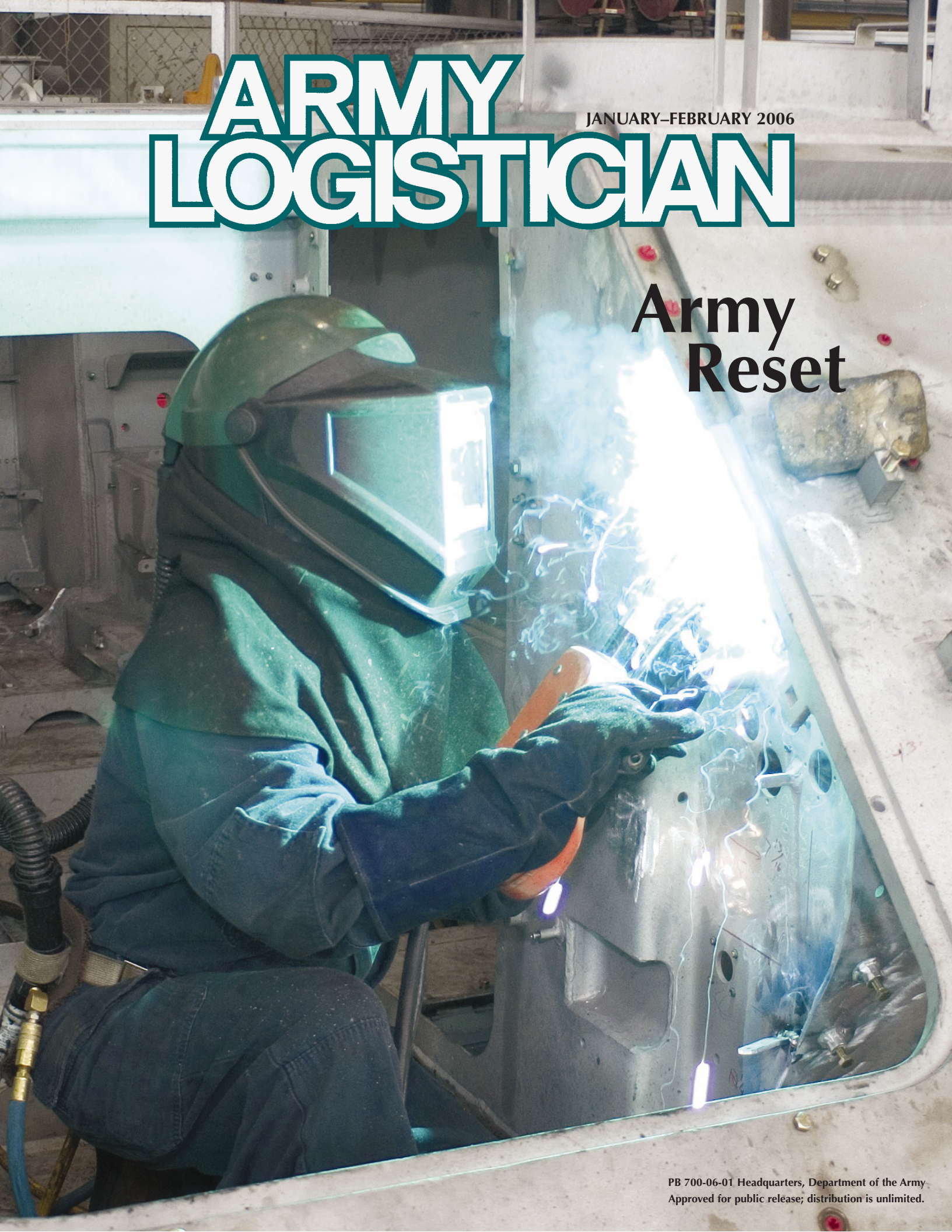
ARMY LOGISTICIAN

JANUARY–FEBRUARY 2006

Army Reset



PB 700-06-01 Headquarters, Department of the Army
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ARMY LOGISTICIAN

PROFESSIONAL BULLETIN OF UNITED STATES ARMY LOGISTICS

PB 700–06–01
VOLUME 38, ISSUE 1
JANUARY–FEBRUARY 2006

Cover: The high operating tempo of Operations Enduring Freedom and Iraqi Freedom is aging equipment at a higher than anticipated rate. In order to return to a combat-ready status, redeploying units must restore their equipment to optimal condition, or "reset" it. The Army Reset Program returns equipment to a like-new condition. On the cover, a welder at Anniston Army Depot, Alabama, repairs an M113 armored personnel carrier that has been sent to the depot's combat vehicle facility for reset. See the article on page 2 for more information on the TACOM Life Cycle Management Command Reset Program.

This medium is approved for the official dissemination of material designed to keep individuals within the Army knowledgeable of current and emerging developments within their areas of expertise for the purpose of enhancing their professional development.

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ALOG NEWS

ARMY UNIT WINS PHOENIX AWARD

The 3d Battalion, 7th Field Artillery (Light), 25th Infantry Division (Light), at Schofield Barracks, Hawaii, was the 2005 winner of the Phoenix Trophy, the Department of Defense's highest award for field-level maintenance of weapon systems and equipment.

While deployed for exercises and missions throughout the U.S. Pacific Command's area of responsibility and the continental United States and to Afghanistan in support of Operation Enduring Freedom, the 3d Battalion successfully maintained more than 4,300 pieces of equipment, logged more than 95,000 miles, and delivered 8,000 rounds of artillery and mortar fire in training and combat while maintaining an operational equipment readiness rate of 97 percent.

Six units received Secretary of Defense Maintenance Awards in the categories of small, medium, and large units. Another Army unit, the 428th Transportation Company, an Army Reserve unit from Jefferson City, Missouri, was the winner in the medium-unit category. The Phoenix Trophy is presented to the overall winner of all categories.

'WARRIOR MEDICS' GET NEW COMMAND

The Army Reserve Medical Command (ARMEDCOM) was activated at the new C.W. Bill Young Armed Forces Reserve Center in Pinellas Park, Florida, on 16 October. The new command—the largest medical command in the Army—provides command and control for more than 28,000 Soldiers (dubbed "Warrior Medics") in 258 medical units across the United States.

The command centrally manages all Army Reserve medical units and Soldiers and ensures that they are fully trained to deploy quickly in small, precisely organized units that are able to adapt to a specific mission. Consolidating the Army Reserve's medical expertise in one command will help reduce the time required to bring Reservists onto Active duty and make it easier to locate Reservists with specific skills, said ARMEDCOM's Commander, Major General Kenneth Herbst. "Most Army Reserve Soldiers in the medical field [practice their specialties] on a day-to-day basis, but [they] also have to be able to perform [their] warrior skills, the collective unit skills. And that's absolutely critical."

The extensive capabilities that Army Reserve medical professionals bring to the force have been demonstrated in operations in Iraq and Afghanistan, Herbst said, noting that many Reservists are leaders in the civilian medical community. "Our surgeons are very often the surgeons who are directing the trauma training programs at the best institutions in this country," he said.

ARMEDCOM is organized like the Army Reserve regional readiness commands, except that it is based on function rather than geographic area. Its major components are the Medical Readiness and Training Command, headquartered at San Antonio, Texas; the Army Medical Department Professional Management Command, headquartered at Atlanta, Georgia; and four Medical Area Readiness Support Groups. The groups, located in New York, Tennessee, Illinois, and California, oversee Army Reserve medical units in specific regions.

INTERIM SYSTEM UPGRADES IMPROVE SUPPORT UNTIL GCSS-ARMY (F/T) FIELDING

According to current projections, the Army plans to begin deployment of Global Combat Support System-Army (Field/Tactical) [GCSS-Army (F/T)] in late fiscal year 2007. Until then, the Project Manager Logistics Information Systems (PM LIS), which is the materiel developer for GCSS-Army, is executing several interim initiatives to bridge the gap between currently used logistics information management systems—some of which arrived in the field well over 20 years ago—and the new system. The PM LIS solution will include software enhancements and consolidations and Web-based technology.

One initiative is the fielding of the Property Book Unit Supply Enhanced (PBUSE) to much of the Army. This is a property accountability and unit supply management system that is replacing the Unit Level Logistics System (ULLS) S–4 and the Standard Property Book System-Redesign (SPBS–R).

Another interim solution, the ULLS-Aviation Software Change Package (SCP) 06, has successfully passed the developmental testing phase and is now in the fielding stage. By making use of new technology and taking into account changes in aviation

(ALOG NEWS continued on page 52)

Reset: Extending the Life of Army Equipment

BY MAJOR GENERAL WILLIAM M. LENAERS AND MAJOR BRENT D. CORYELL

The Reset program administered by the Army Tank-automotive and Armaments Life Cycle Management Command is designed to reverse the effects of combat stress on equipment.

Major combat and stability operations in Iraq and Afghanistan are placing tremendous demands on Army equipment. Amid the constant demands of war, the equipment is aging far more rapidly than projected. Because of the higher operating tempo, rough desert environments, and limited maintenance available in theater, operational fleets are aging 4 years for every year in theater, dramatically shortening their expected useful life. To maintain their operational effectiveness and be prepared to deploy when needed, units must ensure that their equipment is returned to optimal condition, or "reset," after they redeploy from a combat or stability operation. The Army Tank-automotive and Armaments Life Cycle Management Command (TACOM LCMC) is responsible for overseeing the Reset process for Soldier and ground systems in its portfolio.

What is Reset?

"Reset" is a generic term that represents a series of actions taken to restore units to a desired level of combat capability commensurate with mission requirements

Reset of Major Army Divisions

3d ID	101st ABN	1st AD, 3d BCT	3d ACR	82d ABN/ 18th ABN Corps	4th ID/III Corps
2,039 pieces Complete	1,170 pieces Complete	326 pieces Complete	446 pieces Complete	1,083 pieces Complete	887 pieces 99%
✓	✓	✓	✓	✓	☐

10th MTN	I Corps	1st AD	1st ID, 1st BCT	25th ID	1st CAV	1st ID USAREUR
619 pieces Complete	138 pieces Complete	155 pieces Complete	247 pieces Complete	273 pieces 71%	760 pieces 66%	109 pieces 50%
✓	✓	✓	✓	☐	☐	☐

Legend:

ABN	=	Airborne	CAV	=	Cavalry Division
ACR	=	Armored Cavalry Regiment	ID	=	Infantry Division
AD	=	Armor Division	MTN	=	Mountain Division
BCT	=	Brigade Combat Team	USAREUR	=	U.S. Army Europe

The TACOM LCMC Reset Program processed 8,252 pieces of equipment between 1 July 2004 and 1 November 2005.

Workers install the powerpack, which includes the engine, transmission, forward and rear modules, and accessory gear box, into the chassis of an M1 Abrams tank at Anniston Army Depot, Alabama.

and available resources. Reset actually encompasses one of the following as determined by a Reset assessment team in a screening process conducted in conjunction with the unit or, in the case of recapitalization, at the discretion of the program executive officer or program manager—

- Replace. Procure new equipment to replace battle losses and washouts from the repair process.
- Recapitalize. Restore equipment's useful life (in some cases to 0 miles or 0 hours) and remove damage and stress incurred during deployment.
- Reset (national level). Work is performed to correct equipment faults that are above the field level. It may be performed by a directorate of logistics, contractors, or the Army's industrial base.
- Reconstitution (field level). Reconstitution is work performed to correct equipment faults at the field level. It may be performed by Soldiers or augmented by contractors as required.

Who Makes Reset Happen?

Resetting units is not a one-time event. It is required for all redeploying units. Everyone in the TACOM LCMC—depots, arsenals, original equipment manufacturers, and suppliers—is fully engaged in the Army Reset effort. The Army's depot capability and efforts to partner with industry are critical to this undertaking. General Dynamics, United Defense, Oshkosh, Caterpillar, Stewart & Stevenson, and AM General all have Reset contracts in place.

The Army is attempting to fully exploit this window of opportunity presented by the requirement to Reset redeploying units. The TACOM LCMC is using the Reset requirement as an opportunity to enhance equipment configurations rather than returning them to their legacy designs. While a weapon system is undergoing Reset, the latest safety and technological enhancements are installed to improve warfighter survivability and provide a better-performing platform than was originally deployed.

How Does Reset Work?

To succeed in this difficult mission, the TACOM Integrated Logistics Support Center established the Reset and Modularity Integration Directorate to provide specific TACOM LCMC Reset and modularity program emphasis. The directorate's mission is to provide a "support level of effort to meet the Army requirement to return the force to fully ready status." It is structured to provide each redeploying Army division with a dedicated Reset manager whose mission is to facilitate the Reset of a redeployed unit's equipment within 180 days of its return to home station. The division Reset manager is complemented by a full-time Reset liaison officer on the ground with the division who provides on-site approval and guidance for the industrial Reset of TACOM LCMC equipment. The Reset liaison officer also assists with coordinating and monitoring the Reset of that equipment within the unit's guidelines.

The TACOM LCMC Reset Program is designed to reverse the effects of combat stress on equipment. The current time standard for Active and Reserve component Reset is 6 and 12 months, respectively. Through a focused effort, Reset processes are becoming considerably more efficient in terms of both time and resources.

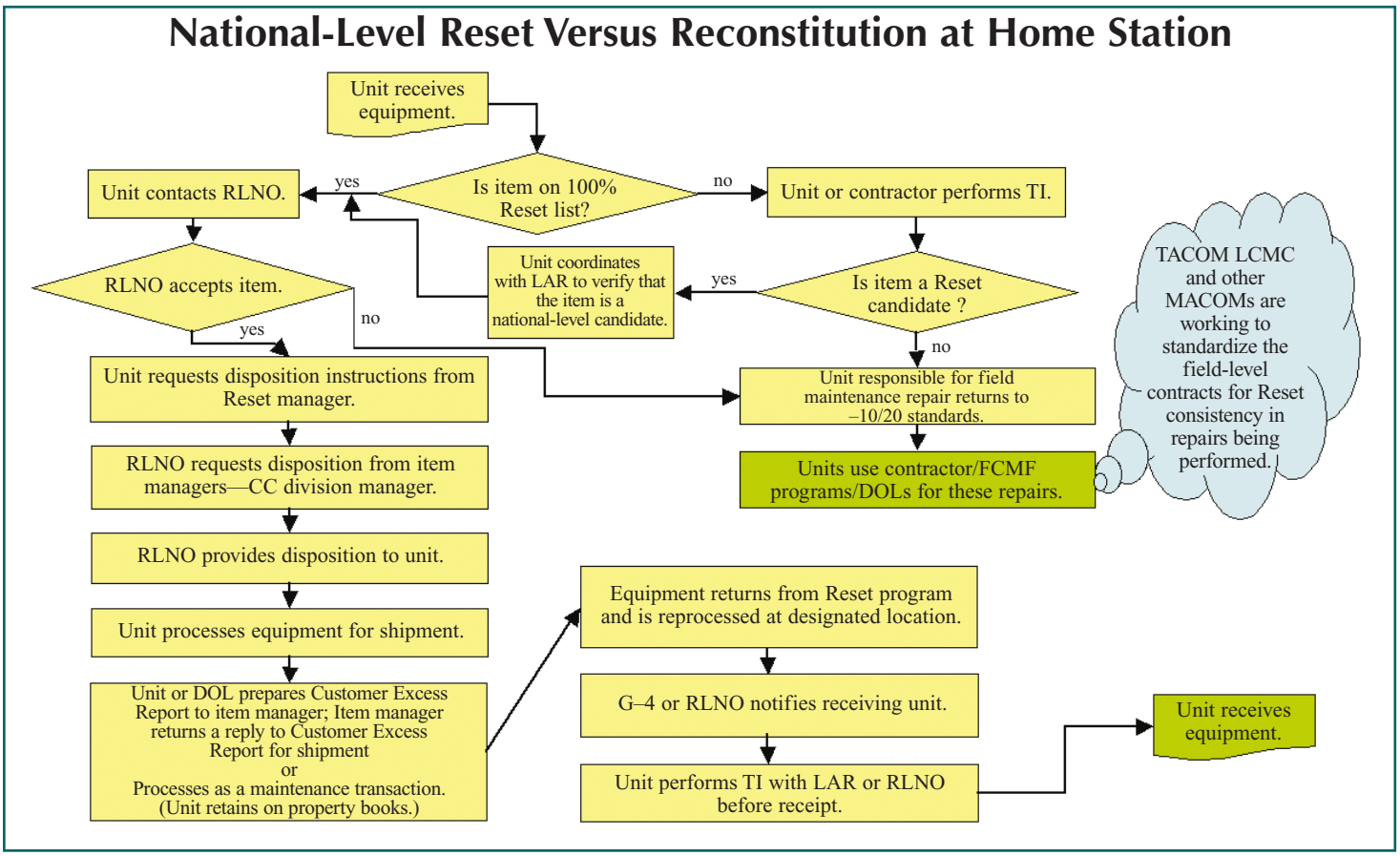
Reset Accomplishments

Over 8,200 TACOM LCMC-managed weapon systems and vehicles had to be Reset in 2005. As of 1 November, TACOM LCMC Reset Sustainment Base Program completions included 527 tracked vehicles, 1,547 wheeled vehicles, 476 pieces of construction materials-handling equipment, 212 Soldier support items, 91 towed howitzers, 558 pieces of chemical defense equipment and 4,841 small arms. TACOM LCMC also has put teams forward in the unit areas to provide technical assistance in everything from inspecting small arms to repairing howitzers as part of the units' local reconstitution efforts.

