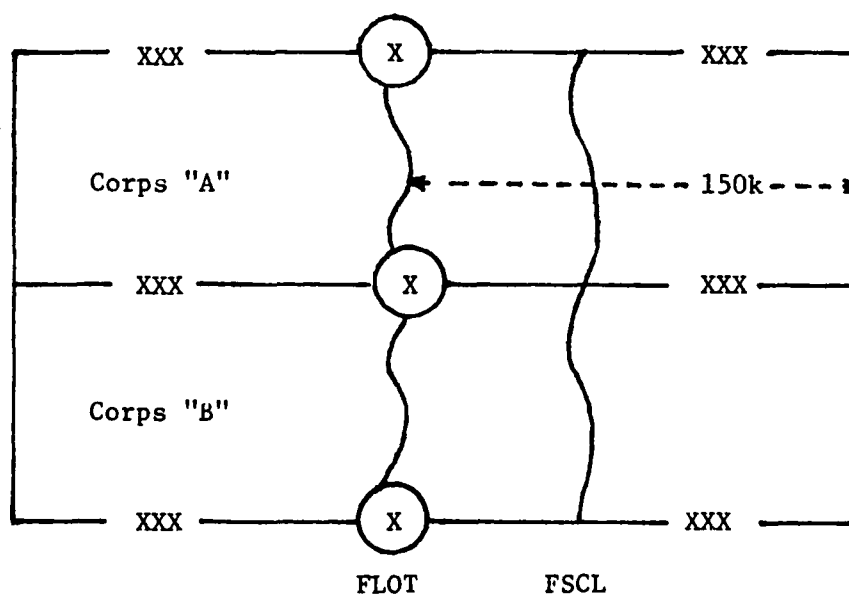
The complexity and dynamics of combating Soviet conventional forces have changed dramatically in recent years. The steady deployment of new tanks, infantry fighting vehicles, self-propelled artillery and attack helicopters now gives the Soviet Union an unprecedented capability to conduct rapid offensive operations characterized by massive firepower and mobility. The organization of these Soviet forces, arrayed in echelons to advance against a single front, and their intent to force Operational Maneuver Groups (OMGs), and later, second- and third-echelon forces through breaches made in friendly lines, has caused the US Army to alter its doctrine in response to the threat.

AirLand Battle, as this new fighting doctrine is called, emphasizes speed, tactical flexibility and the spirit of the offensive.¹ It envisions a highly fluid, non-linear battlefield; a heavy reliance on maneuver warfare; and is based on four main points: First, the balance between US and Soviet forces in the front lines is roughly equal. Second, the combined weight of Soviet first echelon forces and powerful OMGs may result in breaches in friendly lines that tie down US reserves. Third, if US reserves are tied down, the second- and third-echelon Soviet forces must be delayed, disrupted and partially destroyed before reaching our Forward Line Of Troops (FLOT). Fourth, the close battle against the first echelon at the FLOT, the rear battle against penetrating OMGs and the deep battle against the advancing second- and third-echelons are of equal importance. In simple terms this means that it is the heavier Soviet reserves that may tilt the balance of the battle dangerously against US forces, particularly if our own reserves are occupied. Therefore, it becomes imperative to prevent follow-on Soviet

echelons from reaching the FLOT in both time and condition to exploit any temporary gains made by first echelon forces and the OMGs.

For the Army, the corps is the focal point for AirLand Battle. The corps will fight the enemy in an "area of influence" assigned by higher headquarters (see Figure 1). The actual size of this area will vary with the terrain, weather and capabilities of friendly and enemy forces; however, the area will normally extend far enough beyond the FLOT to allow the corps to engage enemy forces which could join or support the close battle within 72 hours. Translated into distance based on enemy movement doctrine, terrain, availability of roads, etc., this time guideline results in a corps area of influence extending a nominal 150 kilometers beyond the FLOT.

