

Transforming Joint Air-Ground Operations for 21st Century Battlespace

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The face of warfare is undeniably changing. Former CIA Director James Woolsey coined the term “World War IV” to characterize and codify the fight against a fluid and, at times, diaphanous foe. No longer are we focused solely on the notion of engaging an enemy state that has clearly defined borders and a national identity. These days, we find ourselves more often than not contemplating ubiquitous networks of hostile opponents. With this new threat comes an ever-increasing need for improved agility, lethality and prescience. Even so, we need to maintain the ability to engage and defeat our enemies at any level of conflict, from stability and support operations (SASO) to a major theater war (MTW).

The ability to engage across the full spectrum of conflict in the future requires that all services review their capabilities, battle systems and doctrine. Joint air-ground operations (JAGO) is a complex set of issues at the confluence of two very large battle spheres.

In this article, we look at the intersection of Army transformation actions with related Air Force operations and the impact on terminal air control (TAC), the common operating picture (COP) and battlefield air operations (BAO).

Moving Out Sharply—Transforming. During attendance at the Army Transformation Conference in January 2003, it was clear the US Army is moving swiftly down the path from legacy



warfighting systems of the past through the Stryker brigade combat teams (SBCTs) and, ultimately, to transforming to the Objective Force. Likewise, the Air Force is continuing to refine its future warfighting organizations and concepts of operations. The need to rethink how the Air Force and Army synthesize transformation initiatives to best facilitate victory in the JAGO environment is paramount.

Recently in both Operation Enduring Freedom in Afghanistan (OEF-A) and Operation Iraqi Freedom (OIF), we have seen a great display of creativity and ingenuity in this regard. Operations in Afghanistan captured the attention of

the nation as the electronic news media beamed indelible images of America’s Special Operations Forces (SOF) with USAF TAC specialists climbing rugged slopes astride small horses in pursuit of terrorists and murderers. Air Force Chief of Staff General John P. Jumper described these scenarios and methods as “transformational.”

To the casual observer, it may have seemed that we had taken a 100-year step backwards. The simpler truth, however, is that these men were adapting and fusing the technologies available to them to engage the enemy most effectively within the battlespace they suddenly found themselves.

Indeed, a TAC specialist riding a horse with a laptop computer strapped to the saddle horn, communicating via satellite and using laser range-finding devices coupled with a global positioning system (GPS) to find the exact location of both enemy and friendly forces, is a *transformational* step. It is a large step toward transforming how our tactical air control party (TACP) warriors will integrate and function in the future yet remains consistent with our basic beliefs.

Emerging information indicates OIF applied many of these initiatives and lessons in operations—and assuredly created others—as the coalition forces dominate in Iraq.

Air Force's Core Competencies. General Jumper recently redefined USAF core competencies into three simple statements. The Air Force is “developing airmen at all levels of the spectrum,” rapidly getting “technology to warfighting” and “integrating operations.”

As we transform JAGO, we will exploit each of these competencies to the benefit of all servicemen and women. By using USAF core competencies as a resonating board, we stay focused on transforming our forces and approaches and methods to optimize air and space operations within the sphere of JAGO.

Today, we are in the process of rethinking how we man, train, equip and employ in the JAGO arena. The Air Force is committed to developing JAGO employment and doctrine to integrate air operations with the SBCTs and Objective Force that will result in optimal warfighting capability for those organizations. This commitment is critical to transforming how our forces will conduct joint warfare in the future.

Organizing to support SBCT Stand-Up. Just as we've developed the air operations center (AOC) over the last decade as a separate “weapons system,” we need to rapidly develop our TACPs and make their capabilities more robust. It may be prudent to designate the TACP system and associated air support operations center (ASOC) as an integral weapons system in a similar fashion. In doing so, we may vastly improve the capacity for proactive systemic and technological growth as well as enhance interoperability for this critical operations area.

At the point where “the rubber meets the road,” the Air Force will continue to

integrate capabilities with those of ground commanders by modernizing our TACPs. We are currently reviewing TACP manning within the Air Combat Command (ACC) to ensure we have the right numbers and types of airmen working with the various echelons of new ground force organizations. We will make sure we have the right ratios of TACs and ASOCs where and when they are needed.

The Army also needs to reevaluate its doctrinal concepts that call for air operations to be tied to and deployed with corps as maneuver elements. Recent warfighting experience has shown that the corps most likely will *not* be the lowest deployed element.

The Air Force is also in the process of acquiring the most advanced targeting and communications equipment available to assist the TACPs in their difficult tasks. However, simply recruiting, equipping and training these highly motivated airmen aren't enough. We need to make sure they have both quick and survivable ways to maneuver and employ.

The Army's SBCTs are making great strides toward that end. The new Stryker vehicle is agile and fast. It affords battle-field protection against munitions up to the rocket-propelled grenade (RPG) class of weapons.