Lessons Learned

The Army is implementing lessons from Operations Enduring Freedom and Iraqi Freedom and operations in the Balkans to refine and improve its Reset efforts. Here are the top five lessons learned—

- A single, well-defined reconstitution standard is needed for each type of equipment. Such standards are already in place for national-level Reset.



Legend:

CC	=	Copy furnished	MACOM	=	Major Army command
DOL	=	Directorate of logistics	RLNO	=	Reset liaison officer
LAR	=	Logistics assistance representative	TACOM LCMC	=	Tank-automotive and Armaments Life Cycle Management Command
FORSCOM	=	Forces Command			
FCMF	=	FORSCOM contract maintenance facility	TI	=	Technical inspection

• Only through an appropriately funded Reset program can the Army extend the life of the operational fleet so that it is ready to support and sustain protracted conflict.

• It is critical that units identify equipment requiring national-level Reset before they redeploy to allow for direct shipment of the Reset assets to the industrial base.

• To permit direct shipment to Reset facilities, Reset assets must have separate unit line numbers and must not have secondary loads.

• Units must rapidly account for equipment and get it introduced into the local reconstitution program to meet their training and readiness timelines.

TACOM LCMC's logistics effort must continue to support combat operations in Southwest Asia, ensuring maximum logistics continuity in the conduct of combat operations while continuing Reset activities to complete responsive restoration of redeploying Army forces. Resetting the force reflects how TACOM LCMC helps prepare units for upcoming training and deployments, while positioning the Army to be more responsive to emerging threats and contingencies. All of the Reset lessons will apply to the Army force-generating model that the modular force structure will require. TACOM LCMC is fully committed to staying at the forefront of this effort. For more information, contact the TACOM LCMC Reset office at reset@tacom.army.mil. **ALOG**

Major General William M. (Mike) Lenaers is the Commander of the Army Tank-automotive and Armaments Life Cycle Management Command (TACOM LCMC). Previously, he was the Chief of Ordnance and the Commander of the 13th Corps Support Command at Fort Hood, Texas. He has an M.S. degree in oceanography from Oregon State University.

Major Brent D. Coryell is the Aide to the Commanding General of the TACOM LCMC. He has an M.S. degree in logistics management from Florida Institute of Technology and is a graduate of the Logistics Executive Development Course.

ILE: A New System for CGSC Students

BY COLONEL NEAL H. BRALLEY, USA (RET.)

ILE historian Dr. Ethan Rafuse (center, facing) explains aspects of the siege of Petersburg to students attending ILE at Fort Lee, Virginia. The weekly field visits, optional to students, enhance classroom instruction by allowing students to visualize troop actions on the ground. Classroom instruction challenges students to apply critical thinking skills to lessons learned from military history.

So, you've heard the term "ILE," or perhaps "CGSC–ILE." You may be asking yourself: Just what is "ILE"? and how does it apply to me? Is it something that I, as an Active component Army officer, will attend?

"ILE" is the Army's Intermediate-Level Education program, and it takes the place of what many of us have known as the Command and General Staff Officer's Course (CGSOC). This is a significant change in Army officer education, because it opens resident intermediate-level education to all Active component officers, regardless of branch. So, yes, ILE does apply to you, and, yes, you will attend it. Here is a brief description of what ILE is all about.

Command and General Staff College

The Army Command and General Staff College (CGSC) is an educational institution located at Fort Leavenworth, Kansas. It includes five subordinate schools: the Command and General Staff School, the School of Advanced Military Studies, the School for Command Preparation, the Army Management Staff College, and the Directorate of Non-Resident Studies (which administers the nonresident CGSOC).

In essence, CGSC's mission is to educate and train intermediate-level Army, international, and sister-service officers, and in some cases interagency leaders, and prepare them to operate as field-grade commanders and staff officers in full-spectrum Army, joint, interagency, and multinational environments. ILE provides both common core and functional area (FA) professional military education to all Army majors.

ILE Corrects a Problem

ILE is a result of the Army Training and Leader Development Panel (ATLDP) review conducted in 2001. Based on the findings of that study, the Army

concluded that it needed to change its intermediate-level education for officers.

For many years, the Army used a centralized selection-board process to choose about 50 percent of its Active component majors to attend CGSC at Fort Leavenworth or an equivalent sister-service staff college. The remaining 50 percent of Active component majors had to complete the CGSOC by correspondence or through an Army Reserve school that taught the CGSOC; if they did not do so, they became noncompetitive for promotion to lieutenant colonel.

Many officers perceived that they were in the lower half of their competitive cohort year group if they were not selected to attend CGSC in residence at Fort Leavenworth. Over time, the results of promotion selection boards and command selection boards tended to prove that those perceptions were correct. Completing the nonresident CGSOC did not guarantee an officer's nonselection for battalion command, but those officers did have a markedly lower selection rate. While most graduates of the nonresident CGSOC *were* promoted to lieutenant colonel, few of them received centrally selected battalion commands.

As a result of the ATLDP's findings, the Chief of Staff of the Army decided that all Active component majors would attend ILE, that they would attend ILE in residence, and that CGSC's permanent-party faculty at Fort Leavenworth would teach the ILE core curriculum.

This last statement requires a bit of explanation. What is meant by "ILE core curriculum"? What exactly constitutes ILE, and where is it taught?

ILE Curricula

ILE consists of two segments: a core course and an advanced FA qualification course. All majors, regardless of their branch or FA, study an identical core curriculum within ILE. When an officer graduates from the ILE core course, the Army awards him Military Education Level 4 and Joint Professional Military Education (JPME) Phase I credentials. [JPME is a two-phased system designed to qualify joint specialty officers. Phase I is taught as part of the curricula of the intermediate and senior service colleges in both resident and nonresident formats. Phase II is taught only in residence through the National Defense University.] Then, depending on his FA, the officer receives additional FA education, which, in effect, provides him with branch-qualifying educational credentials.

Operations Career Field ILE

All Operations Career Field (OPCF) majors attend ILE in residence at CGSC. OPCF officers are those who continue to serve in their basic branch and that branch is part of the Army Competitive Category (ACC). OPCF also includes officers in three FAs, regardless of their basic branch: Psychological Operations (FA 37), Civil Affairs (FA 38), and Multifunctional Logistics (FA 90).

The ACC excludes officers in the Chaplain Corps, Judge Advocate General's Corps, and all Army Medical Department branches (Medical Corps, Dental Corps, Army Nurse Corps, Medical Service Corps, Medical Specialist Corps, and Veterinary Corps). So, with a few exceptions, these officers do not attend the CGSC in residence at Fort Leavenworth. These exceptions generally are limited to Medical Corps officers who will serve as division surgeons or Medical Service Corps officers who also are FA 90 officers (such as those serving in the medical companies of brigade support battalions).

Other-Than-OPCF ILE

All "other than OPCF" majors attend ILE core instruction at what are known as "ILE course location sites" rather than at Fort Leavenworth. Course location sites currently exist at four places in the United States: Fort Belvoir, Virginia; Fort Lee, Virginia; Fort Gordon, Georgia; and the Navy Postgraduate School at Monterey, California. The Army selected these sites because they are located at or near large concentrations of other-than-OPCF officers who are serving or attending school.

Who are other-than-OPCF officers? They include officers in the—

- Medical Department (other than those having FA 90).
- Chaplain Corps.
- Judge Advocate General's Corps.
- Operations Support Career Field (OSCF), including Foreign Area Officers (FA 48) and the Army Acquisition Corps (FA 51).
- Information Operations Career Field (IOCF), including Information Systems Engineering (FA 24), Information Operations (FA 30), Strategic Intelligence (FA 34), Space Operations (FA 40), Public Affairs (FA 46), Information Systems Management (FA 53), and Simulations Operations (FA 57) officers.

Institutional Support Career Field (ISCF), including Human Resource Management (FA 43); Comptroller (FA 45); Academy Professor, U.S. Military Academy (FA 47); Operations Research and Systems Analysis (FA 49); Force Management (FA 50); Nuclear Research and Operations (FA 52); and Strategic Plans and Policy (FA 59) officers.

It is apparent that other-than-OPCF officers are less involved in the direct, operational combat actions of the Army on the battlefield. They are more likely to be involved in aspects of supporting the Army from within a theater of operations, from the strategic base in the Continental United States (CONUS), or from power-projection platforms between the theater and CONUS.

However, it is quite possible to find other-than-OPCF officers working within divisions, corps, Army component commands, various joint organizations within a theater of operations (such as a joint task force or joint force land component command), or on the staffs of any of the various combatant commands, such as the U.S. Central Command, U.S. European Command, U.S. Southern Command, U.S. Northern Command, U.S. Pacific Command, U.S. Joint Forces Command, U.S. Special Operations Command, or U.S. Transportation Command.

ILE Core and FA Curricula

How do the two curricula for OPCF and other-than-OPCF officers differ? What is taught? The ILE core courses taught at Fort Leavenworth and the course location sites are identical. All ILE core courses consist of instruction in four major instructional blocks: Foundations, Strategic Studies, Operational Studies, and Tactical Studies. Simultaneously, there are three parallel courses throughout the entire ILE core: History, Leadership, and Force Management.

Throughout the ILE core instruction, the Leadership Lecture Series (LLS) presents a series of speakers. These speakers come to the course location sites through a variety of media: some live and in person, some by videotape, and some by simultaneous streaming video from Fort Leavenworth. The LLS provides students an opportunity to hear the thoughts and ideas of senior military and civilian leaders as well as prominent members of the media and other segments of society.

At the end of the core instruction, the appropriately named End of Core Course Exercise (EOCCE) occurs. The EOCCE is a rapid-paced series of vignette-driven situations in which the student officers must work. The EOCCE uses all aspects of the core curriculum that the officers have received. It forces officers to use critical thinking and critical reasoning skills to analyze and select the best possible courses of action and then issue orders that provide the optimal course of action for their organizations to follow. One of the best features of the EOCCE is its rapid pace. It enables all students to participate in leadership roles, and the vignettes involve everyone; there are no instances of student "feast or famine" during this series of exercises.

ILE begins to differ, and rightly so, when students enter the advanced FA qualification courses that follow the core course. The advanced FA qualification courses are designed by the individual FA communities. Those organizations determine what education is needed to qualify their officers as field-grade officers. The FA courses range in length from 8 to 179 weeks.

Studying at a Course Location Site

Are officers at the course location sites receiving a second-class experience compared to officers attending ILE at Fort Leavenworth? Absolutely not! In fact, officers at the course location sites such as Fort Lee occupy completely remodeled classrooms. Course location sites are using classrooms of a quality that Fort Leavenworth will not have until the academic year beginning in the fall of 2007. The Smartboard and Sympodium projection systems, whiteboards, computers, monitors, desks, and chairs at the course location sites are all brand new. The faculty is, indeed, the same as that teaching at Fort Leavenworth, because the faculty comes to the course location sites on temporary duty (TDY) to teach the course.

Student officers at the course location sites also generally are there in a TDY status. Both students and faculty at the course location sites usually are separated from their families, which can pose some inconvenience and hardship. However, this situation does offer some compensatory advantages: It provides an opportunity for more focused and reflective study; and officers usually do not have to move their families, so their children remain at home and in their schools.

Students attending ILE in a TDY status at Fort Lee participate in the Military Training Service Support (MTSS) program. MTSS pays for lodging, meals, and in-and-around mileage in lieu of per diem. Lodging accommodations are free to the student, either on post or at local commercial hotels in the neighboring community. Breakfast, lunch, and dinner are provided free to the student at Fort Lee, either at the Army Logistics Management College cafeteria or the Lee Club. These meals are filling and well prepared. Students are reimbursed for in-and-around travel at rates determined by whether they live on or off post.

The Army's Intermediate-Level Education program is now a fairer and more equitable educational experience than previously. It provides the Army and the joint community with better educated officers who are prepared to deal with the uncertainties they are sure to encounter as they continue to serve in the operating environment of today and tomorrow. **ALOG**

Colonel Neal H. Bralley, USA (Ret.), is an Intermediate-Level Education (ILE) Team Leader with the Army Command and General Staff College (CGSC) at Fort Leavenworth, Kansas. He has been a member of the CGSC faculty for 5 years and led the ILE teaching team for the second Fort Lee, Virginia, course iteration from August to December 2005. A graduate of the Army Command and General Staff College and the Naval War College, he served in various command and staff positions in the continental United States, Korea, Germany, and Saudi Arabia.

A Modular Medical Logistics Force

BY LIEUTENANT COLONEL MITCHELL E. BREW AND CAPTAIN JASON M. FAIRBANKS

Forward distribution teams help mitigate some of the supply distribution problems experienced during early Operation Iraqi Freedom rotations.

The officer in charge of a forward distribution team (FDT) carries medical materiel to a waiting aircraft at Al Asad Air Base in Iraq.

A modular force is a key aspect of the Army Chief of Staff's vision and Strategic Planning Guidance for transforming the Army. The modular force model is based on brigade-sized elements that are more responsive than division-sized elements and can perform joint and expeditionary-type missions. Using modular units, Army planners can tailor force structure, reduce strategic lift requirements, and create flexible forces with specialized capabilities based on ever-changing mission requirements.

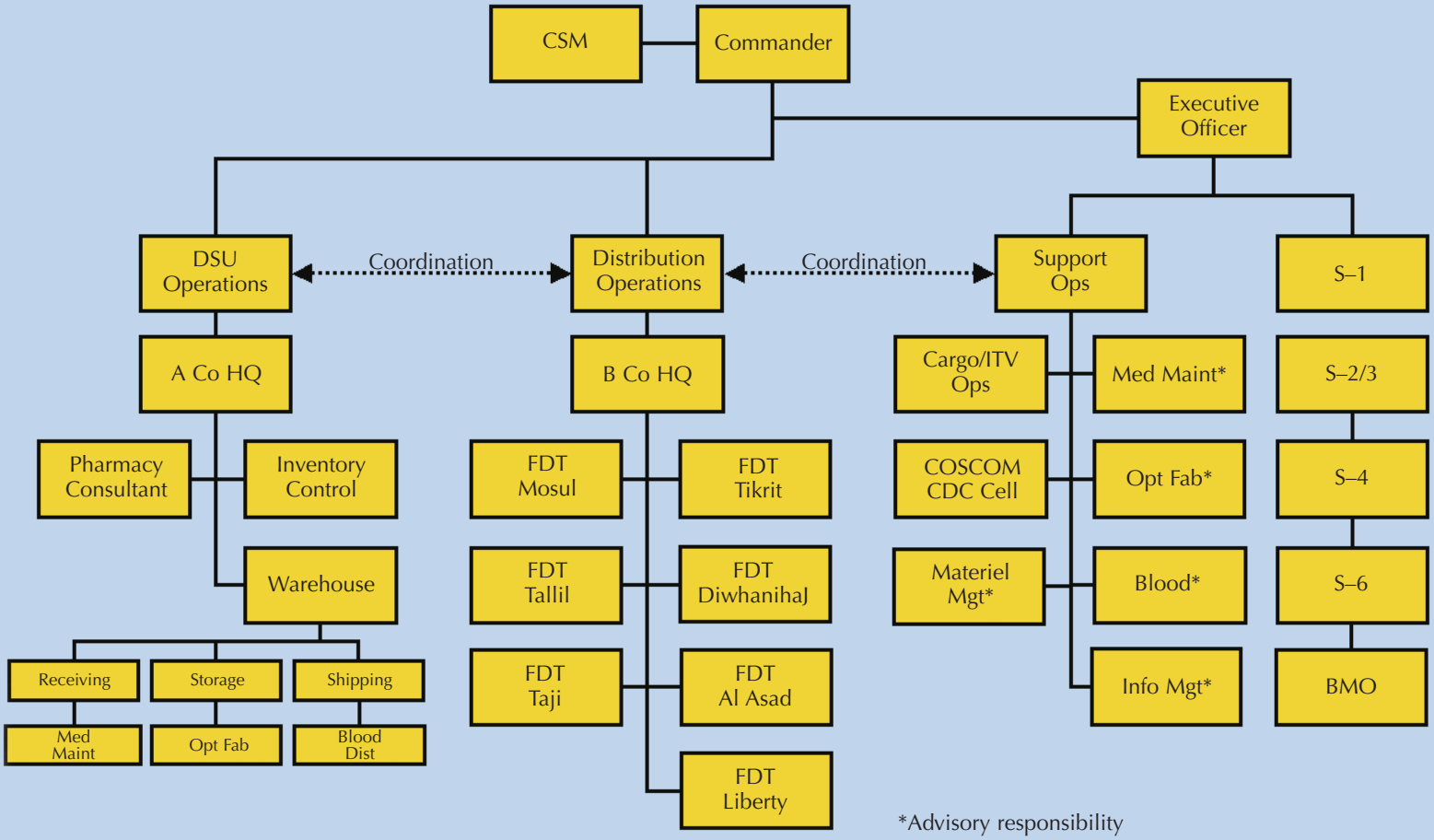
Throughout Operation Iraqi Freedom (OIF), medical logisticians have made significant progress toward meeting the Chief of Staff's vision for a modular force. During the past two rotations, medical logistics units, through the concept of modular forward distribution teams, have addressed several major problems that occurred in OIF I.