Figure 1
THE AREA OF INFLUENCE



In executing AirLand Battle doctrine, the corps commander will coordinate the actions of organic and supporting combat elements and attempt to extend combat operations to the depth of opposing enemy forces (i.e., the second- and third-echelon) by attacking deep in his area of influence, primarily with artillery and tactical air (TACAIR) support. According to Field Manual 100-5, Operations, the broad objective of these deep attacks is to open windows of opportunity for decisive action by reducing the enemy's closure rate, preventing his reinforcement of committed forces and creating periods of friendly superiority so as to gain or retain the initiative and defeat the enemy piecemeal.² FM 100-5 clearly establishes the importance of these deep attacks to AirLand Battle: "Deep attack is neither a side show nor an unimportant optional activity; it is an inseparable part of a unified plan of operations."³

TACAIR AND DEEP ATTACK

Since he has only limited organic assets with which to attack enemy forces far beyond the FLOT, AirLand Battle doctrine puts the corps commander in the position of being extremely interested in the use of air interdiction (AI) to accomplish his deep attack objectives. The Air Force welcomes this interest, for though it has not adopted AirLand Battle as Air Force doctrine the basic concepts of deep attack have long been present in Air Force operational thinking. Indeed, interdiction has always been one of TACAIR's major missions, and we need only look at the interdiction campaign flown in support of the invasion of France in June 1944, to see how effective deep attack can be.

From 6 June on, TACAIR engaged in extensive operations against German troop reinforcements and logistics efforts on the roads of Normandy. As a result, German movement was confined almost entirely to the hours of darkness,

and the armored divisions needed for an effective counter-attack could only reach the front along circuitous routes. What this meant to German commanders is illustrated by this quote from General Bayerlein, commander of the Panzer Lehr Division:

By noon on the 7th my men were already calling the road from Vire to le Beny Bocage 'fighter-bomber racecourse' . . . by the end of the day I had lost 40 petrol wagons and 90 trucks. Five of my tanks had been knocked out, as well as 84 half-tracks, prime-movers and self-propelled guns. These losses were serious for a division not yet in action.⁴

Unquestionably, TACAIR had achieved its objective of preventing a German counter-attack in force before the Allies could establish a secure beachhead. In the words of one historian, "German reserves . . . were so constantly harried on the march that they suffered endless delays and only arrived in dribblets."⁵ Other historical examples could be offered, but the point is already clear; the concept of deep attack is valid, and TACAIR can be extremely effective as the instrument of attack.

TACAIR EMPLOYMENT PLANNING

How will the power of TACAIR be applied today in support of AirLand Battle and the corps commander's deep attack objectives? The answer lies first in understanding Air Force tactical air control principles, and then in capitalizing on on-going procedural and equipment related improvements that allow the Army and the Air Force to locate, target and attack enemy follow-on forces in a coordinated and synchronized manner.

Air Force Manual 1-1, Functions and Basic Doctrine of the United States Air Force, describes the fundamental principles which guide the employment of airpower. Of these principles, two of the most important are centralized control and decentralized execution. The inherent flexibility of airpower

(i.e., the multi-role capability of modern aircraft and the speed with which firepower can be concentrated over long distances) creates the requirement for centralized control since it suggests that air employment can best be viewed from a broad, theater perspective. Centralized control allows the Air Component Commander (ACC) to focus the weight of the air effort in a specific mission area (e.g., air interdiction vs. counterair), in a specific geographic area (e.g., the north-German plain) or in support of specific Army units (e.g., V vs. VII corps) in response to theater objectives and the demands of the immediate tactical situation.

Air and land commanders have recognized the importance of centralized control since the North African campaign of World War II. There, in the beginning, air units were attached to land commanders in support of their individual operations. However, as losses mounted and dispersed air units proved ineffective against larger, concentrated enemy forces, central direction was adopted. As a result, commanders were able to win both the air and ground battle, and doctrine was changed to reflect the value of centralized control.

The inherent flexibility of airpower is its greatest asset. . . . Control of available airpower must be centralized and command must be exercised through the Air Force Commander if this inherent flexibility and ability to deliver a decisive blow are to be fully exploited.