The fielding of the first SBCT demands the services carefully scrutinize how to combine the capabilities of both terrestrial and airborne systems to achieve the maximum desired effects within the battlespace. These medium-weight force units are bringing a heretofore unknown combination of agility, survivability and lethality; they are significantly more powerful than light bri-

gades and half the weight of current heavy brigades. They are the interim step in the long-term transformation of our ground forces and will be around for many years.

We must make certain TACPs have the same level of agility and survivability that their Army counterparts have. To ensure our TACPs can go where the SBCTs go, they need similar equipment. That means our TACPs need Stryker vehicles.

An Army/Air Force memorandum of understanding (MOU) that addresses these equipage issues exists and calls for the Army to provide vehicles to TACPs and other air elements assigned to ground force elements.

Overcoming the Tyranny of “Stove Pipes” for a COP. To achieve success in future conflicts, our TACPs will need an ever-increasing ability to know the full three-dimensional battle array at a glance.

Air Combat Command Commander General Hal Hornburg has established a series of six focus areas for the command. One of those—information operations—has as its goal “[To] integrate air, space, intelligence and information operations capabilities into a seamless array providing real-time, actionable information to its users.”

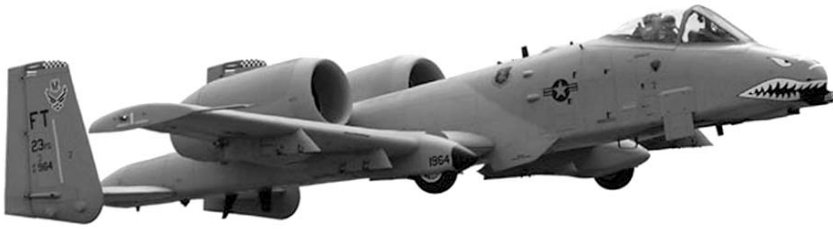
Probably the single most daunting task facing our command, control, communications and computers (C⁴) community is that of getting needed information access to all levels in the JAGO environment. Past constructs were built to feed information up the chain to the commanders and, in turn, feed decisions back down the chain. True transformation requires we become more “information agile.”

Our TACPs (as end users) have a need to know exactly where the “good guys” and the “bad guys” are throughout the battlespace to be most effective. This requires they be able to push and pull across the information pathways of all services to build and have a common JAGO picture. It is imperative we continue to build programs that bridge the information service stove pipes built over the course of 50 years. To be effective, combat information must not be viewed as the “property” of any given service or entity. Integration of information must happen both horizontally *and* vertically.

If information is power, then we make our entire joint force stronger by making information available at all levels. But even having acute situational aware-



To ensure our TACPs can go where the SBCTs go, they need similar equipment. That means our TACPs need Stryker vehicles. Photo by Ann Zetterstrom



ness is not sufficient alone to win in modern battlespace. We need to think about *how we think*. We must train and educate our warriors, from the most senior commanders on down, on what information is available, how to use it best as well as what possible pitfalls await them in information age warfare.

JAGO is Ripe for Revision and Growth. The battlespace of future conflicts will not be characterized by linear means, but rather by nonlinear and noncontiguous areas of operations—leaders in all the services agree on this statement. As our land, sea and air forces begin transforming toward more flexible and integrated capabilities, we must be ever mindful of the need to assess and respond in a timely fashion to the demands of future conflict.

Enabling technologies in the realms of communications, graphics and computational tools, and enhanced weaponry across the spectrum are forcing the armed services to reevaluate how and why we engage an enemy. The advent of precision for both geo-location and strike as well as multi-spectral sensing systems now affords our fighting men and women a previously undreamt of lethality and accuracy. With these enhanced systems comes a need to re-look how we use them.

JAGO—It Ain't Just CAS. Traditionally, we have described air attack and “bombing” as fitting into one of three missions categories: close air support (CAS), air interdiction (AI) or strategic attack (SA).

CAS missions are those flown in close proximity to friendly forces that require detailed integration with those forces to avoid fratricide. AI missions are defined as those having an effect on enemy forces before they can engage friendly forces and are flown in advance of friendly ground forces—beyond the fire support coordination line (FSCL). SA missions are associated with striking enemy leadership, command and control, war-sustaining resources and critical infrastructure to directly achieve strategic outcomes.

Air attack missions flown inside the FSCL currently require a great degree of coordination, deconfliction and skill.

Further, the techniques and procedures for employing in this area differ throughout the various theaters. Any fire support officer (FSO) or air liaison officer (ALO) can tell you that this is a point of constant friction and endless debate.

Another point of friction is the lack of understanding of what is and what is not CAS. Operations in Afghanistan highlighted the misconceptions and confusion that exist between CAS and time-sensitive targeting (TST).