OIF I Logistics Shortfalls

In OIF I, medical logistics units supported their customers largely through doctrinal supply point distribution, in which customers picked up supplies from their designated source of supply. Medical logisticians quickly realized that this system did not meet customer requirements or expectations adequately. Extended lines of communication and enemy threats created unique problems for supply point distribution. Medical logisticians also did not communicate medical distribution requirements adequately to the distribution process owners. Therefore, the overall system was not responsive to customers' needs.

Medical logisticians realized that some of these problems occurred because Army medical logistics systems operators were not skilled in using those systems, even when electronic communication systems were available. Likewise, many medical logistics Soldiers and leaders were not adequately trained for their mission. This training shortfall occurred primarily because garrison medical logistics supply operations, which are supported by medical prime vendors and door-to-door commercial transportation, are significantly different from deployment operations, which are characterized by extended lines of communication. Also, medical

32d Medical Logistics Battalion
Modified Task Organization for OIF 04–06



Legend:					
BMO	=	Battalion maintenance officer	HQ	=	Headquarters
CDC	=	Corps distribution command	Info	=	Information
Co	=	Company	ITV	=	In-transit visibility
COSCOM	=	Corps support command	Maint	=	Maintenance
CSM	=	Command sergeant major	Med	=	Medical
Dist	=	Distribution	Mgt	=	Management
DSU	=	Direct support unit	Ops	=	Operations
Fab	=	Fabrication	Opt	=	Optical
FDT	=	Forward distribution team			

materiel requirements during peacetime are relatively low when compared to wartime requirements.

In short, many medical units and customers in OIF I were frustrated with the medical logistics system because it lacked responsive distribution, adequate automation support, and adequate Soldier and leader training to meet their needs and expectations.

Forward Distribution Teams

In OIF II, the 226th Medical Logistics Battalion (Forward) from Miesau, Germany, quickly addressed these problems by using a nondoctrinal modular concept of forward distribution teams (FDTs) to move materiel throughout Iraq using 13th Corps Support Command (COSCOM) trucks. The 226th's FDTs were stand-alone entities that had all of the organizational equipment needed to operate outside of the battalion's area of operations. They were small, four-Soldier operations that could deploy rapidly across the battlefield.

'New and Improved' FDTs

In OIF 04–06, the goal of the 32d Medical Logistics Battalion (Forward), XVIII Airborne Corps, from Fort Bragg, North Carolina, was to improve the FDT concept and processes that were implemented by the 226th. (The Army adopted a new rotation-numbering system after OIF I and II.) To medical logisticians and maintainers, value is more than a box or a part; value also lies in personal service to the customer. With this in mind, the battalion divided its two-platoon distribution company into seven modular FDTs. These teams were paired with the 1st COSCOM distribution management teams and tasked to sustain geographic areas of responsibility in conjunction with the corps support group's area of

FDT members process medical supplies at Camp Liberty, Iraq (left). Above, a Soldier repairs a dental compressor.

responsibility. Predeployment training conducted at Fort Bragg focused on the tasks the modular teams would perform independently to support customers.

The size and makeup of the teams were tailored to the number and type of supported units. Typical FDTs consisted of a noncommissioned officer in charge (NCOIC), two medical logistics technicians, and a medical maintenance technician. These four-Soldier teams supported 60 units (approximately 15,000 Soldiers). To meet mission requirements, the FDTs that supported level III healthcare facilities (those staffed to perform resuscitative, surgical, and postoperative care), large troop concentrations, and multiple outlying forward operating bases were augmented with additional medical logistics specialists with military occupational specialty (MOS) 91J and medical equipment repairers with MOS 91A.

A lieutenant and two FDTs supported the Multinational Division (MND) North Central and Multinational Force (MNF) Northwest. Another lieutenant and two FDTs supported the MND Baghdad and the Multinational Security Transition Command-Iraq. A third lieutenant and two FDTs supported the MND Southeast and MND Central South. These lieutenants planned and directed all medical logistics operations and provided situational awareness to the distribution company commander and the battalion support operations officer. They participated in corps support group operations meetings and hospital and medical coordination meetings, conducted mission analyses, and anticipated and fixed distribution and maintenance problems encountered in their areas of responsibility. The seventh FDT supported the MNF West in partnership with the Navy Medical Logistics Detachment.

Direct Shipments

To address continuing problems with supply point distribution, the 32d Medical Logistics Battalion used a direct distribution process. The battalion coordinated with supply sources in Qatar and Germany to have materiel flown directly to strategic air hubs and FDT locations. The FDTs made sure that materiel was received and secured, requisitions were closed out, and materiel was prepared for customer pickup or onward movement by ground. Having the FDTs available to receive and process materiel forward reduced the 10- to 15-day shipping time to 3 to 6 days. In 1 month, the use of direct shipments removed approximately 41 truckloads of cargo and at least 82 Soldiers from the dangerous roads of Iraq.

Support Operations Section

The need soon became apparent for a modular element that could be plugged into the corps' distribution process to coordinate FDT operations and synchronize the movement of medical materiel with other classes of supply. The 32d Medical Logistics Battalion reorganized its headquarters detachment to create a modular plug that was dubbed the support operations (SPO) section. The functional layout of the reorganized battalion headquarters shown on page 9 includes the mission-dictated SPO section and FDTs. Note the coordinated communication between the FDTs and the SPO, distribution operations, and direct support unit (DSU) operations sections.

The SPO section is staffed by a major with area of concentration (AOC) 70K, medical logistician; a first lieutenant with AOC 70B, health services administrative assistant; a sergeant first class with MOS 25U, signal support systems specialist; a sergeant first class and a staff sergeant with MOS 91J, medical logistics specialist; and a sergeant with MOS 92Y, unit supply specialist. The SPO section operates out of 1st COSCOM's Corps Distribution Command and represents medical logistics on a joint distribution board that synchronizes, prioritizes, and solves movement issues across Iraq. Including a SPO section in the headquarters is not a new concept; it is a part of the

design of the future multifunctional medical battalion. However, because it was embedded in 1st COSCOM's Corps Distribution Command and employed in wartime without a programmed force structure or fielding, the SPO section was unique.

Locating the SPO section in 1st COSCOM's Corps Distribution Command and the FDTs in the corps support groups makes it possible to provide coordinated customer assistance and timely distribution of medical logistics. Together, these units maintain tactical visibility of main supply routes, attend meetings of the joint movements board, exchange information with commodity command and COSCOM customer liaison officers, coordinate ground and air movements, expedite critical movements for mass casualty events and other urgent medical needs, and monitor materiel in the truck lanes at the joint distribution center. The SPO section facilitates resolution of issues raised by customers and the FDTs and coordinates support to upcoming operations.

Automation Support

The FDTs facilitate medical materiel movement and area medical maintenance support. The teams provide the critical link among COSCOM materiel movers and the corps support groups, distribution operations, and customers. To do this, the team members have become knowledgeable of the systems used by customers, such as the Combat Automated Support Server-Medical (CASS–M), Theater Army Medical Management Information System (TAMMIS), and TAMMIS Customer Assistance Module (TCAM). They also are familiar with the logistics distribution process and have an understanding of customer requirements so that they can best support them. FDTs have proven effective in troubleshooting problems on site with automation, materiel movement, and forward medical maintenance support.

The FDT NCOIC oversees training and assists customers in the use of logistics automation, such as TAMMIS and TCAM, and works to resolve medical logistics problems. FDT Soldiers also help customers with technological challenges such as firewalls and problems encountered when using Very Small Aperture Terminals (VSATs) and navigating Internet Protocol, or IP, addresses. They also assist with maintaining in-transit visibility and using the Defense Automatic Addressing System Center Inquiry system to track inbound class VIII shipments and validate input of customer information into the DSU's warehouse. The Soldiers on the FDTs also provide customers technical guidance on installing logistics system components, setting up customer files, sending orders electronically, receiving status reports, processing receipts, reconciling orders, locating product substitutions, researching products, updating catalogs, processing excess supplies, and issuing and turning in materiel.

Medical maintenance technicians are critical members of the modular team. They provide medical maintenance expertise to customers in the FDT's area of responsibility, assist with the use of the Unit Level Logistics System-Medical (ULLS–M), and repair forward medical equipment. They also coordinate with DSU operations to obtain operational readiness float equipment and facilitate the retrograde of equipment and components for repair. Their forward presence and their ability to assist with repair of critical equipment, such as the computerized tomography (CT) scanners and medical oxygen generators, in remote areas of Iraq are a true success story.

Within 30 days of implementation of the modular FDT initiative, the forward maintenance technicians repaired more than 145 items of equipment and provided on-site assistance to 62 customers. The FDTs were able to repair equipment on site rather than evacuate it to another location, which saved a significant amount of time.

The 32d Medical Logistics Battalion found that a modular medical logistics force could provide more coordinated support and enhanced customer service. The tailored structure of the FDTs not only enabled operational flexibility but also matched available medical logistics capabilities with the customers' automation, materiel, and maintenance requirements to provide fast and accurate service and support. **ALOG**

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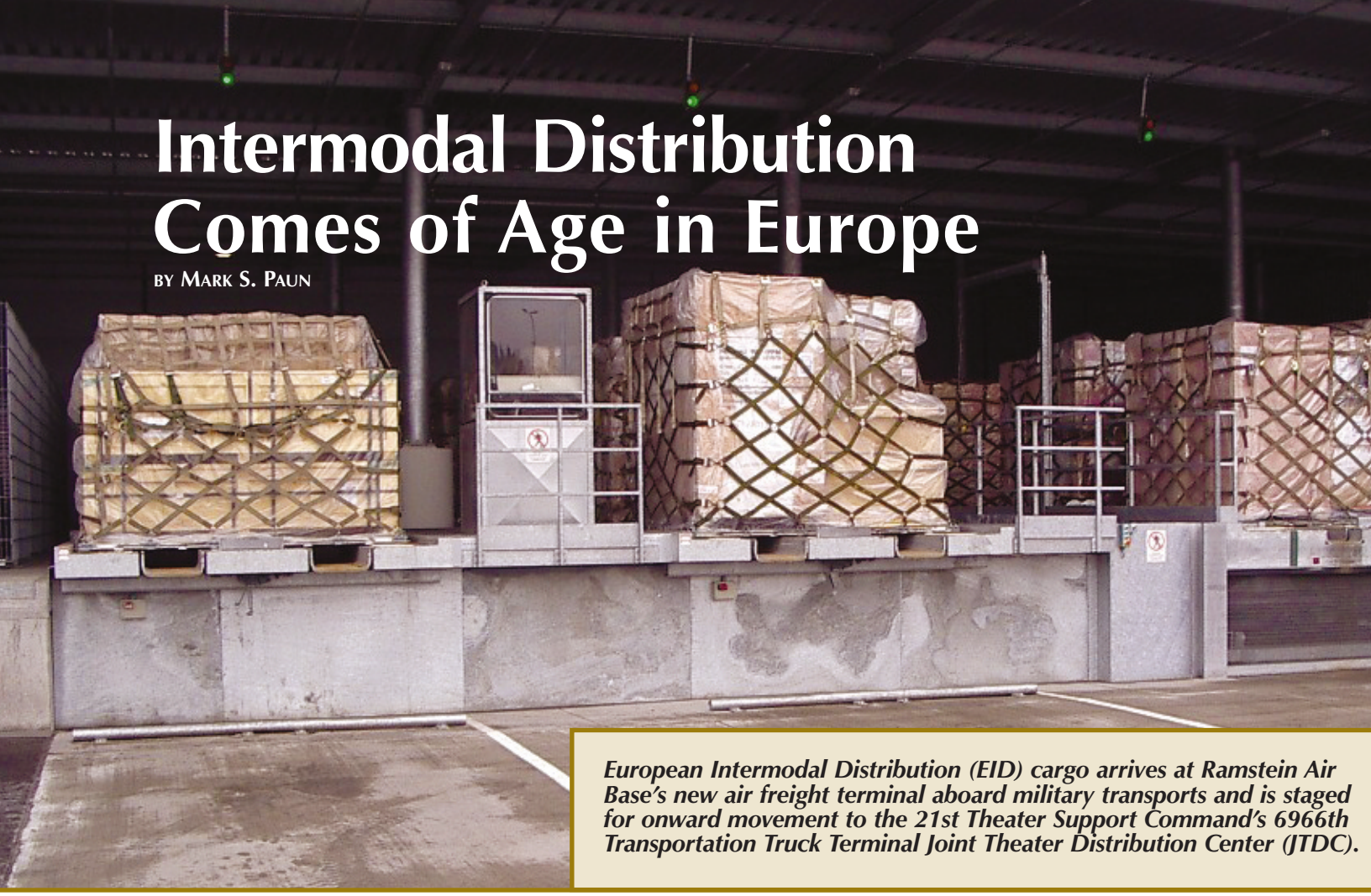
Intermodal Distribution Comes of Age in Europe

BY MARK S. PAUN



European Intermodal Distribution (EID) cargo arrives at Ramstein Air Base's new air freight terminal aboard military transports and is staged for onward movement to the 21st Theater Support Command's 6966th Transportation Truck Terminal Joint Theater Distribution Center (JTDC).

Although several initiatives in the Department of Defense (DOD) are improving end-to-end supply chain distribution to support the warfighter, none has been more successful recently than European Intermodal Distribution (EID), which was adopted by the U.S. European Command (EUCOM) in March 2004.

EUCOM teamed up with each of its service components, such as U.S. Army Europe, and the U.S. Transportation Command (TRANSCOM) to establish the first intermodal distribution system to support forces stationed in EUCOM's area of responsibility (AOR) and EUCOM forces forward-deployed to support the Global War on Terrorism in Iraq and Afghanistan. "Intermodal" refers to the transfer of cargo from one mode of transportation to another (for example, from a ship to a truck).

Under EID, the joint logistics community has taken advantage of ways to optimize intermodal operations between military lift and military and commercial trucks. The results have been increased distribution effectiveness and efficiency, reduced delivery times, and decreased operating costs.

The EID concept of support is the product of several EUCOM Distribution Conferences. The conferences are held quarterly at locations throughout Europe and are sponsored by each of EUCOM's service components. All representatives of DOD agencies, commands, and service components attending these conferences have agreed that the EID concept, developed by action officers from three commands in EUCOM, should at least be given a chance.

Implementing EID was no easy undertaking. Skeptics questioned if it would actually work and if it would benefit the overall distribution pipeline. In the beginning, several service component objections and service-unique requirements had to be satisfied, but persistence achieved success. On 4 March 2004, an agreement to conduct a proof of concept was executed.

The action officers responsible for getting the EID concept off the ground and running successfully were a Canadian logistics officer, Major Pat Paquin, assigned to the EUCOM J–4; a Department of the Army civilian employee, Mike Mamer of the 21st Theater Support Command (TSC); and an Air Force senior noncommissioned officer, Senior Master Sergeant John McAllister of the 723d Air Mobility Squadron.

Why EID?

More than 4 years ago, Mamer concluded that the theater's air cargo clearance process and onward movement of Air Force 463L pallets at Ramstein Air Base, Germany, were slow and unresponsive to customers' demands. The reason was that each service component maintained its individual operations. While intermodal transportation did exist, a joint effort to optimize and maximize the capabilities of intermodal transportation to deliver cargo to customers did not. At the same time, critical Air Force intratheater airlift assets (C–130 transports) were in high demand to support the Global War on Terrorism. Because no relief was in sight, Mamer recommended that the Air Force's 723d Air Mobility Squadron, located at Ramstein, authorize the 21st TSC to clear and distribute air pallets by surface transportation after they arrived at the air base. His recommendation was rejected.