US Army FM 100-20 (1943)⁶

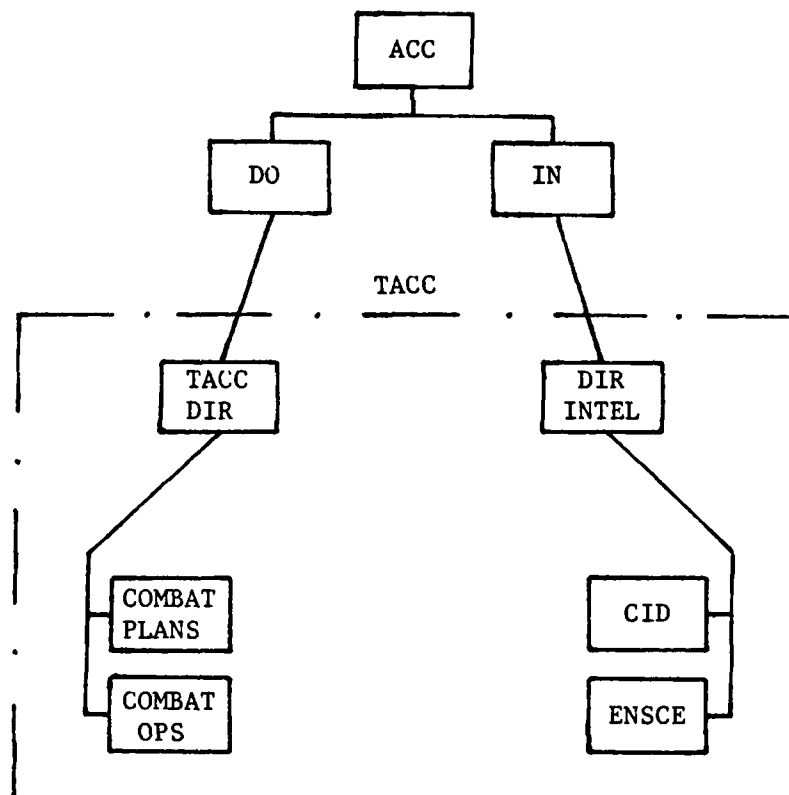
In theater today, the ACC controls the employment of TACAIR through his Tactical Air Control Center (TACC). The TACC is the focal point for all command, control, communications and intelligence activities needed to manage and direct air operations. Personnel in the TACC conduct tactical planning on the selection of targets, weapon systems, units, ordnance, times on target, support package composition (e.g., fighter escort, electronic warfare and

defense suppression support, air refueling), and prepare tasking orders to flying units and other subordinate agencies.

Organizationally, the TACC is composed of four divisions (see Figure 2). The combat plans division and the combat operations division respond through the TACC director to the ACC's deputy for operations. The combat intelligence division (CID) and the enemy situation correlation element (ENSCE) respond through the director of combat intelligence to the ACC's deputy for intelligence.

Figure 2

THE TACC



Functionally, the four divisions work two broad areas of responsibility. The combat plans division, supported by the CID, conducts tactical planning, coordination and prepares the Air Tasking Orders (ATOs) for day-to-day employment of air assets. The combat operations division, supported by the ENSCE, supervises and directs the execution of the current ATO. Through the combat operations division, air assets are replanned, retargeted or otherwise adjusted as required to meet the immediate requirements of the on-going battle. As a part of the direction it supplies to the overall theater air effort, the TACC plans and controls all TACAIR interdiction flown in support of corps deep battle objectives.

To assure that TACAIR is responsive to deep battle requirements, the TACC operates in accordance with the General Operating Procedures for Joint Attack of the Second Echelon (J-SAK) developed by the US Air Force Tactical Air Command and the US Army Training and Doctrine Command and published in December 1984. These procedures provide the means to integrate TACAIR with the ground battle, while preserving Air Force and Army responsibility for the planning, direction and control of assigned forces.⁷ They establish the organizational interfaces and operating guidelines that allow for the exchange of intelligence information in order to identify and prioritize targets and the exchange of operational information in order to effectively employ attack resources against those targets in a coordinated and timely manner.