The two areas are quite different, especially in regard to the rules of engagement (ROE) and the level of engagement authority. TST can occur regardless of the position of friendly forces relative to enemy forces—CAS is defined by that relationship. TST is subject to more centralized control and target approval, while CAS is designed to be responsive to the lowest level that needs assistance on the ground. CAS is a mission; TST is a process and can involve interdiction, CAS, strategic attack (as we saw in the opening attacks of OIF on 19 March 2003 against an Iraqi command and control compound) or any other mission.

Unfortunately, the mindset of “It’s all CAS to me” continues to exist among many ground warriors in the field, lead-

ing to disagreements and consternation between soldiers and airmen—but much worse, it can have negative consequences in terms of optimally employing our respective forces in joint operations.

One collateral issue that has been getting some dialogue lately is the mistaken belief that the Air Force is somehow not in favor of Army terminal attack controllers. This is not true. The Air Force does not believe that a fire support team member (FISTER) is incapable of controlling an air attack—they are highly capable and dedicated warriors.

What the Air Force does believe—for the benefit of all forces involved—is that *any* terminal attack controller must have a level of training and currency equal to that required of a TACP, combat control team and Marine terminal air controllers to plan and control a CAS mission involving USAF aircraft.

This is not an issue of merely filling out and reading a 9-line CAS briefing form. It takes advanced situational awareness and weapons systems knowledge to both “rack-and-stack” multiple flights of attack aircraft and choose the correct delivery system and ordnance for desired effects. Couple these basic needs with the ability to determine appropriate restrictions and control measures in a complex environment and our reason for insisting on a minimum level of training and currency becomes clear.

In cases of emergency, we maintain emergency CAS (ECAS) procedures. However, by definition, there is never a time when we *plan* to do ECAS.



The Air Force believes that *any* terminal attack controller, including FISTers, must have a level of training and currency equal to that required of a TACP, combat control team and Marine terminal air controllers to plan and control a CAS mission involving USAF aircraft.

Photo by MSGT Val Gimpis

There is a concerted effort among the services to develop a joint terminal attack controller (JTAC) standard. JTAC certification programs are a needed piece of the JAGO puzzle. It is time to stand up a JTAC Center of Excellence. The Air Ground Operations School (AGOS) at the Air Warfare Center, Nellis Air Force Base, Nevada, is the preeminent locus for both developing and teaching the evolving tactics, techniques and procedures for use in JAGO. AGOS would be an excellent location for a JTAC Center of Excellence.

As we transform our fighting forces and training methods, we need to transform how we conduct JAGO as well.

Redefining the Bridge Between CAS and AI. Lessons from Operations Desert Storm in the Gulf in 1991, Deliberate Force in Bosnia in 1995, Allied Force in Kosovo in 1999, Enduring Freedom and early returns from Iraqi Freedom hammer home the use of asymmetrical air attacks—the application of force from the air at specific points and times that cannot be prevented by the adversary—in the prosecution of enemy ground forces in an environment containing few or no friendly ground forces. These operations highlight a doctrinal issue with JAGO.

Adding to this issue is the increased involvement of SOF in executing JAGO. Integrating SOF and conventional forces on a routine basis is a step we must make as we transform toward a more effective joint force.

SOF Wars. In the Afghan 2001 and Iraq 2003 campaigns, there were many scenarios in which we employed airpower as an element of those joint campaigns to achieve the joint force commander's (JFC's) goals that did not involve troops in contact. Iraqi Freedom also saw massive use of SOF forces in a more conventional role.

These scenarios don't fall within the definitions of CAS or AI. Rather, they were situations where a small number of SOF or friendly forces acted as human sensors to provide accurate data that enabled *offensive* force application from airborne systems.

As we continue to see greater integration of unconventional ground forces to accomplish this kind of function, we have an expanding set of issues with regard to lines of control and employment doctrine. It may be time to rethink and adjust the doctrine associated with JAGO. The first step toward this end is to define the "undefined" battlespace.

Battlefield Air Operations (BAO). Desert Storm, Deliberate Force, Allied Force, Enduring Freedom and Iraqi Freedom saw the use of airpower as a distinct maneuver element against enemy ground forces. Its effects were asymmetrical, and it was used in this mode on a large scale. These kind of air attacks were not the only air-to-ground operations conducted during these operations, but they do stand out as a use of airpower in a fashion relatively different from traditional surface attack mission categories and present a potent option for use in future joint campaigns.

In these conflicts, air operations against an enemy arrayed on a battlefield were conducted using innovative concepts of operations and combinations of targeting methods to create desired operational effects. Currently, some of these air operations are not described very well in either Air Force or joint doctrine. Specifically, BAO are air operations against enemy regular and irregular ground forces in instances where "friendly" ground forces are not present or, when present, are engaged in actions in direct support of the air operations. Clearly, an update to current doctrine is warranted for the benefit of future joint force commanders.