Approximately 2 years later—as TRANSCOM was becoming the DOD Distribution Process Owner, with the goal of improving the overall efficiency and interoperability of distribution-related activities (deployment, sustainment, and redeployment support during peace and war)—decisionmakers attending a EUCOM Distribution Conference decided it was time to do an EID proof of concept. After only 3 months of testing, EID was given the green light by all DOD service components and commands to fully execute. The rest is history.

Above, EID cargo is consolidated at the JTDC and staged for movement to its final destination.

Below, EID cargo is loaded onto a 6966th Transportation Truck Terminal truck for onward movement from Ramstein Air Base to the JTDC at Kaiserslautern.

How Does EID Work?

EID is, in the simplest of terms, the shuttling of military air cargo arriving at Ramstein Air Base, for any destination that can be reached by surface transportation, to the Joint Theater Distribution Center (JTDC) located 20 minutes away at Panzer Kaserne in Kaiserslautern. The cargo is reconciled and processed through the JTDC in time to arrive at its destination the following workday during normal hours of operation.

Before March 2004, military cargo airlifted to Ramstein Air Base was shipped to the customer from one of two major hubs after arrival. Either cargo was trucked straight to the customer from Ramstein itself, or it was forwarded to the JTDC and then trucked to the customer. As a result, cargo often was delivered to the same destination on two trucks, even if the cargo arrived on the same plane, with one truck arriving at the customer from Ramstein and the other arriving from the JTDC.

Loads were not consolidated, inefficiencies abounded, and the costs of intermodal transportation and distribution-hub operations were unchecked. At times, even high-priority cargo awaited transportation and in-transit visibility was lost. The EID system was implemented to alleviate these problems.

This entire process has been changed. Now, cargo is being consolidated at the JTDC, where in-transit visibility now is perpetuated throughout the entire distribution network. Cargo movement does not depend on priorities: It is all moved once it arrives at Ramstein. Customers can plan their daily workloads and train better because they can count on their cargo being delivered at the same time every day that they operate. Joint cooperation can benefit all aspects of supply chain management. A dramatic reduction in the number of routes used to deliver cargo has meant a reduction in the assets needed to deliver that cargo. Transportation and hub-operation costs have been reduced, and cost savings have been passed on to all service components in Europe.

Every air cargo pallet that arrives at Ramstein, destined for a customer in EUCOM's AOR that can be reached by military or commercial truck, goes directly from the airplane arriving at the air base onto a 37th Transportation Command trailer, is shuttled to the JTDC, and is delivered by truck to the customer by 0900 the next workday. Some cargo is not delivered the next day for various reasons. Either the customer is closed for inventory, training, or some other purpose, or the customer is located outside the regulatory 24-hour delivery timeframe. (Such locations include Mildenhall, England; Aviano, Italy; and Camp Bondsteel, Kosovo).

In the first year of operation, approximately $8 million was saved by operating under the EID concept. The process has been so effective that Air Force cargo arriving at Ramstein now is delivered to customers in less than 24 hours, compared to the previous 5 to 7 days. Port-hold time also has been reduced dramatically, from 5 days to ½ day.

Because of its successes, the EID concept has been expanded to Sigonella, Italy. Other sites also are being considered. The EID concept works on a temporary basis as well. Last year, when Ramstein Air Base was closed for runway repairs, the EID concept was moved from Ramstein to Mildenhall Air Base without any interruption of service to customers. This successful adaptation demonstrates that the EID concept can be set up at any aerial port of debarkation in the world. DOD now can logistically support on a global and joint basis. Combatant commands now not only are fighting the war but also are being supported by other combatant commands. The EID brings DOD one step closer to building an efficient and effective logistics distribution network that gets the warfighters exactly what they need, on time, in the right quantities, and configured to best meet their lift, reception, and onward movement capabilities. **ALOG**

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A commercial trailer is loaded with EID cargo at the 6966th Transportation Truck Terminal in Kaiserslautern for movement to its final destination.

Joint Force Logistics:
Keeping Track of Forces on the Move

BY LIEUTENANT COLONEL JAMES C. BATES, USA (RET.)

The more logisticians know about pinpointing the locations of deployed forces, tracking the supplies en route to them, and monitoring relevant logistics information, the better they can provide support to those forces.

"Location, location, location!" This phrase, frequently the mantra of realtors, also resonates among logisticians, who need to know the locations of airports, seaports, transportation hubs, container consolidation points, container-holding areas, container-receiving and shipment points, containers, 463L pallets, multipacks, supplies, equipment, and units. Perhaps more important, they need to know how to find logistics *information* about all of these.

As this article will show, we still have a long way to go in order to track accurately the locations of items in shipment. However, in a follow-up article in the March–April issue of *Army Logistician*, I will discuss how far we have already come in our ability to locate items that are in the military supply pipeline.

Location Identification

Identifying locations sounds simple; however, identifying the locations of our military forces is not. That is because of their expeditionary nature, which means that their locations are always changing. A 200-man unit might be at Fort Bragg, North Carolina, one week; Ramstein, Germany, the next; and Bagram, Afghanistan, the following week. The ports supporting this unit would change as it moved and so would the transshipment areas of supplies destined for it. Similarly, the locations of some of the computers and servers used to track logistics information related to those supplies also would change. The same applies to ships at sea and Air Force units at temporary bed-down sites.

In the United States, we usually identify locations by street address, city, state, and ZIP code. However, there are no such addresses associated with units in the deserts of Afghanistan, the jungles of the Philippines, or the frozen tundra of Siberia, where the streets—if there are any—have no names. Worldwide, we identify the locations of the computers and servers that track supply and transportation information by phone numbers and Internet Protocol (IP) addresses. Consequently, the better we understand the complexities of identifying the locations of transient forces, the equipment and supplies destined for them, and

A flatbed truck carrying a pallet of cargo moves up to a civilian cargo plane at Karshi-Khanabad Air Base, Uzbekistan.

related logistics information, the better we will be able to support our deployed forces.

Location Coding

Besides street addresses, there are many types of addresses; some identify physical locations and others identify virtual addresses. They include U.S. Postal Service post office box locations, supplementary addresses, billing addresses, in-the-clear addresses, Army post office and fleet post office addresses, email addresses, mark-for addresses, IP addresses, and type address codes.

Many military addresses are in code for ease of processing by Defense Transportation Regulation (DTR) software, electronic data interchange formats, and logistics management information systems such as the Global Transportation Network (GTN) and the Joint Operations Planning and Execution System (JOPES). For instance, JOPES uses a coding convention known as GEOLOC (an acronym for "geographic location") to represent locations. (See "JOPES and Joint Force Deployments" in the May–June 2004 issue of *Army Logistician.)*

GEOLOC codes are four-character, alphabetic designations that represent specific places in the world, including airports, seaports, and military installations. About 55,000 different GEOLOC codes (maintained by the Defense Information Systems Agency) are stored in the JOPES database. Along with the GEOLOC codes, the JOPES database displays a truncated (less than 20 characters) data element called the "GEO name," which is the abbreviated name for the GEOLOC.

In contrast, the DTR (Department of Defense [DOD] Regulation 4500.9–R) uses airport codes (also called aerial port of embarkation codes and aerial port of debarkation codes) to identify locations. These three-character, alphabetic codes are used within DOD transportation documents to portray the name and city or military base of air terminals worldwide. For instance, the airport code for Naval Air Station Jacksonville, Florida, is NIP. The airport code for Robert Gray Army Airfield at Fort Hood, Texas, is GRK. The GEOLOCs of these two locations are LSGE and UHGN, respectively. You will notice that the two coding methods are incompatible. Some DOD databases use the airport code, while others use the GEOLOC. Although the U.S. Transportation Command (TRANSCOM) has software programs that can convert the two, doing so requires manual intervention.

Besides airport codes, the DTR also uses water port identification codes. As is often the case, the difference in the construct of the data elements results from the use of legacy, stovepiped logistics management information systems.

Not surprisingly, the commercial transportation sector also uses multiple methods of coding locations. This directly affects DOD since most military cargo is carried by commercial transporters. International Civil Aviation Organization (ICAO) codes are four-character alphabetic airport identifier codes that identify individual airports worldwide. They are used in flight plans to indicate departure, destination, and alternate airfields. There are about 2,815 ICAO codes. The first two letters of the ICAO code usually identify the country. In the continental United States (CONUS), however, ICAO codes normally consist of a "K" followed by an airport's three-letter International Air Transport Association (IATA) code. At least 10,000 airports around the world use IATA codes, although the majority of these airports are simply dirt strips or fields with no international traffic.

While some codes identify air and water shipments, others identify ground shipments. Standard point location codes (SPLCs) are used by the National Motor Freight Association to provide each point originating freight and each point receiving freight in North America with a unique code number that identifies the point with its geographic location. An SPLC includes two digits that denote state, county, and city and an additional seven digits that identify areas within the cities and counties more specifically. "Point" refers to a particular city, town, village, community, railroad station, or other named area.

Joint logisticians not only need to be familiar with the location codes used by DTR software, JOPES, and GTN but also to understand commercial codes since the private sector moves over 85 percent of all DOD cargo. Because DOD and the commercial sector do not use standardized methods to indicate locations, identifying delivery points is much more difficult than it first appears.

The use of diverse location codes leads to logistics management systems that are not interoperable. Nonstandard, location-related data elements lead to nonstandard databases that, in turn, lead to flawed and unreliable information systems. This is one of the reasons that total asset visibility is inadequate and overarching information systems such as JOPES, Joint Total Asset Visibility, and GTN are incompatible at times. It is no wonder that it is so challenging for contractors, service members, Government civilians, and vendors to obtain correct location information.

Physical and Virtual Ordering and Shipping

Tracking the location of supplies and the information about them is complicated because military units move frequently, equipment and supplies destined for deployed units are carried by both commercial and military transportation systems, and various methods

are used to identify locations. In the civilian sector, the person ordering an item is usually the only one interested in tracking the progress of its delivery, and he is the sole contact for decisions affecting price and delivery terms. In DOD, on the other hand, many players may be interested in maintaining situational awareness of an item from the time it is ordered until it is delivered. Also, people other than the person ordering the item are tasked with selecting the supplier, the transporter, and the delivery route.

For example, look at the physical and virtual locations associated with ordering a repair part for a high-mobility, multipurpose, wheeled vehicle (humvee). The primary operator of the humvee is probably the first person to notice if a headlamp is out. He informs the repair parts (class IX) ordering clerk in his unit. If the part is not stocked at the unit (as indicated by information in the Unit Level Logistics System computer), the clerk informs his counterpart at the supply support activity (SSA), which is the class IX direct support unit (DSU), of the need for a headlamp. If the part is not stocked at the DSU, the SSA class IX clerk enters a requisition into the automated parts-ordering system. At this point, the vehicle operator, the unit repair parts ordering clerk, and the SSA repair parts ordering clerk do not know which supplier will be filling the order, which transporter will be used, or which delivery route will be taken.

The requisition is transmitted by a service-related automated system, such as the Army's Standard Army Retail Supply System or the Marine Corps' Supported Activity Supply System, to the Defense Logistics Agency's (DLA's) Defense Automatic Addressing System Center (DAASC) and then to the appropriate inventory control point. Subsequently, it is routed to the DOD controlled-storage depot that stores the headlamp. As a general rule, the entire order is automated. If the part is not available at a DOD storage site, the order for the headlamp is sent to the commercial vendor under contract to provide it.

This repair parts ordering process is accomplished virtually by moving electrons through automated logistics management information systems. Information about the status of the delivery of the part also involves electrons, but the physical delivery of the part depends on transportation. If the unit is deployed overseas, moving both the information-related electrons and the actual repair part becomes much more complex.

Civilian Versus Military Delivery

Why is it so much harder to track the delivery status of an item ordered through DOD systems than it is to track an item ordered through commercial systems? One of the major reasons is the greater number of locations, both physical and virtual, that are involved with military orders. Let's compare the military parts ordering process with the process used for a simple civilian order.

Civilian delivery. When a headlamp burns out on a civilian car, the owner visits his local auto parts store either to purchase the part if it is available or to request that the store order the part for him. The owner can choose to order the part himself from a manufacturer or from a mail-order parts distributor using the Internet. If the Internet is used, the owner, as the requester and decisionmaker, is aware of all pertinent supply and transportation information. He knows the purchase price, the name and addresses (email and street) of the vendor, the date he ordered the part, the nomenclature and related part number, the cost of shipping, the estimated delivery date, and the delivery street address. He also knows the vendor order number, which will help him track the delivery of the item. During the ordering process, the owner knows if there is a minimum order quantity; if so, he may have to purchase two headlamps instead of one. He also is alerted if the part he wants is no longer available and if a similar part can be substituted. As a general rule, only the car owner (the requester), the vendor, and the vendor's shipper have an interest in this order.

Military delivery. In the military, many people other than the requester are interested in the ordering, delivery, and receipt of a repair part, and they (or those who work for them) will visit the virtual storage locations of appropriate logistics information to find answers to their questions. First, the humvee driver wants to know when his headlamp will arrive so that he can drive at night again. The repair parts clerk wants to know so that he can close out the order. The unit maintenance officer wants to know because he hopes to use this type of information to improve readiness. The unit commander wants to know about the status of the part so that he can brief his battalion S–4 and commander on the status of his unit's equipment readiness. (He also wants the headlamp so that he can use his vehicle at night.)

The battalion commander and S–4 want to keep abreast of when the part will arrive and when it will be installed; so do the DSU repair parts-ordering clerk, the DSU support operations officer, DAASC, the division materiel management center, the corps materiel management center, and the Army Materiel Command's Logistics Support Activity. The final three organizations review aggregate parts-on-order data to uncover trends affecting entire fleet readiness.

If the repair part is needed to restore a pacing item, such as an M1A2 Abrams tank or a CH-47 Chinook helicopter, to fully mission-capable status, commanders at many levels will be interested in knowing the current location of the part, when it will be arriving at

the unit, and when a mechanic will install it. (A pacing item is a major weapon system, such as a tank or an aircraft, that is central to an organization's ability to perform its assigned mission.)

Unlike the civilian driver, the humvee driver is not aware of much of the logistics information that others need to know in order to track the status of the headlamp delivery. He and the unit repair parts requester know the nomenclature, part number, and ordering date, but they do not know the DSU requisition number, who will supply the part, who will deliver the part, the estimated delivery date, or if there are any associated delivery costs or special requirements, such as minimum order quantities, potential substitutions, or additional transportation costs. Not readily knowing this type of information or the virtual location of this information makes it difficult for logisticians to track the location of the repair part via logistics management information systems.

Tracking movement information about the repair part and the physical movement of the part itself involves many more virtual and physical locations in the military sector than in the civilian sector. Military supply personnel track supply information by the document number (derived from a unit's DOD activity address code [DODAAC], the Julian date the item was ordered, and the item's serial number). Military transportation personnel track supply movement information using the transportation control number (TCN) and Government bill of lading. Supply personnel think in terms of national stock numbers and nomenclatures, while transporters think in terms of trucks, containers, ships, aircraft, and pallets.

Military financial personnel track costs and payments by account processing codes, fiscal station numbers, and DODAACs. Unless accurate and thorough financial information is included in the documentation, the item will not be moved. Neither the commercial sector nor TRANSCOM moves cargo for free.

Impact of Size on Supply

The size and location of supply items significantly affect the process used to transport them. Suppose that a CONUS-based logistician, Sergeant Makit Happen, is tasked to ensure delivery of two critical repair parts to her unit, which recently departed for Iraq. One of the items is a 1-pound flywheel available only from a commercial vendor. The other is a 300-pound engine that is located at her installation's SSA. Both items are needed immediately by the deploying unit for a newly fielded vehicle.

A few days before its departure, Sergeant Happen's unit had used standard requisitioning procedures to order both items. Among the many data elements captured in the supply request was the unit's DODAAC. (Most units assigned a unit identification code have a DODAAC. Some units, such as DSUs, have more than one.) Within DOD, the DODACC is used to identify a unit's location. Actually, for each DODAAC, there are three different addresses, known as type address codes (TACs). TAC 1 identifies the mailing address for letters and small packages. TAC 2 identifies the "ship to" address, which is also known as the freight or supplementary address. It can be the location of the container consolidation point (CCP), container receiving and shipment point, or SSA. Large packages (usually over 60 pounds) are sent to the TAC 2 address. TAC 3 identifies the billing address.

The DOD supply, transportation, and financial communities use TAC addresses in their automated processes when items are ordered using Military Standard Requisitioning and Issuing Procedures (MILSTRIP) and shipped via the Defense Transportation System. The three TAC addresses for a given DODAAC are contained in what is known as the DOD Activity Address Directory (DODAAD). When units change locations, they must contact a DODAAD central service point to update their location information. The central service point is the official point of contact that military services, Defense agencies, and non-DOD Federal agencies use when creating, changing, or deleting DODAACs. During the first year of Operation Iraqi Freedom, many units failed to update their TAC addresses as they changed locations within the joint operational area. As a result, supply and transportation logisticians did not know where to send supplies for these units.