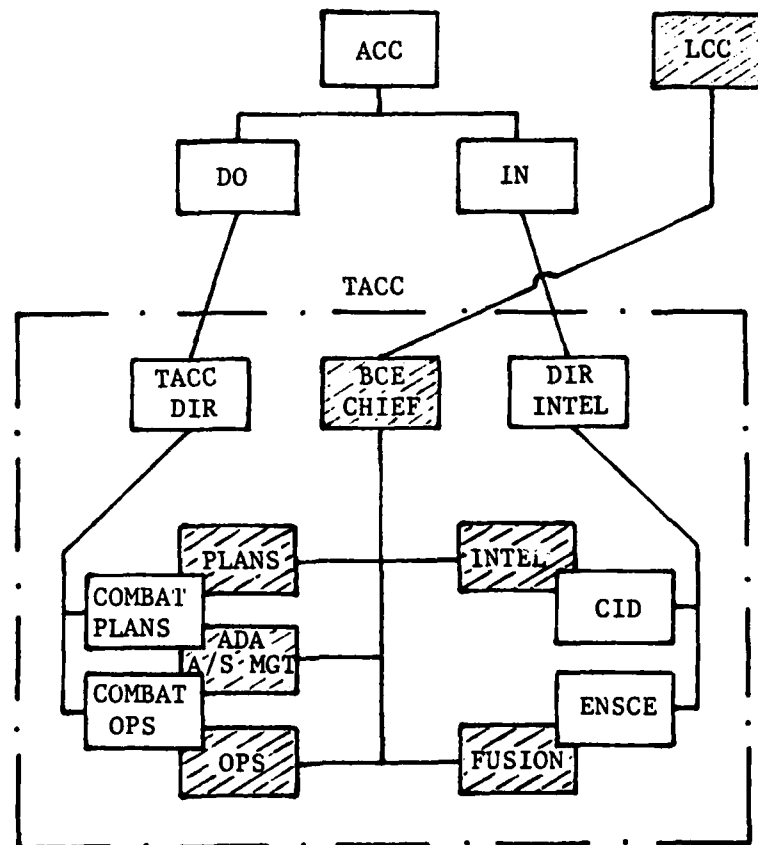
Since close coordination is so obviously fundamental to the success of J-SAK, a continuous interface between the TACC and Army planners is a necessity. The organization designated to provide this interface is the Battlefield Coordination Element (BCE).

The BCE works for the Land Component Commander (LCC); receives, through the BCE chief, its guidance directly from the LCC's G-3 (deputy for operations); but is collocated with the TACC.⁸ The BCE's five sections: plans,

operations, intelligence, fusion and Air Defense Artillery (ADA)/airspace management are all directly integrated within the TACC's combat plans, combat operations, CID and ENSCE (see Figure 3).⁹ Their purpose is to monitor and interpret the ground situation for the TACC, advise on Army maneuver plans, receive and process AI target nominations from corps, coordinate with the TACC on AI target attack priorities and timing to ensure synchronization with Army maneuver schemes, inform the LCC and corps of AI attacks planned against Army nominated targets and coordinate with corps on Army support for AI operations.

Figure 3

THE TACC-BCE INTERFACE



At any one time the TACC-BCE will be working to develop and execute three or more ATOs: conducting forecasts for follow-on ATOs, planning tomorrow's ATO and executing the current ATO. As depicted in figure 3, the BCE plans and intelligence sections work with combat plans and the CID to plan future operations, while the BCE operations and fusion sections work with combat operations and the ENSCE to fight today's battle. The ADA/airspace management section works both planning and execution as shown.