SOF training at Pope Air Force Base, North Carolina. SOF have acted as human sensors for offensive air operations. Photo by Tech. Sgt. Michael Featherston

During OEF, the preponderance of air attacks that resulted in the progress made by the Northern Alliance—ultimately leading to the removal of the Taliban regime—were flown as BAO events. In these instances, BAO created significant operational effects including shock, degradation and destruction of entrenched enemy forces. BAO was the key enabler for Northern Alliance forces to capture Mazar-e-Sharif, Qala Qatar, Kabul and Toloqan in the north and Kandahar in southern Afghanistan.

There were other air operations conducted independently of support to ground forces, particularly after the Northern Alliance gained control of a large portion of Afghanistan. These air attack operations supported an *aerial* scheme of maneuver and targeted dispersed retreating and fleeing al Qaeda and Taliban ground forces.

When matched with new operational doctrine and capabilities, new warfighting approaches can significantly enhance if not revolutionize the way we conduct warfare. BAO in Operation Allied Force, OEF-A and OIF are the genesis of such a merger. BAO—when viewed in terms of developing a comprehensive concept of operations involving an aerial scheme of maneuver, real-time fusion, time-critical targeting, support by SOF and integration with other surface forces—has clearly demonstrated a warfighting advantage of transformational character.

To capitalize on this capability, it is important to define BAO as distinct from CAS and AI for two principal reasons: (1) to highlight a critical capability for JFCs and (2) to ensure the proper organization, training and equipping of joint forces for the effective conduct of this mission.

With recognition of BAO as a distinct mission area, the appropriate actions required to train, maintain and equip for that mission will follow. In addition, such delineation would establish the requirement to provide appropriate command and control arrangements for BAO.

TACPs and ASOCs would be given appropriate systems, capabilities and training to facilitate such operations. Emphasis, if not acceleration, of interoperability upgrades for terminal air controllers and existing aircraft also is needed. New targeting and attack capabilities as well as improved intelligence, surveillance and reconnaissance (ISR) fusion would result and bring significant improvement in Air Force surface



A SOF commando from Task Force K-BAR conducts special reconnaissance on an undisclosed location in Afghanistan during Operation Enduring Freedom.

attack capabilities, flexibility and accuracy.

Taken together and in concert with changes in doctrine, such upgrades can ensure BAO is solidly established for future JAGO.

Likewise, based on an understanding of BAO, a better working relationship between the Army and Air Force can be fostered to fight more effectively. Battlefield collection devices and Army intelligence assets will be needed for optimal execution of BAO. This support is critical for the air scheme of maneuver and both operational and tactical success.

Effects-Based Targeting is the Hallmark of Well-Orchestrated JAGO. An effects-based targeting methodology was critical to the resounding successes in I Corps' 2002 Warfighter Exercise. The unprecedented joint effects targeting method was used in a way that highlighted the magnifying results of viewing JAGO in terms of *desired effects* vice simply moving men, material and firepower to engage and attrit an enemy.

Effects-based processes must underpin any new BAO doctrinal development in support of future joint force, air and ground component commanders.

Putting It All Together. The JAGO environment is extraordinarily complex in its breadth and scope. The Air Force and Army are committed to transforming our forces and our methods to maximize effects across the spectrum of conflict. We recognize that the crux of true joint integration is making sure we have

done everything we can to shape our forces and doctrine in ways that make rapid success in the battlespace a certainty. To guarantee this successful transformation, recognizing and actualizing innovation and new constructs in JAGO is crucial.

Establishing TACPs and ASOCs as weapons systems, acquiring the most advanced communications and graphic display tools available, and ensuring the compatibility and interoperability of our airmen operating with SBCTs by equipping them with Stryker vehicles are actions required to match the "air" piece of JAGO with the transformation of its ground element.

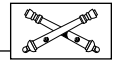
Continuing and spurring our technological efforts to connect stove-piped information systems in order to make battlefield information available at all levels of the continuum is critical to future successes. Adherence to joint force standards rather than service legacies will enable our forces not only to communicate, but also to evolve synergistically into a truly integrated fighting force.

Developing a JTAC Center of Excellence is a keystone to the transformation of JAGO. This center can serve as a single-source wellspring of information and training as well as the arbitrator of healthy dialogue and debate to produce a common understanding of JAGO across the services.

Establishing BAO as a separate mission will bridge the gap between the traditional, linear battlespace of the past

and the reality of the nonlinear, noncontiguous and nontraditional battlespace of today and tomorrow.

JAGO will continue to be an integral element of joint warfare. How effective those operations will be depends on how far we are willing to go in transforming traditional approaches to air-ground operations and doctrine with the aim of achieving true jointness—the use of the right force at the right place at the right time.



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