Air Force supply management personnel study cargo listings in the supply office at Karshi-Khanabad Air Base.

Large item, military delivery. Typically, a unit's request for a 300-pound engine is routed to the SSA that habitually supports the unit at its CONUS home station. When the SSA receives the engine, it places it in a bin for unit pickup. However, in this case, the unit deployed before the SSA received the engine. Therefore, the engine is sent to the TAC 2 address that was current when the requisition was processed. After the unit reaches its overseas destination, it has to notify the appropriate central service point that it has new TAC 1 and TAC 2 addresses (the latter indicating that the unit will now be supported by a different SSA, this one based in Kuwait) in order to receive the engine. Of course, it might take awhile for the logistics personnel of the deployed unit to obtain their revised mailing and ship-to addresses.

Sergeant Happen probably has these questions: Is my unit currently in Kuwait or Iraq? Does it have a conventional mailing address? Which SSA is supporting it? Has this SSA updated its own location information, such as its air terminal identifier code, water port identifier code, and breakbulk point location, so that higher levels of supply can support it? What is the military post office address? How will national providers, such as DLA,

the Army Materiel Command, DAASC, and TRANSCOM, track the location of the unit as it moves from the aerial or sea port of debarkation through a staging base to its tactical assembly area and on to its first and then subsequent deployed locations?

Since the engine is heavy, someone (normally a commander or an item manager but not the junior service member involved in ordering the part) decides if the engine will be shipped by air or by sea. Shipment by sea takes much longer than shipment by air but is much less expensive. The nodes through which the engine will pass will be quite different, depending on whether air or sea transport is used. Items shipped by air are placed on pallets, treated as breakbulk cargo, and routed through airports. Items shipped by sea are placed in containers and routed through seaports.

Shipping the engine solely within the Defense Transportation System would simplify the process. If commercial transportation is used, shipping labels must contain civilian, location-related data elements, such as street addresses. The names of the intended recipients of the cargo must be identified clearly on the label since TAC addresses, DODAACs, unit identification codes, and military post office addresses are not readily understood by the civilian sector. Moreover, small-package carriers, such as DHL, United Parcel Service (UPS), and Federal Express (FedEx), usually do not accept a contract for delivery of items weighing more than 60 pounds. These commercial carriers may not have established routes at a unit's deployment location, or they may choose not to deliver items during wartime because of the danger to employees or cost-prohibitive insurance policies.

Some international transporters may be unwilling to provide service to a remote part of the world if delivery is not cost effective. Therefore, the military sometimes must arrange delivery to units far forward of typical commercial shipment destinations. If a combination of commercial and military lift is used to ship the engine, both civilian and military location data must be included on the DOD (DD) Form 1387, Military Shipment Label (MSL).

Small item, vendor delivery. Ensuring the correct delivery of the 1-pound flywheel from the vendor is even more complex. Before the unit's departure, Sergeant Happen and the higher level supply source order the item from a commercial vendor. The vendor probably will attempt to deliver the flywheel to the unit's CONUS address using a small-package carrier such as DHL, FedEx, or UPS. However, if Sergeant Happen intervenes and asks the vendor to ship the item directly to the unit overseas, the vendor will want to know the following: Should he attempt to send the item to Kuwait or Iraq? If so, what civilian address should he use? Who will assume ownership of the item as it passes through customs? Who will pay the import tariffs? Who will pay the additional international shipping costs? How can the vendor ensure delivery of the flywheel if the unit has moved from Kuwait to a staging base in Iraq and then to a tactical assembly area?

Suppose Sergeant Happen instructs the vendor to route the flywheel to the CCP at Defense Distribution Depot Susquehanna in Pennsylvania for entry into the Defense Transportation System. If the vendor addresses the package for delivery to the CCP, how will logisticians know where the package should be sent subsequently? Will they know if there is a central receiving point in Kuwait or Iraq?

How will the vendor, the transporter, and Sergeant Happen identify the flywheel? The vendor uses invoice numbers, the transporter uses a TCN, and the supply sergeant uses a system that is based on the document number.

Sergeant Happen is fully engaged in ensuring delivery of the flywheel to her unit overseas. Can you imagine if she also has to deal with tens, hundreds, or thousands of requisitions containing incomplete location information? She probably wishes she had gone with her unit to the deserts of Iraq instead of remaining in CONUS and resolving these systemic problems.

Military Shipment Labels

Since Sergeant Happen does not yet know the eventual street address of her unit, it is difficult for her to ensure that the information on the MSL is adequate. As pointed out earlier, completing the MSL correctly is not always easy, especially when the ultimate destination is unknown.

The MSL is the primary data source for the logistics management information systems that are used to

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track supplies and equipment. The appropriate destination data can be incorporated in the label or attached to the container using several different methods. The data can be printed in words that are readable by humans, inscribed in bar codes that are readable by machines, or programmed into radio frequency identification (RFID) tags that are read by RFID interrogators. A combination of all of these methods can be used.

Since many different organizations are interested in tracking the movement of military items, the MSL must contain much more information than a civilian package label. Unlike FedEx-type shipments, there is no single number that can be used as a reference for all of the pertinent information about the package. Military supply logisticians need to know, at a minimum, the nomenclature, national stock number, document number, quantity, and serviceability of items in shipment. Those tracking the item's movement want to know its current location, the date and time it arrives at each transshipment point, its TCN, the number of the container storing it, the voyage or flight number of the vessel or aircraft that is carrying it, and so on. In addition to the MSL, DD Form 1384, Transportation Control and Movement Document (TCMD), is used to capture supply, transportation, and financial information. However, the TCMD normally describes data associated with a container or pallet, not the individual items inside it.

Asset Visibility: Why So Hard?

Establishing an effective logistics management information system to track the locations associated with the movement of an item is quite complex and can be manpower intensive. Think of how many transshipment points there could be for the 300-pound engine as it is shipped from a CONUS location to a deployed unit overseas. There are the CONUS SSA where the engine is initially stored, the truck (military or civilian) that transports the engine to the port, the 40-foot container that holds the engine, the vessel that transports the container (and the engine inside it) across the ocean, the seaport where the engine is offloaded and transferred from the 40-foot container to a 20-foot container, a smaller ship that carries it through the Suez Canal, a second seaport, another truck, a theater distribution center, a third truck, the in-theater SSA, and a fourth truck, until finally the engine reaches the unit and the mechanic installs it in the deadlined vehicle. At each transshipment point, some type of data reader (either an automatic reader or a human) captures the information contained in the MSL, TCMD, and/or RFID tag. The data captured by the data reader are downloaded into a computer that is linked to a telecommunications system so that the logistics information can be transmitted to a server that integrates all of the data into a network.

A single container can have hundreds of items in it, each with different MSLs, and some state-of-the-art ports can unload thousands of containers per day. Incorrect or incomplete location data are one of the primary causes of "frustrated cargo," which is cargo that requires additional involvement by logisticians before it can be processed successfully for onward movement. With this volume of logistics information to process, it is no wonder that obtaining thorough in-transit asset visibility is extremely difficult.

Processing all of the pertinent data elements associated with moving supplies is incredibly challenging. Whenever possible, data elements should be captured on the initial requisition and then processed and retained by the logistics information network maintained by DAASC. (See "Transforming Joint Logistics Information Management" in the January–February 2005 issue of *Army Logistician*.)

At the various transshipment points, the number of different data elements that can be processed is limited. Bar code readers and RFID interrogators can interpret only a few lines of data. If these devices are unavailable, it is not cost effective for humans to enter the numerous data elements for each item they receive. Consequently, it is crucial to design future logistics management information systems so that the number of different data elements is kept to a minimum. (For more information, see "Names, Numbers, and Nomenclatures" in the September–October 2004 issue of *Army Logistician.)*

One rightfully could conclude from reading this article that military logistics management systems are extremely complex and often do not provide visibility of parts in shipment. The truth is that the current systems are infinitely better than earlier systems. In the March–April issue of *Army Logistician,* I will discuss how far we have come in our ability to locate items that are in the military supply pipeline. **ALOG**

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Joint Logistics for the EUCOM AOR—Part II

BY RANDY S. KENDRICK

In his first article in the November–December issue, the author discussed the need for centralized command and control in the U.S. European Command. Here, he describes how this can be accomplished.

The problems encountered by U.S. European Command (EUCOM) while supporting Operation Iraqi Freedom strongly support having a single organization that is responsible for theater logistics. In the November–December issue of *Army Logistician*, I discussed several options that are available to a combatant commander (COCOM) that would enable the command to provide effective logistics for a joint operation. One of these is a Joint Theater Logistics Command (JTLC), which would provide joint command and control of logistics activities within the theater and allow the COCOM to focus on other operational issues.

If a COCOM is convinced of the benefits of a joint logistics command and control element, what are the basic methods and principles on which to establish such an organization? A COCOM may exercise his authority, as outlined in Joint Publication (JP) 0–2, Unified Action Armed Forces (UNAAF), to establish a standing functional component command to operate in both peacetime and wartime as the COCOM's single face for logistics in the theater. When establishing a JTLC, the COCOM must empower the JTLC commander with a clearly specified level of directive authority for logistics (DAFL) necessary to fulfill the mission and roles assigned. Naturally, the delegated level of authority can be increased or decreased, as appropriate, in noncontingency or contingency environments. The JTLC would operate as a separate joint functional command reporting directly to the COCOM, thus alleviating concerns that the organization would be responsive only to the needs of one particular service. As a joint functional command, the JTLC would be on par with other service component commands and could be commanded by any service.

Personnel Structure

Perhaps the biggest impediment to a JTLC is the perceived manpower bill to the services. To create manpower positions for a JTLC, an equal number of positions must be cut elsewhere. Fortunately, the efficiencies gained through a collaborative joint approach to theater logistics are likely to result in a personnel reduction for some redundant, stovepiped functions. The Joint Manpower Program provides the framework for developing the organizational mission, determining personnel requirements, and validating and resourcing those requirements through the Joint Chiefs of Staff and each of the services.

Within EUCOM, most of the personnel required for a JTLC are already available. A JTLC could be built from three primary building blocks. The first component is the EUCOM Deployment and Distribution Operations Center (EDDOC), which currently is part of the EUCOM J–4. The EDDOC's mission is to support EUCOM by linking strategic deployment and distribution processes to operational requirements. The EDDOC's ultimate goal is to improve end-to-end distribution and facilitate the customer's ability to identify the status of his shipments at any point in the global distribution pipeline.

The second JTLC component is the forward-based portion of the Army Theater Sustainment Command in U.S. Army Europe (TSC-Forward). This contribution would include the headquarters of the deployable command post and theater opening and theater distribution staff detachments. The TSC-Forward is designed to be a joint-capable headquarters when appropriately augmented with joint enablers known as a joint plug.

These joint logistics plugs are the third JTLC component and are specifically designed to fill the joint capabilities shortfall. This shortfall derives from the assigned JTLC mission and manpower requirements identified in the Joint Manpower Program that are not filled by the EDDOC or TSC-Forward. The joint plug concept is a companion to the Army's modular force concept. New modular Army units are designed to be "plug and play" in order to allow a flexible, task-organized contribution to a joint campaign. Similarly, scalable, modular joint logistics plugs could be developed to meet the requirements of the COCOM's JTLC.

Other Considerations

Total asset visibility is central to the ability of the JTLC to manage theater logistics and maintain situational

This article expresses the views of the author, not the Department of Defense or any of its agencies.

awareness of all support resources in the area of responsibility (AOR) or joint operations area (JOA). A fully collaborative, distributed, globally networked information technology solution backed by joint business rules provides the enabling capability for the JTLC.

A JTLC also must be able to deploy a joint logistics command and control capability anywhere within the theater while continuing to provide rear-area logistics command and control. Having both forward- and rear-area logistics command and control would provide continuity throughout the transition from noncontingency to contingency operations.

A JTLC theoretically could deploy an element outside of a forward-deployed theater, such as EUCOM. However, it then would require a backfill from the continental United States (CONUS), effectively reducing the value of deploying it in the first place. For contingencies outside of a forward-deployed theater, it would be more advantageous to deploy a CONUS-based joint logistics capability.

For the sake of clarity, I will borrow the term "joint force support component command" (JFSCC) from the U.S. Joint Forces Command (JFCOM) when referring to the JTLC element that is deployed in support of a joint task force (JTF).

What effect would the creation of a JTLC have on the COCOM's J–4 staff? The COCOM J–4 would remain responsible for strategic and deliberate planning, coordination, and interface with the Joint Staff J–4, policy and guidance for functional components deployed with or in support of a JTF, and coordination with supporting and supported COCOMs. The role of the JTLC, by contrast, would focus on theater-level logistics requirements and execution.

A member of the 173d Airborne Brigade in Vicenza, Italy, loads 12 Container Delivery System bundles onto a C–130J aircraft for an equipment drop at an undisclosed location.

JTLC Roles in a Noncontingency Operation

The primary mission of a JTLC is to serve as the COCOM's single point of contact for ensuring effective and efficient execution of theater-level logistics. Emerging concepts recently published by JFCOM suggest that the JTLC would—

- Prepare estimates based on the COCOM's mission guidance for operations.
- Conduct logistics and sustainment analyses and transportation feasibility studies.
- Monitor and analyze the logistics situation and make adjustments within the parameters of the COCOM's intent and guidance.
- Manage logistics functional centers.
- Allocate logistics resources according to the COCOM's priorities.
- Advise the COCOM J–4 on logistics readiness, the current situation, and possible shortfalls.

To execute this mission, the JTLC should be commanded by a general or flag officer selected from one of the services. Either the commander or the deputy commander likely would be an Army officer who also is responsible for executing Title 10 responsibilities on behalf of the Army service component command.

The JTLC could be organized around a number of different functional offices or centers that correspond to the joint functions and capabilities assigned by the COCOM. These functional centers could include the DDOC, a joint petroleum office, a joint medical logistics center, a joint materiel management center, a joint munitions management team, a joint theater distribution team, a joint blood program office, and a joint common item repair and maintenance team. The JTLC would oversee joint tasks that routinely occur in a noncontingency environment. The JTLC also could have a liaison section composed of coalition, host nation, and multi-agency representatives.

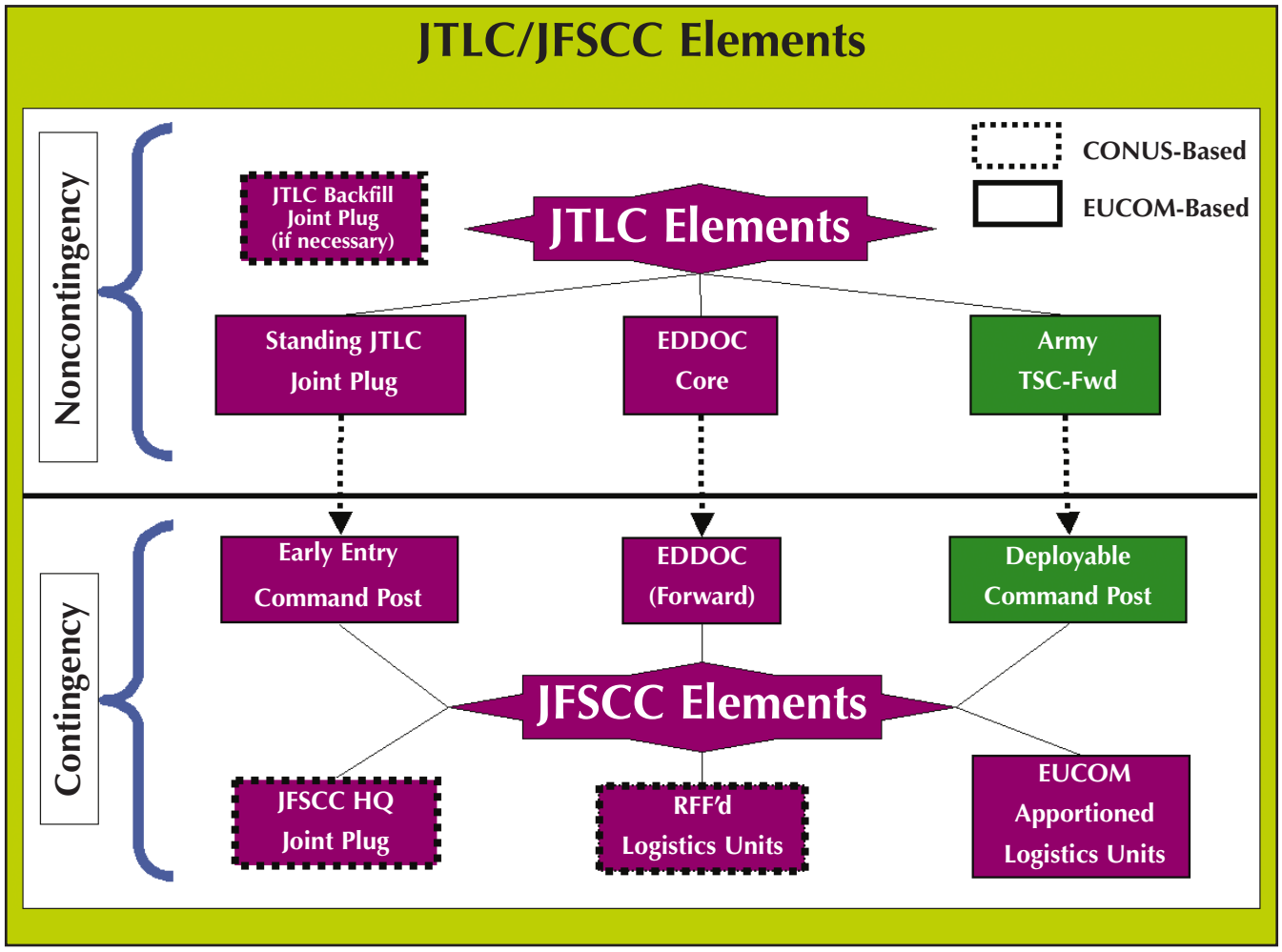
JTLC Roles in a Contingency

In a contingency, EUCOM could establish a JTF and subordinate functional component commands. In this scenario, the JTLC could form and deploy a JFSCC under the JTF commander. The JFSCC commander would focus exclusively on the JTF area of operations, while the remaining JTLC elements would retain control over the rest of the theater. EUCOM could expand the level of DAFL as necessary to support the mission and apportion additional service logistics assets to the JFSCC. With additional joint logistics forces, the JFSCC would be able to execute operational-level logistics tasks previously executed by the service components.