TACC-BCE COORDINATION

The following discussion describes how the TACC-BCE work together to plan and execute the AI portion of one ATO in support of corps deep battle requirements.¹⁰

Approximately 72 hours prior to the effective period of the ATO (e.g., 0400-0400 daily) the ACC and LCC begin to develop their concepts of operation in response to the joint force commander's strategy and objectives. The ACC must decide how to tailor his forces to attack those air and ground targets that pose the greatest threat to the joint force, while the LCC must estimate the amount of AI needed to support his maneuver plans and determine the priority for AI he will assign his subordinate corps so that they can begin to develop battle plans. Together, the ACC and LCC discuss employment options and establish a tentative percentage of the AI effort that they estimate should be flown in immediate support of land force maneuver. This percentage of the AI effort is termed Battlefield Air Interdiction (BAI) and defined as air interdiction attacks against land force nominated targets which have a near term effect on the operations or schemes of maneuver of friendly forces, but are not in close proximity to those forces. The primary difference between BAI and the rest of the AI effort is the near term effect produced against the enemy in support of land force maneuvers.

Once the BAI percentage has been estimated, the TACC combat plans division converts the percentage into a rough forecast of actual sorties available, and the BCE plans section informs each corps of the amount of BAI forecast for their planning according to the LCC's determination of their priority for support. These events coincide with the corps planning horizon of 72 hours and allow corps commanders to integrate forecast BAI support into their overall maneuver and fire plans.

From 72-36 hours prior to the ATO period, the TACC combat intelligence division and the BCE intelligence section review incoming intelligence to maintain an accurate picture of the enemy's deployment and begin to develop targeting objectives in response to the ACC's and LCC's concepts of operation. The combat plans division refines the forecast of the expected BAI effort based on battle developments, and the BCE plans section forwards the updated forecasts to the LCC and corps. The corps develop or adjust maneuver and fire plans using the new forecasts and begin the process of identifying and prioritizing targets for air attack.

At the 36 hour point, the ACC and LCC consult again to finalize their estimate of the percentage of AI to be flown as BAI. This estimate is then sent forward by the ACC to the joint force commander as a recommendation for his approval. Upon approval, the LCC confirms his decision on the priority for BAI to be given each corps, and the ACC then directs the TACC to prepare the ATO in accordance with the decisions made. TACC combat plans converts the percentage into the actual number of sorties to be flown, and the BCE plans section confirms to the corps the BAI sorties available for their planning.

From 36-18 hours prior to the ATO period, each corps develops and submits to the BCE plans section its prioritized list of BAI target nominations. Fixed targets are requested by designating type target, grid coordinates,

desired time of attack and desired results. Mobile targets are often nominated using a mission-type request. For example, "Delay advance of X Tank Division. Prevent battalion or larger units from crossing TU 40 grid line from 301200Z until 311200Z March 1985. Final target location will be coordinated by requestor." In either case, TACC combat plans and the CID, working with the BCE plans and intelligence sections, now begin to develop the target nominations to determine sorties needed, ordnance loads, force package requirements, target area intelligence, etc. Additionally, the BCE plans section begins to coordinate Army fire and electronic warfare support that can be made available to support TACAIR attacks. Throughout the period, corps refine their target nominations as new intelligence becomes available.

At the 18 hour point, corps are expected to have finalized their BAI target nominations. Based on the LOC's guidance, the BCE plans section now consolidates all nominations and provides a single prioritized list to the TACC combat plans division. The TACC requires this list to match available air assets and ordnance loads against the damage criteria specified for each target. If the damage criteria exceeds force availability, TACC combat plans coordinates with the BCE plans section (and through the BCE with the requesting corps) to restructure the attack objectives or to cancel the attack in favor of greater force against a higher priority target. With this final coordination complete, the ATO is published 12 hours prior to its effective period.

After publication, responsibility for the ATO passes from the planning agents to the execution agents (the TACC combat operations division and ENSCE and the BCE operations and fusion sections). From the 12 hour point up to mission execution, a continuous exchange between the corps and the BCE is necessary to provide target refinement details so that the TACC and aircrews can finalize mission planning using the most current information available.