In addition to the functions provided by the JTLC during noncontingency operations, a JFSCC also would conduct joint theater opening and reception; operate the Joint Contracting Center, the Joint Engineering Center, and the Joint Patient Movement Center; and provide mortuary affairs operations, joint service support, and an airdrop support team.

In a contingency environment, the EDDOC (now a subcomponent of the JTLC) also would expand to meet increased mission requirements. Initially, the EDDOC would be augmented with theater personnel. In a large contingency, the U.S. Transportation Command (TRANSCOM) would provide additional personnel with expertise in strategic air and sea movements.

From the augmented EDDOC, a deployable element would go forward with the JFSCC. The EDDOC-Forward would carry the same information technology systems that it uses at home station. The EDDOC-Forward would communicate battlefield priorities and requirements with the EDDOC home station.



Legend

CONUS = Continental United States
EUCOM = U.S. European Command
EDDOC = EUCOM Deployment & Distribution Operations Center
HQ = Headquarters
JTLC = Joint Theater Logistics Command
JFSCC = Joint Forces Support Component Command
RFF'd units = Units provided through a request for forces
TSC-Fwd = Theater Sustainment Command-Forward

JTLC and JFSCC Employment Scenario

The following scenario is intentionally generic in order to remain unclassified. The intent is to illustrate how the JTLC and JFSCC concepts would support a contingency operation.

On receipt of a warning order for a small-scale contingency in "Atlantica," the JTLC coordinates with the COCOM J–3 and J–4 staff to develop a deployment concept. The JTLC planners have Joint Operations Planning and Execution System (JOPES) capability and provide input to the time-phased force and deployment data. Using the visibility it already has over service stocks and readiness, the JTLC provides readiness assessments and recommends the cross-leveling needed to outfit deploying units. The JTLC coordinates with the national strategic partners, such as TRANSCOM, JFCOM, and the Defense Logistics Agency, to ensure understanding of the COCOM's requirements and directs the "fort to port" effort.

If the COCOM establishes a JTF, a portion of the JTLC forms a JFSCC. The JFSCC deploys into the AOR, while the remaining portion of the JTLC retains rear-area logistics command and control. If necessary, a two-star, joint-capable theater sustainment command can deploy from CONUS to augment or serve as the JFSCC. The JTF commander may choose to attach some service logistics forces to the JFSCC.

The JFSCC coordinates theater opening with TRANSCOM Joint Task Force-Port Opening (JTF PO) assets or Tanker Airlift Control Element and 7th Group assets. The JFSCC develops the theater distribution plan and theater support plan and may direct a push of sustainment materiel before service logistics activities submit requisitions. The JFSCC also establishes a joint contingency contracting cell and a joint engineering office.

Once the theater is open, the JFSCC supports the joint reception, staging, and onward movement process, using an attached sustainment brigade or force service support group assets. Depending on the size of the operation, the JFSCC can be augmented by additional joint-capable, deployable command posts from CONUS and additional joint plugs. The JFSCC receives requirements and then prioritizes and assigns lift assets based on the JTF J–3's operational requirements. The JFSCC coordinates directly with the Director of Mobility Forces—the Air Force designated authority for all air mobility issues in the AOR—for execution of air mobility missions, including airdrop, air land, and patient movement requirements. The Director of Mobility Forces and the Air Mobility Division could remain in the Joint Force Air Component Command, as is called for in doctrine, or become part of the JFSCC. The JFSCC ensures that all critical nodes are outfitted with radio frequency identification interrogators and maintains the logistics common operating picture. The JFSCC synchronizes end-to-end inter- and intra-theater distribution operations and coordinates with the rear-area JTLC. The JFSCC establishes and executes the joint mortuary affairs mission using operationally controlled assets. Finally, when the mission is complete, the JFSCC coordinates the redeployment and directs the foxhole-to-port movement.

The JTLC/JFSCC concepts obviously help the joint force establish the theater base; perform joint reception, staging, and onward movement; and support decisive operations. These concepts, if adopted, facilitate the COCOM's ability to focus joint logistics effects. Is the addition of this capability sufficient to overcome the institutional opposition to joint logistics command and control?

Relationships Within EUCOM

The second largest institutional obstacle to a JTLC (after a potential personnel bill) is the perceived loss of control over theater logistics assets. At the heart of this issue are the relationships among the JTLC/JFSCC, EUCOM, and the other service component commands and functional commands.

EUCOM Directive 55–11, USEUCOM Theater Command and Control Policy, states that the EUCOM commander must have flexible joint command and control and the ability to command and control assigned forces engaged in multiple, simultaneous operations; the ability to project command throughout the AOR; and the ability to integrate reachback and support for all operations. The directive also lists five fundamentals of EUCOM command relationships—

- Unity of command. This means that all forces operate under a single commander. Direction and collaborative parallel planning are centralized; however, execution should be decentralized.
- Trust. This is implied when a commander delegates responsibilities and authorities to a subordinate commander.
- Presence. This requires effective working relationships at all levels (for example, nation to nation, superior to subordinate, and peer to peer). It is imperative to set the conditions and establish theater relationships, such as a JTLC, so that the structure is in place and available in a contingency.
- Flexibility. The joint force must be prepared to respond across the entire range of military operations.
- Experience. Experience is gained through exercises, training events, and most important, by operating the command and control structure on a standing basis.

Because of the sensitivities involved, the COCOM must clearly define command and control relationships in the order establishing the JTLC. The central issue is the perceived infringement of a JTLC on service component authorities. The secretaries of the military departments are responsible for supplying, equipping, servicing, and maintaining their forces. JP 0–2 effectively limits the application of DAFL under peacetime conditions by requiring its exercise in a manner "consistent with the peacetime limitations imposed by legislation, DOD policy or regulations, budgetary considerations, and other specific conditions prescribed by the Secretary of Defense or the Chairman of the Joint Chiefs of Staff." It is clear from this statement that DAFL should not result in a financial injustice among the services or a loss of ownership of service assets.

The command relationships between the JTLC/JFSCC and the service components will differ in noncontingency and contingency environments. In a noncontingency environment, the JTLC would operate as a joint command, on a par with the other service component commands. Each service component would maintain its own logistics staff and coordinate with the JTLC in a manner similar to its current relationship to the COCOM J–4. Service components would execute their responsibilities using their assigned logistics capabilities. However, the JTLC would maintain visibility over logistics status, requirements, and assets and could exercise DAFL to the extent identified by the COCOM.

One aspect of this DAFL is cross-servicing to improve efficiency and reduce redundancy. In order to avoid conflicts among service authorities, cross-servicing must be based on reimbursable, cost-sharing, or "exchange of services in kind" interservice support agreements. For example, the JTLC could direct the Army to repair an Air Force vehicle, based on its knowledge of current excess capacity at the Army maintenance site. When the repair is completed, the Air Force would provide a military interdepartmental purchase request (MIPR) to cover the repair cost.

JP 0–2 states that, in a contingency, "the logistic authority of combatant commands enables them to use all facilities and supplies of all forces assigned and/or attached to their commands as necessary for the accomplishment of their missions." This broadened DAFL likely would be passed from the COCOM to the JTLC. The JTLC is structured so that it can form and deploy a JFSCC into a JTF AOR if the mission requires it. Mission requirements also could prompt the JTF commander to place some service logistics assets under the operational or tactical control of the JFSCC.

Operational control is the authority to perform those functions of command that involve organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction of military operations and joint training necessary to accomplish missions assigned to the command. Tactical control is the authority to direct the use of logistics assets, but it does not provide authority to change organizational structure or direct administrative and logistics support. As with the operational control relationship, the parent unit retains responsibility for logistics support to a unit under the tactical control of another unit.

Under both operational and tactical control, tasked units retain administrative control linkages with their respective service components. The JTF commander considers the effect on these links when specifying the command relationship. He may place any restriction on an attachment order that he believes is necessary to facilitate support.

A JTLC also must be able to deploy a joint logistics command and control capability anywhere within the theater while continuing to provide rear-area logistics command and control. Having both forward-and rear-area logistics command and control would provide continuity throughout the transition from noncontingency to contingency operations.

Roadmap to Establishing a JTLC in EUCOM

Making the leap to a JTLC should not be taken lightly, especially in view of the sensitivities involved. To avoid any appearance of bias, EUCOM should enlist the support of JFCOM. Part of JFCOM's mission is to develop, explore, test, and validate 21st-century joint concepts for our Nation's warfighters. The JFCOM J–9, the Joint Experimentation Directorate, has the lead for transformation research and analysis for the Department of Defense. JFCOM has established a partnership with U.S. Forces Korea (USFK) in order to "devise a strategy to improve Joint Theater Logistics in USFK through iterative exercises and war games and the subsequent application of DOTMLPF [doctrine, organizations, training, materiel, leadership and education, personnel, and facilities] solutions and enablers which will

provide the USFK Commander the ability to exercise the most effective Command and Control over operational level logistics."

The RSOI (reception, staging, onward movement, and integration) 05 exercise conducted in Korea last March by the Republic of Korea and USFK demonstrated the value of joint theater logistics command and control. After the unanimous endorsement of the joint logistics command concept in the after-action review, the USFK commander directed his staff to move forward with implementation. A JFCOM team spent several months in Korea assessing the optimal organizational construct for joint logistics in Korea. EUCOM should follow USFK's lead and partner with JFCOM to assess the benefits of joint theater logistics organizational constructs for the EUCOM AOR.

Once the EUCOM senior leaders express the desire to create a JTLC, the Joint Manpower Program process can begin. This process can be used to develop the joint plugs and to document the end-state JTLC/JFSCC. Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 1001.01, Joint Manpower and Personnel Program, provides policy and establishes responsibilities and procedures for determining, validating, documenting, and maintaining joint manpower requirements. Joint manpower requirements are documented on a joint table of distribution and are captured on the Joint Duty Assignment List.

The first step in the Joint Manpower Program is for EUCOM to describe the JTLC mission, including specific tasks and functions. The second step is to determine the minimum manpower (military and civilian) needed to accomplish the mission effectively and efficiently. To do this, EUCOM must compare the total JTLC manpower requirements with the positions that currently exist in the EDDOC and TSC-Forward. The shortfall determines the necessary JTLC standing joint plug. At the same time, EUCOM should determine the requirements for a JFSCC. A portion of the JTLC standing joint plug would deploy with the TSC-Forward and a portion of the EDDOC to create the basis of the JFSCC. However, EUCOM may choose to develop a modular, CONUS-based joint plug to deploy and augment the JFSCC. A third type of joint plug may be developed to backfill the deployed portion of the JTLC standing joint plug.

The third step in the JMP is to validate and resource manpower requirements. These requirements must be coordinated with, and approved by, the Joint Staff and the services. The fourth step is to document funded requirements. The services use the approved joint table of distribution to update their internal service manpower systems. The service manpower systems, in turn, feed data to the service personnel systems, which generate personnel assignment actions. Ultimately, personnel with appropriate skills and grades are assigned to the approved joint positions.

Department of Defense logistics transformation efforts, coupled with lessons learned in recent wars, point to the value and need for a joint approach to logistics. Future wars undoubtedly will be fought in a joint, interagency, and multinational environment. EUCOM can choose several methods to achieve joint logistics effects. However, the only method that achieves unity of command over logistics and frees the J–4 staff from operational-level logistics execution is the creation of a JTLC. A JTLC brings together expertise across a wide range of joint logistics functions to coordinate and execute joint logistics. Its potential value in war should not be understated. The EUCOM commander can appoint a JTF with subordinate functional component commands and deploy JTLC elements to form a JFSCC. The JTLC/JFSCC provides a single command and control element, armed with DAFL, to ensure that joint logistics functions are executed in accordance with the EUCOM or JTF commander's priorities. Without a single, empowered logistics commander, the EUCOM commander has no assurance that logistics operations are being effectively monitored, executed, and managed.

If JTLC concepts are adopted, EUCOM's ability to direct joint logistics operations will increase exponentially. Today, EUCOM has its J–4, the EDDOC at initial operating capability, a few joint boards, a few informal agreements such as the European Intermodal Distribution concept of operations, and service logistics assets. In the near future, the EDDOC will achieve full operating capability, informal agreements will be formalized, and service logistics assets will be transformed. Later, EUCOM will have a modular TSC-Forward at its disposal but still under U.S. Army Europe. At end state, the EUCOM commander will still have his J–4 for policy, strategic and deliberate planning, and coordination with the other COCOMs, but he also will have a JTLC working directly for him with all of the capabilities described above. This JTLC will dramatically increase the capacity for joint effectiveness and efficiency, ultimately improving the level of support provided to tomorrow's joint warfighters. **ALOG**

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A Soldier engages dismounted insurgents after his convoy was hit by an improvised explosive device.

Right: Before beginning convoy training, the platoon leader of Company A, 626th Brigade Support Battalion (BSB), checks the position of friendly forces on a Blue Force Tracker (a digital system that uses satellite signals from forces on the battlefield to map out positions and improve communications).

Force-on-Force Convoy Training

An exercise conducted in the backwoods of Kentucky provided Soldiers of the 626th Brigade Support Battalion with what they would need most in Iraq: confidence.

It is only 0800, but it already has been a long day. As the heavy, expanded mobility tactical truck lumbers cautiously at the head of the convoy, a powdery haze of white dust coats everything in its wake. The truck's gunner looks left and right, straining to see through the maze of junked cars littering the roadside.

Suddenly, the thunder of an improvised explosive device (IED) shatters the air. Soldiers spring into action, returning fire against the enemy, treating and evacuating casualties, and crossloading equipment from the disabled vehicle. In a matter of minutes, the convoy is on the move again.

This scenario sounds like those that occur all too often on the battlefields of Iraq. However, it actually played out in the backwoods of Fort Campbell, Kentucky, where Soldiers from the 626th Brigade Support Battalion (BSB), 3d Brigade Combat Team, 101st Airborne Division (Air Assault), participated in a force-on-force convoy training exercise in preparation for their upcoming deployment to Iraq.

Not long before the exercise, the 626th BSB had implemented a new convoy standing operating procedure (SOP). Battalion Command Sergeant Major Stephen D. Blake developed the SOP, using the Center for Army Lessons Learned Web site to gather the most recent tactics, techniques, and procedures used by units operating in Iraq. "I simply compiled information that was already out there, then tailored it to the types of missions our unit will run [in Iraq]," said Blake.

Above, a petroleum specialist with the 626th BSB scans the roadside as his convoy negotiates the convoy training lane.

Far right, a sergeant from the 626th BSB's water and fuel platoon evacuates a wounded comrade after an improvised explosive device (IED) ambush along the convoy training route.

Right, a simulated IED is hard-wired to a detonator buried along the roadway.

The complex training exercise incorporated realistic enemy tactics, civilian noncombatant role players, and numerous manmade obstacles on a 5-kilometer route. The multifunctional logistics convoy included Soldiers from all of the battalion's companies. For many of them, this was the first time they had worked together.

During the exercise, Soldiers were forced to react to ground and vehicle-borne IED attacks, dismounted enemy attacks, and civilians needing assistance. Convoy commanders learned to coordinate with adjacent units and to evacuate friendly casualties.

Initially, the training was leader-focused; the officers and noncommissioned officers negotiated the convoy lanes to validate the new SOP. Units then reviewed troop-leading procedures and conducted rehearsals and precombat checks.

The difficulty and intensity of the training was a confidence builder for Operation Iraqi Freedom (OIF) veterans and new Soldiers alike. "The emphasis [was] on rehearsals, coordination, battle drills, precombat checks and inspections, rules of engagement, security—Soldiers have to think and rapidly solve a series of problems," said Staff Sergeant Tony Ringle, a cavalry scout and OIF veteran who assisted the unit with mounted security techniques during the convoy lanes.

Individual Soldier medical training was emphasized during the exercise. "[When Soldiers] are more alert, they know what to do, and their actions will be really helpful to medics," said Sergeant Amanda Volker, a healthcare specialist participating in the exercise.

Though the exercise had many Soldier, small unit, and collective objectives, the most important among them was increased Soldier confidence. "This training takes away the fear . . . ," said Command Sergeant Major Blake. "Soldiers learn to react—[they] don't wait to be led—when the situation happens, they know what to do about it and do it." **ALOG**

THE ARMY LOGISTICIAN STAFF THANKS MAJOR JOHN T. "TOM" BRYANT, PUBLIC AFFAIRS OFFICER FOR THE 3D BRIGADE COMBAT TEAM (BCT), 101ST AIRBORNE DIVISION (AIR ASSAULT), AT FORT CAMPBELL, KENTUCKY, FOR PROVIDING THE INFORMATION CONTAINED IN THIS ARTICLE. THE 3D BCT CURRENTLY IS DEPLOYED TO IRAQ IN SUPPORT OF OPERATION IRAQI FREEDOM.

Movement Control in the Brigade Area of Operations

BY MAJOR MARTIN E. STOKES AND CAPTAIN CHRISTINA A. HELFERICH

Suppose that you are on the staff of a combat brigade element with command and control over four subordinate battalions and many attached units. These units conduct myriad missions ranging from cordon-and-search patrols to reconnaissance gathering, vehicle recovery, and LOGPAC (logistics package) resupply in and out of your brigade's forward operating bases (FOBs). The S–2 rushes in and announces that Alpha route just went black because an improvised explosive device (IED) has detonated and a secondary ambush has just occurred and that the brigade commander wants to know immediately how many convoys are on the road. Normally, the division transportation officer keeps you informed of all supplies incoming from corps and the movement control officer lets you know when the large supply runs are entering your area of operations (AO), but how do you know where all the brigade troops are? Who is traveling on the main supply route that just went black? To whom do you go for this information, and did that person even know before 5 minutes ago that he was responsible for convoy tracking?

In today's theaters of operations, the movement of supplies and equipment along supply routes is monitored according to strict division transportation and movement control procedures to ensure that timely and accurate data are provided to all customer units. However, the problem we see at the National Training Center (NTC) at Fort Irwin, California, and on the battlefields of Iraq is that internal convoys are not being tracked effectively at the brigade level and below. How does a brigade know when internal convoys are departing and arriving at the many FOBs in its AO, what they are carrying, or how many of the brigade's troops are on the road at any given time? More important, who should be the keeper of that information?

Information Management

The S–2/3 section is best equipped and staffed to track internal convoys throughout the brigade. The S–2 is collocated with the S–3 so that he can provide valuable intelligence updates that are critical to convoy operations. A valuable addition to the S–2/3 section would be a movement control team (MCT) consisting of a Transportation Corps lieutenant and a sergeant with military occupational specialty 88M20, chauffeur, or 88M30, motor transport operator. This MCT could manage the increased convoy traffic within the brigade's AO, regularly update the convoy tracking matrix, and coordinate or deconflict movements on the main and alternate supply routes in the AO on behalf of the brigade S–3. The MCT also could help the brigade S–3 maintain better situational awareness of convoy movements within the brigade's AO and thereby ensure better coordination among the battalions. Through close coordination of convoys, the S–3 could track troops on the ground more effectively and thus have an up-to-date picture of supply routes and incidents that may occur along the way.

Sample Brigade Internal Convoy Tracking Matrix

Date: _____

Unit	SP (Planned)	Destination	Route (Status)	Vehicles (By Type)	No. of Personnel	MTS (Mobile No.)	Cargo (I/II/III/IV/V)	SP (Actual)	Arrival at Dest (Time)	Depart Dest (Time)	MC	Incident (Grid)	Remarks
24 BN	1200	BIAP	Jackson	3xHMMWV	35	T1010	I and III (B)	1235	1400	1600	1830	IED	
			Green	7xS&P								NV1234456	
			3x5-Ton										
10 BN	1000	Anaconda	Tampa	2xHMMWV	16	B1212	I and V	1000	1600	1000	OPEN	Sniper	
			Amber	5x5-Ton					(RON)	(Planned)		NV234678	

Battalion Day POCs and Contact Numbers (Primary/Alternate): _____

Battalion Night POCs and Contact Numbers (Primary/Alternate: _____

Battalion TOC Grid Coordinates: _____

Forward Operating Base Grid Coordinates: _____

MSRs: _____

ASRs: _____

Legend:

ASRs = Alternate supply routes
(B) = Bulk
BIAP = Baghdad International Airport
BN = Battalion
Dest = Destination
HMMWV = High-mobility, multipurpose, wheeled vehicle
I/II/III/IV/V = Supply classes:
I (Subsistence)
II (Clothing and individual equipment)
III (Petroleum, oils, and lubricants)
IV (Construction materials)
V (Ammunition)
IED = Improvised explosive device
MC = Mission complete
MSRs = Main supply routes
MTS = Movement Tracking System
POC = Point of contact
RON = Remain overnight
S&P = Stake-and-platform trailer
SP = Start point
TOC = Tactical operations center

To ensure that all units in the brigade know what is expected of them and to make sure that convoy movement is rehearsed extensively, the S–3 section should use the MCT and a convoy tracking matrix as part of its daily battle rhythm before the brigade deploys to Iraq.

Convoy Tracking Matrix

A brigade-level convoy tracking matrix is a technique that has worked well at the NTC. This matrix is updated daily at times set by the brigade. It is broad enough in scope that the brigade and battalion commanders know what is on the road, but not so detailed that it bogs them down in the minutiae of personnel manifests and bumper numbers. This matrix seems to work not because the brigade staff is able to fill in the blocks easily but because the brigade has a battle drill in place that includes receiving accurate data from its subordinate units at prescribed times during the day and night. Some brigades have this battle drill in place before they arrive at the NTC; others refine this tool during their rotations.

The convoy tracking matrix can be placed on the SIPRNet (Secret Internet Protocol Router Network), and units can update it at set times or continuously throughout the day. Brigades that track their internal convoys and missions successfully use this matrix daily to identify not only where all convoys are at the moment but also where they have been in order to gather intelligence about the routes they have traveled. The end state is a finely honed battle drill that can be used by subordinate battalions to feed information to one consolidated brigade section.

Above is an example of a basic matrix that can be adjusted to fit a specific brigade structure. It is a starting point for practice during an NTC rotation or a home station exercise. It includes basic information needed to get, in one quick snapshot, an accurate picture of where forces are heading. Unit, destination, and route information is imperative. Vehicle, personnel, and cargo data are also useful because they allow tracking of the types of missions and number of miles driven over the course of a deployment. If a brigade has a Movement Tracking System (MTS), the mobile transceiver numbers can be placed on the matrix as well. Use of a matrix will ensure that the brigade base station operator knows which convoys to track and will facilitate communications checks before the convoys depart the FOBs. It is always easier to fix the MTS on the base rather than en route.

If planned convoy start times are known and entered on the matrix up to 24 hours in advance, upcoming missions can be deconflicted and congestion reduced along the main supply route. Having another column that shows actual convoy start times triggers the battalions to contact the brigade before their convoys

depart the FOBs. Destination arrival and departure times should be entered in separate columns to allow plenty of room to annotate remarks such as "RON" (remain overnight) or other useful information. The "MC" (mission complete) column shows when missions are closed and, more important, if they are still open. This is a helpful reminder to notify the battalion to check on the status of the convoy and ensure the convoy has not encountered problems. It also provides a check to ensure that battalions are providing the closing information required. The "Incident" and "Remarks" columns give the S–2 a data source to assess routes and named areas of interest and provide other staff sections with specific information they need.

The two "bottom lines" about the matrix are: Tailor it so that it works best for your brigade, and, most important, actually use it. The matrix can facilitate the flow of vital convoy data among brigade units. If you are on the battalion staff, know before deployment what the brigade's S–3 standing operating procedures state about departing and arriving at the FOB, checkout and check-in procedures, convoy clearance and start times, and post-mission debriefings. If you are part of the brigade staff, you should know the primary and alternate points of contact in each battalion staff section and have their primary and alternate phone numbers readily available. Know the grid coordinates of the subordinate units and the main and alternate supply routes that will be used. Work seamlessly with the S–2, correlating named areas of interest and actual convoy routes.

Communicating Convoy Movements

By using a matrix managed by an MCT within the brigade S–3 shop, the brigade could ensure timely coordination of convoys within its AO. Posting the matrix on the SIPRNet allows battalions to anticipate the arrival of convoys in their AOs and gives them time to deconflict convoy arrivals with ongoing operations.

The movement of convoys across battalion task force boundaries must be treated as a friendly forward passage of lines. When a convoy departs its FOB, the battalion S–3 should notify the brigade S–3 of the convoy's start time. When the convoy crosses battalion task force boundaries, the convoy should notify the gaining battalion task force of its anticipated arrival time in the new AO. When the convoy arrives at its destination, the gaining battalion S–3 should notify the brigade S–3 of the convoy's arrival. At this point, the brigade MCT should update the matrix and post it to the SIPRNet to allow widest dissemination of the information. Battalion and brigade staffs must train in this key battle drill to ensure that units execute this vital function. Units must maintain proper control and coordination of convoys to ensure safe and secure travel on the main and alternate supply routes and efficient use of convoy resources.

Gate Control

One final stop can be an enabler for controlling convoy movements: the FOB front gate. A gate control team of Soldiers who have been trained to manage traffic flow in and out of the FOB is key to convoy management. Units should establish this team at home station and train its members on proper gate procedures before deployment.

Here is how the gate control team works. Before a convoy departs the FOB, the gate control team checks to see if the convoy has received clearance from the battalion tactical operations center. The gate control team logs convoy departure times and destinations. The team then calls the FOB headquarters to announce the departure and arrival of convoys. If the convoy does not have clearance to depart, it moves to a holding area until clearance is granted.

The gate control team's most important function is preventing convoys that have not been cleared by their units from departing the FOB. Keeping undocumented convoys off the main and alternate supply routes greatly aids convoy tracking and ensures better use of limited resources and personnel. The team also monitors inbound traffic that is waiting to enter the FOB.

By following the procedures described and posting all actions to the convoy tracking matrix at all levels, you will have an up-to-date route intelligence picture that will keep your unit informed of when convoys are on the road and where they are at any given time. Find a standard that works for your unit and rehearse, rehearse, rehearse. Then all units will know what is expected of them. **ALOG**

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Safe Passage

BY FIRST LIEUTENANT CECILIA R. MOTSCHENBACHER

The 497th Transportation Company's adaptability was tested when it deployed to Iraq with a new mission—convoy security escort.

What does it take to transform wheeled vehicle operators with military occupational specialty 88M into convoy security escorts? Ask the warrior-transporters of the 497th Transportation Company, 57th Transportation Battalion, at Fort Lewis, Washington. While deployed to Baghdad in support of Operation Iraqi Freedom II as part of Logistics Task Force 264 (Airborne) from Fort Bragg, North Carolina, the 497th found its niche as a dedicated combat security escort.

The mission of the 497th was to provide convoy security to Kellogg, Brown & Root (KBR) line-haulers from the Multinational Corps-Iraq (MNC–I) Joint Military Mail Terminal in order to get letters and care packages to the Soldiers of Task Force Baghdad. The 497th completed hundreds of convoy security and gun truck missions and traveled thousands of miles on Iraq's roughest and most notorious roads.

Deployment Order

In late April 2004, the 497th Transportation Company received orders to deploy to Iraq as a provisional gun truck company. The company would be headquartered in An Najaf, approximately 100 miles southwest of Baghdad. Intelligence indicated that the region lacked the basic conveniences, such as buildings, phones, and Internet service. Expecting a desolate and isolated camp, the company prepared to take all of the items on its modification table of organization and equipment with it. The light-medium truck company also had a limited supply of crew-served weapons and communications equipment. Within 2 weeks of receiving the deployment order, the company shipped its equipment and vehicles from the Port of Olympia, Washington.

The company's dramatic shift in mission required a change not only in weaponry and communications but also in training.

The company's dramatic shift in mission required a change not only in weaponry and communications but also in training. However, preparing its equipment for deployment left the 497th little time to train for its new mission.

This M923 5-ton cargo truck has been augmented with armor on the driver's door and a gun box in the truck bed.

Training Center Rotations

In the months preceding the deployment order, the company had completed training rotations at the National Training Center at Fort Irwin, California, and the Joint Readiness Training Center at Fort Polk, Louisiana. Both rotations were conducted as part of an echelons-above-brigade package supporting the 1st Brigade (Stryker Brigade Combat Team), 25th Infantry Division (Light) (1/25 SBCT), at Fort Lewis, Washington.

The focus of these training rotations was primarily on hauling water and classes I (subsistence), IIIB (bulk petroleum), IV (construction materials), and V (ammunition) to the brigade's forward operating bases. The training center scenarios provided a realistic

This photo shows an M923 driver's perspective of the M1114 he is following in southern Iraq.

look at the possible operating environment in Iraq but did not address the 497th's convoy security mission. Each time the unit was tasked to support the brigade during the training center rotations, it had to wait for escorts to protect it. Strykers or any available armored vehicles were used as escort vehicles. This training did not give the unit an opportunity to hone its convoy security or convoy command and control skills.

Deployment Preparations

When the 497th returned to Fort Lewis in April 2004, just over a month remained before the unit had to be in theater. It had no time to react to the change in mission. Instead, the company's time was devoted solely to completing predeployment tasks and preparing Soldiers and their families for the upcoming year.

By the second week of June, the 497th Soldiers had completed all of their required training and were preparing for block leave. However, they received word that their deployment had been pushed forward to 16 June—weeks earlier than expected. Their expected 30-day block-leave period was compressed into the 5 days preceding the departure of personnel.

Mission Preparations

The 497th Transportation Company arrived at Camp Beuhring, Kuwait, in June. During the first week, the unit received several briefings on the threats it would face once it moved north to Iraq. It also learned that it would be reorganizing under a new battalion and would be operating out of Al Taji, approximately 15 miles north of Baghdad, instead of An Najaf. While in Kuwait, the unit leaders assessed mission readiness and took steps to bolster the unit's effectiveness on the roads of Iraq.

> Soldiers quickly learned that the deadlier they made their convoys look, the less likely they were to meet with enemy interdiction.

The 497th Transportation Company moves through Camp Babylon, Iraq, while waiting for Joint Military Mail Terminal trucks to drop off mail.

One of the most prevalent threats faced by Soldiers in Iraq is the detonation of improvised explosive devices (IEDs) along the main supply routes. Units conducting convoy operations on the roads of Iraq counter the threat of IEDs by welding armor to the exterior of their vehicles. While in Kuwait, the 497th tapped the talents of its Soldiers and found competent welders to armor the doors of all vehicles with ballistic steel. The company also received add-on armor kits, which included ballistic doors and windows, for all of the company's M998 high-mobility, multipurpose, wheeled vehicles (humvees).

Once the vehicles were uparmored, the company began mounting crew-served weapons on M923 5-ton cargo trucks to give them fire superiority when facing the enemy and enable them to withstand myriad threats and provide reliable security to convoys. To achieve this, the 497th's Soldiers mounted three-post ring mounts to their vehicles.

The company still lacked assets that were critical to mission success. It had seven up-armored humvees and five ring-mounted gun trucks but only eight crew-served weapons and five weapon mounts. This was enough equipment to provide security for only one convoy mission at a time. To increase the company's complement of weapon mounts and armor, a team of resourceful Soldiers searched throughout Kuwait for equipment left by redeploying units. However, the company was unable to obtain more crew-served weapons, so it maximized its use of the M249 squad automatic weapons it had brought from Fort Lewis.