At any time prior to target attack, situations may arise where predicted targets do not materialize, are different than expected, cannot be attacked due to weather conditions or corps priorities change. When these situations occur planned BAI sorties may be retargeted by a request from the corps through the BCE operations section to the TACC combat operations division. The BCE evaluates such requests based on the LOC's guidance and priorities, while the TACC evaluates the target for compatibility with the planned sorties. The TACC's principle considerations are: can the new target be attacked effectively with the planned ordnance; can the new target be attacked without undue losses; can the supporting force package be notified in time; and is there sufficient time for the aircrews to plan their new mission? If these considerations can be satisfied, the BAI sorties are retasked to attack the new target. If the considerations can't be satisfied, the options available are to: launch the mission against the original or pre-planned alternate target, launch the mission against the next compatible scheduled target in priority, or cancel the mission. The existing tactical situation will dictate the option chosen.

In those instances when a planned target cannot be attacked (e.g., due to weather or combat losses) or a new target cannot be attacked (e.g., due to incompatible ordnance), the TACC will inform the BCE, and the BCE will in turn inform the corps who nominated the target. If the target remains critical to the corps scheme of maneuver and its priority is reaffirmed, the target will subsequently be attacked as weather improves, assets become available and mission planning is accomplished.

DEEP ATTACK EXECUTION

J-SAK procedures, and the TACC-BCE working relationship just described, provide the Air Force and the Army with the basis of a sound formula for achieving the concentration and synchronization of forces needed to effectively conduct the deep battle. However, planning procedures and working relationships are only part of the equation. How do the planners get the information they need to identify and prioritize targets? How do we track and attack the important targets when they are moving at speed to enter the battle and are protected by equally mobile defenses?

The Duke of Wellington is reported to have said that the greatest qualification of a general was the ability to know what was on the other side of the hill. Fortunately, today's generals, and their planning staffs, will soon have this ability, in real-time, at extended ranges, day and night, regardless of weather conditions. Recent advances in radar, emitter locators and electro-optical imagery make it possible not only to locate targets using stand-off platforms, but also to attack those targets with precision accuracy.

One new sensor system coming available is the Joint Surveillance and Target Attack Radar System, better known as Joint STARS (JSTARS). Using an advanced radar, JSTARS will give the Army and the Air Force the capability to locate and track moving targets as small as a tank at extended ranges. The resulting target information is relayed to planning staffs on the ground and used by controllers in JSTARS to direct attacks against the targets wherever they move.

JSTARS will be complemented by an electronic emitter-locating system called the Precision Location Strike System (PLSS). PLSS will locate and direct attacks against enemy defensive systems and command and control centers much as JSTARS acts against moving targets.

Completing the spectrum of new reconnaissance capability, the Advanced Synthetic Aperture Radar System (ASARS) will provide real-time high-resolution imagery of fixed targets.

Taken together, the capabilities offered by these new sensor systems have profound implications for BAI attack planning. A wealth of real-time information on enemy force dispositions and movements will now be available to planners and targeting officers. However, it will have to be analyzed, collated and correlated efficiently if it is to be exploited in a timely manner. The Army/Air Force Joint Fusion Program, now in development, is intended to provide the automated processing needed to satisfy this requirement. Under the Joint Fusion Program the Air Force's enemy situation correlation equipment and the Army's all-source analysis system will be developed to ensure that each service has ready access to real-time intelligence information from all sensors. In addition, and perhaps key to the close Army/Air Force cooperation that has to exist, the two systems will be programed to rapidly exchange correlated, all-source information so that air and land force planners can work together using a common picture of the battlefield.

Realistically, however, despite the obvious advantages planning staffs will enjoy using real-time information, the dynamics of the modern battlefield will dictate that the tactical situation has changed by the time BAI sorties reach the target area. The targets will likely have moved, more may have appeared, or additional defenses may be active. It is under these conditions that the second principle of Air Force doctrine—that of decentralized execution becomes paramount. Simply stated, decentralized execution means delegating the responsibility for attack execution to the agency with the clearest picture of the tactical situation, and then giving it the assets to do the job. An example of this principle is provided by the air defense Control and

Reporting Center (CRC) as it uses its radar capability to control the execution of defending fighters against an incoming air attack.

THE GROUND ATTACK CONTROL CENTER

Until today, decentralized execution of AI and BAI sorties was impossible since no real-time picture of the ground situation behind enemy lines was available. However, with the advent of JSTARS, PLSS and ASARS, the void has been filled, and the Air Force is now developing a Ground Attack Control Center (GACC) expressly designed to control attacks against high priority, time sensitive targets in the enemy's follow-on echelons. The GACC will use state-of-the-art modular control equipment adapted for Air Force use from the Marine Corps Air Operations Central (TAOC-85). Each GACC facility (see Figure 4) will have the necessary data links and control consoles to receive and

Figure 4

THE GROUND ATTACK CONTROL CENTER



display the ground situation from JSTARS and PLSS, and sufficient radios to maintain constant contact with the sensor systems, assigned TACAIR sorties, the TACC-BCE and Corps Tactical Operations Centers (CTOCs). Each GACC will have an area of responsibility assigned by the TACC (in concept, comparable to the sector of responsibility assigned to an air defense control center). The GACC will receive its guidance on target areas, target priorities and sorties available from the TACC in the form of the ATO. Throughout operations, the GACC will maintain contact with the TACC-BCE so that BAI attacks can be tailored in response to target priority changes driven by the battlefield situation.¹¹

Recall the mission type request that corps will often use to nominate mobile BAI targets. Exact target locations are unknown, but the objective is clear, "Stop X Tank Division from crossing the TU 40 grid line." Operations of this kind will be the GACC's forte.

As BAI sorties and their supporting force package near the target area, the GACC will be in radio contact with the appropriate CTOC, and both will be viewing a common picture of the battlefield provided by the new sensor systems. Using the JSTARS display, the GACC and CTOC will coordinate on precisely which mobile targets to attack—certain ones with the BAI sorties, and perhaps others with organic corps assets, range permitting. Using the PLSS display, the GACC and CTOC will coordinate the suppression of any enemy defense systems in position to contest the attack—some with the TACAIR support package, others with organic corps artillery and electronic warfare assets. In short, the GACC and CTOC will put AirLand Battle into practice, directly against the most important targets in the enemy's follow-on forces.

JOINT AIRLAND BATTLE?

Taking AirLand Battle deep against the second- and third-echelon will be a vital part of any conventional conflict with the Soviet Union. Together the Army and Air Force can do the job. AirLand Battle may not as yet be Air Force doctrine; but the proven concepts of centralized control and decentralized execution and new developments such as J-SAK procedures, the TACC-BCE interface and the GACC clearly support the principles of initiative, depth, agility and synchronization that embody that doctrine.

ENDNOTES

1. Department of the Army, Field Manual 100-5, Operations. Washington, DC: Headquarters Department of the Army, 20 August 1982, Preface, p. i.
2. Ibid., p. 7-14.
3. Ibid., p. 7-2.
4. John Keegan, Six Armies in Normandy. New York: The Viking Press, 1982, p. 147.
5. B. H. Liddell Hart, History of the Second World War. New York: G. P. Putnam's Sons, 1971, p. 547.
6. Department of the Air Force, Air Force Manual 1-1, Functions and Basic Doctrine of the United States Air Force. Washington, DC: US Government Printing Office, 11 February 1979, p. 5-1.
7. USREDCOM Pamphlet 525-8, TRADOC Pamphlet 525-45, TAC Pamphlet 50-29, General Operating Procedures for Joint Attack of the Second Echelon (J-SAK), 31 December 1984, Preface, p. ii.
8. In a single corps environment, the LOC would likely be the corps commander provided there is no echelon above corps with an operational mission. In a multi-corps environment, a field army commander may be assigned as the LOC, or one of the corps commanders may be designated as such. In a multi-field army environment, an army group commander may be assigned as the LOC.
9. In reality the BCE has six sections. However, the airlift section is collocated with the Air Force airlift control center, and normally separate from the TACC.
10. The General Operating Procedures for J-SAK contains a detailed description of the coordination that takes place between the TACC and BCE.
11. For a complete description of the GACC operational concept see the Joint Operational Interface of the Ground Attack Control Capability Study, October 1984, published by the Tactical Air Command Joint Studies Group, Langley Air Force Base, Virginia.

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