Communication was another issue that had to be addressed. As a light-medium truck company, the 497th did not have FM radios for every vehicle. It could provide radios only for the convoy command and control element, lead vehicle, and trail vehicle. The company also had five Movement Tracking System (MTS) mobile units for its humvees and two MTS control stations for its operations platoon. Since the enemy was capable of attacking at any point of the convoy, every vehicle would need communication capability, so more radios were needed. The company quickly augmented its FM capability with Icom F60 squad radios and obtained MTS mobile units to install in the M923 gun trucks. MTS proved to be a reliable asset for convoy commanders and provided the company with visibility of its assets.

Maintenance

It soon became apparent that keeping a gun truck company rolling was a much more daunting task than maintaining a transportation company. The 17-Soldier maintenance platoon had to perform diverse tasks, ranging from vehicle maintenance and recovery to welding.

Maintaining a fleet of M923 trucks was a 24-hour-a-day task. Many of the Soldiers were younger than the average age of the trucks in the fleet. The age of the fleet necessitated special attention from the company's maintainers and operators. A pre-mission quality assurance and inspection program was developed and incorporated into the convoy commander's responsibilities. Every time a vehicle left the gate, it was inspected at the technical manual –10 level by the operator and at the –20 level by unit maintenance personnel. This gave the Soldiers greater confidence in their vehicles than they had when only preventive maintenance checks and services were performed. Throughout their deployment, the maintainers of the 497th completed over 1,800 quality assurance/quality control inspections, and no missions were dropped because of mechanical failure.

Convoy Image

Operating safely in the Iraqi theater required the company to present a tough-as-nails appearance at all times. The Soldiers quickly learned that the deadlier they made their convoys look, the less likely they were to meet with enemy interdiction. A constant mission tempo allowed the company leaders to develop tactics, techniques, and procedures to counter enemy attacks effectively.

Rolling heavy with a mix of crew-served weapons, such as the M240B machinegun, M2 machinegun, and MK19 machine grenade launcher, provided the diversity needed to deal with whatever threat the convoy encountered. Midway through the deployment, the company received a complement of M1114 up-armored humvees. These were quickly incorporated into the mission cycle, giving the convoy commanders excellent defensive capabilities. The M1114 had improved armor, additional weapon systems, and communications equipment. Unlike the M923 gun trucks, which were manned with a driver, relief driver, gunner, and assistant gunner, only three Soldiers were required to operate the M1114s.

Although the M1114s were faster, they lacked the intimidation factor that the M923 trucks had. Thus, convoy commanders preferred to have an M923 in the lead because of its ability to power through almost anything it encountered. Company leaders instituted security escort procedures that were based on the environment the convoy would traverse. If the convoy was heading to an urban environment, such as Baghdad proper, a 50–50 mix of M1114s and M923s was used. Convoys with only M1114s were used for long-haul or rural convoys.

> Since the enemy was capable of attacking at any point of the convoy, every vehicle would need communication capability, so more radios were needed.

The company's maintenance platoon found different challenges with the new M1114s. The vehicles had temperamental transmissions, and repair parts were scarce. Therefore, the company leaders restricted the use of these vehicles to mission-related trips only. Since even minor damage could put the M1114s out of commission for weeks, they were sacrosanct.

When the 497th received the mission to move from Al Taji to Camp Striker at Baghdad International Airport and become the dedicated security escort for the Joint Military Mail Terminal, they were in for a wild ride. They had to overcome many obstacles to complete their mission successfully. However, many of KBR's drivers who provided line-haul support for the terminal were entering their second year in Iraq and had thousands of miles of experience on some of the country's toughest roads. They accepted the "new guys" of the 497th Transportation Company with open arms, making the transition easier. Together, they delivered the most morale-boosting commodity in theater—Soldiers' mail. **ALOG**

The maintenance section of the 497th Transportation Company continuously updated the gun box design on their gun trucks. These trucks have a four-post ring mount and a fully enclosed shield for the gunner.

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Asset Visibility in the Tactical Environment

BY KEVIN D. KINGSLEY

The Army must ensure that its CSS systems are completely interoperable and capable of producing accurate and timely information that is useful in supporting the warfighter.

If the Army is to transform to a force that can respond rapidly with leaner sustainment and lighter deployment requirements, it must reduce its forward logistics footprint and increase its responsiveness. Future sustainment processes must be simpler and more responsive, agile, and flexible to meet sustainment requirements. A significantly smaller logistics workforce must be able to provide highly effective support over extended distances in shorter times. Technology and innovation must be used whenever feasible to increase readiness and operational reliability.

The Department of Defense (DOD) has made great strides in improving asset visibility at the strategic and operational levels. The Army learned from Operations Desert Shield and Desert Storm that it was unable to track supplies and equipment from the strategic industrial base to the theater of operations. This failure caused the theater logistics footprint to grow exponentially and placed a heavy burden on supply and transportation systems.

DOD recognized this deficiency and implemented steps to develop a DOD-wide automatic identification technology (AIT) vision to integrate existing and new technologies to support future operations. This vision emphasized the development of a suite of interoperable AIT media and infrastructure to support asset visibility within the Army's logistics operations. Even though DOD was able to implement AIT at the strategic and operational levels, it was not as successful in devising and implementing a plan for operations outside of the normal peacetime environment. This was evident during the initial stages of Operation Iraqi Freedom, when tracking supplies pushed from the strategic and operational levels was nearly impossible. Asset visibility should not stop at the strategic level but go as far forward as possible to support the tactical environment ("the last mile").

Legacy System Shortfalls

Total asset visibility is achieved by using timely and accurate information systems that track the distribution of assets. Visibility begins at the point from which materiel is shipped to the theater of operations and continues until it reaches the user. Critical to visibility is the capability to update source data dynamically with the near-real-time status of shipments from other combat service support (CSS) systems until the shipments arrive at their ultimate destinations. However, this is a difficult task because the legacy logistics automation systems used in CSS activities are not interoperable with current and emerging AIT. Moreover, the Army's logistics distribution processes are not using the type of technologies used by large distribution-based commercial enterprises.

To combat this shortfall and integrate interoperability into its systems, DOD has begun to form partnerships with commercial industries such as Wal-Mart in hopes of learning how they apply asset visibility technologies. However, unlike Wal-Mart, the military distribution system must support full-spectrum operations throughout the strategic, operational, and tactical environments.

During Operations Desert Shield and Desert Storm, the Army's problems with tracking and maintaining visibility of deployed units' CSS resources were caused largely by a lack of technology and the use of legacy logistics systems that provided only a limited capability to communicate throughout the supply chain. As a result, commanders at the tactical level developed a "just-in-case" logistics strategy. Since the CSS systems were not responsive and failed to provide near-real-time visibility of needed supplies and equipment, tactical commanders often placed several orders for the same item "just in case" the first order did not arrive. This practice placed a heavy burden on the industrial base, the war reserve stockpile, and the

transportation system from the strategic to the tactical levels. During Operation Desert Storm, more that half of the contents of 400,000 cargo containers shipped to the desert—including $2.7 billion worth of spare parts—were not used, according to a Government Accountability Office (GAO) report. With little or no visibility of what was in the containers, receiving personnel had to open them to identify the contents. This process wasted valuable human resources and caused customer wait time to skyrocket.

Funding for AIT

After Desert Storm, DOD tried to resolve the visibility shortfalls by working with several defense contractors, such as Savi Technologies, Inc., and UNISYS Corporation, to develop a test bed for integrating commercial off-the-shelf products into CSS processes and "bridging" those products to the Army's legacy logistics information systems.

In March 2000, DOD implemented a plan that integrated logistics AIT into logistics business processes to facilitate the collection of initial source data, reduce processing times, improve accuracy, and enhance asset visibility. However, this plan was undercut by a lack of funding. Although DOD's policy laid out milestones for implementation, it did not provide funding for the plan. The Department of Defense Implementation Plan for Logistics Automatic Identification Technology stated—

> AIT devices are generally managed as automated data processing peripheral equipment and will be funded and maintained by using organizations. In accordance with the Defense Planning Guidance, organizations that operate nodes in the DOD logistics chain will fund, procure, and maintain the ability to read and write AIT media to meet mission requirements.

Pallets of cargo destined for Kirkuk Air Base, Iraq, await upload onto a C–130E Hercules transport at a forward deployed location in Southwest Asia.

Current System		The Way Ahead	
Pro	**Con**	**Pro**	**Con**
DOD guidance.	Does not address tactical environment.	Army awarded Savi Technologies, Inc., a $90M contract to provide radio frequency technology.	No clear plan on distribution of technologies purchased.
Limited asset visibility at the strategic, operational, and tactical levels.	No standardization for use of technology to achieve asset visibility.	Transition from a supply-based system to a distribution-based system to reduce logistics footprint.	Until logistics systems catch up with technology, logistics will sink back to supply-based operations.
Information systems available to track supplies as they move through the pipeline.	Doctrine and organizational documents do not address providing technologies.	Combat support automation system transformation from legacy to future technology initiatives.	Time and money required to transition logistics systems.
DoD provided initial funding through the Logistics Integration Agency.	Funding at unit level is the responsibility of the user.	Combined Arms Support Command (CASCOM) current doctrine update initiative.	Doctrine may be outdated once updated.

The AIT implementation plan placed the financial burden on the organization to use its current operation and maintenance, Army (OMA), dollars to fund AIT. This burden was felt in the 19th Theater Support Command (TSC) in 2000, when it was attempting to develop and implement the AIT architecture for Army logistics operations in Korea. To meet DOD's milestones, the 19th TSC had to use its own funds and devise creative ways to acquire funds to support the DOD initiatives and provide the theater commander with total asset visibility. For example, the 19th TSC convinced the Army Logistics Integration Agency (now the Logistics Transformation Agency), which had the Army lead on AIT, to shift funding from Europe to Korea.

The persistent lack of funding also caused significant problems in fully leveraging AIT and achieving total asset visibility during the first 12 months of Operation Iraqi Freedom (OIF). OIF is one of the largest logistics efforts that the U.S. military has ever undertaken. For example, of the $28.1 billion that DOD originally obligated for OIF, the services and the Defense Logistics Agency reported that $14.2 billion were designated for operating support costs and $4.9 billion were allocated to transportation of the large numbers of personnel and huge quantities of equipment that had to be moved long distances into the Iraqi theater.

Logistics Deja Vu

GAO's report to Congressman Jerry Lewis, chairman of the House Appropriations Committee, stated that, "although major combat operations during the initial phases of OIF were successful, there were substantial logistics support problems." GAO reported that one of these problems was the duplication of requisitions and circumvention of the supply system as a result of inadequate asset visibility. Units operating in the theater could not track equipment and supplies adequately because asset visibility systems were not fully interoperable.

The same logistics issues that prevailed in Operation Desert Storm caused commanders to resort to the "just-in-case" ordering strategy in OIF, even though

DOD had directed all activities to implement its AIT plan. At the theater distribution center in Kuwait, hundreds of pallets, containers, and boxes of supplies and equipment piled up. Radio frequency identification (RFID) tags were not used consistently in spite of an order issued in January 2003 by General Paul J. Kern, Commander of the Army Materiel Command, requiring that all air pallets, containers, and commercial sustainment shipments supporting Operation Enduring Freedom or future operations be identified with RFID tags. Months earlier, General Tommy Franks, Commander of the U.S. Central Command, had issued a policy requiring the use of RFID tags whenever feasible to track assets shipped to the theater.

The tactical environment of OIF presented many challenges that doctrine or policy did not or could not consider. Without knowing where the required CSS resources were or if they were available, materiel managers could not conduct their mission effectively or efficiently. However, because Soldiers are professionals, they accomplished their mission by relying on their creative abilities and skill to solve problems "on the fly."

New DOD AIT Policy

AIT provided some value at the tactical level after the systems network was established. However, funding shortages and the requirement for the user to fund AIT solutions hindered development of the AIT architecture to support operations in the tactical environment. Lessons learned from OIF were captured by several agencies in and out of DOD. These lessons caused DOD to reevaluate its AIT policy.

On 30 July 2004, DOD issued a new AIT policy that addresses the use of new technologies to capture asset visibility at the strategic level, including defense contractor organizations, but DOD did not provide guidance on funding AIT initiatives at the tactical level. However, the Army recently awarded a 3-year, $90-million contract to Savi Technologies, Inc., for radio frequency technology hardware, software, and services. The contract will enable the Army to buy a wide range of automatic identification and data-collection technology to track supplies worldwide. The Army and DOD will continue to commit money to AIT in hopes of developing an improved asset visibility system. However, the Army's legacy systems still are not interoperable or capable of fully supporting near-real-time visibility.

The Army's CSS systems must be responsive, predictive, and capable if they are to capitalize on AIT. The Army must transform its CSS systems so that they are completely interoperable and functional if they are to produce accurate and timely information that is useful in supporting the warfighter. (See chart at left.) This transformation is critical to support of changing battlefield conditions and information-centric operations. Dedicated effort and resources are needed to ensure that systems are capable of supporting asset visibility throughout the logistics pipeline.

> Compliance with this RFID tagging policy is absolutely essential—no other existing system provides the necessary visibility or level of detail. RFID is the only tool that allows CFLCC [the Coalition/Joint Forces Land Component Command] to identify critical cargo, locate it and anticipate its arrival. The technology is proven, widespread and is positively required for CFLCC operations.
>
> —General Paul J. Kern
> Commander, Army Materiel Command
> January 2003

The CSS system must meet requirements that change with little notice. Military leaders must assume that changes in priorities will be the norm on current and future battlefields, and they must be ready to respond quickly. The CSS structure should focus on providing support as far forward as practical in the tactical environment. All CSS logistics operations must be designed, coordinated, and executed with a view toward providing comprehensive and uninterrupted support to the warfighter.

As the Army transforms, its asset visibility systems must migrate toward a true "joint-centric" system. Integrating systems and leveraging new technology will aid in CSS transformation. Through total asset visibility from the strategic to the tactical level, the Army will be able to reduce its logistics footprint and provide just-in-time CSS support to the warfighter. **ALOG**

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Establishing Command Supply Discipline After Deployment

BY CHIEF WARRANT OFFICER (W–3) ANTHONY L. RAWLINGS

After it redeployed to Germany from Iraq, the 440th Signal Battalion spent 9 arduous months reestablishing proper command supply discipline.

During a recent 12-month deployment to support Operation Iraqi Freedom, the command supply discipline of the 440th Signal Battalion, an element of the 22d Signal Brigade in Darmstadt, Germany, was challenged many times. For example, equipment was lost en route to Iraq, and several key logistics positions were unfilled, including the battalion property book officer (PBO) and several company supply sergeant positions. To make property accountability even more difficult, the battalion had to conduct a change-of-command inventory while its equipment was spread across Iraq, and it had to migrate from the Army's legacy property book system, known as the Standard Property Book System-Redesign, to the new Property Book Unit Supply Enhanced (PBUSE) system.

The battalion cleared these hurdles, but command supply discipline suffered. After returning to Germany, it took the battalion 9 months to reestablish proper command supply discipline. Budgetary constraints impeded the battalion's ability to replace damaged, missing, or obsolete equipment. Battalion leaders learned that replenishing a unit after a yearlong deployment was difficult without adequate financial resources and proper prioritization. Missions cannot be accomplished if equipment is inoperable, incomplete, unavailable, or obsolete. To help mitigate the equipment shortfalls, leaders must provide time on unit training calendars to teach Soldiers proper command supply discipline. Just as "maintenance is training" for the Soldiers performing it, "logistics is training" for the Soldiers who participate in logistics activities, such as monitoring the unit's property and managing equipment transactions.

> The best means of ensuring command supply discipline is to be proactive and not reactive in supply operations. Supply discipline does not lend itself to infrequent emphasis. Enforcing supply discipline and compliance with regulatory requirements demands constant command emphasis. Commanders and Supervisors must routinely adhere to CSDP procedures and foster supply discipline at all levels.
>
> —Army Regulation 710–2, Supply Policy Below the National Level

Lessons Learned

Since returning from Iraq, battalion, company, platoon, and team leaders in the 440th Signal Battalion have learned the value of proper command supply discipline. Although none of the leaders would be anxious to go through the process of reestablishing proper command supply discipline again, all probably would agree that the experience made them more effective leaders and better custodians of Army property. After months of relentless supply emphasis, Soldiers and leaders alike know what it means to have an effective command supply discipline program. Lessons they learned include—

- If possible, ensure that the company commander is assigned before deployment so that a change-of-command inventory will not be necessary during that deployment. Inventorying in the field generally leads to poor change-of-responsibility inventories that ultimately result in violations of Army Regulation (AR) 735–5, Policies and Procedures for Property Accountability, and possible relief actions.
- Assign a logistics liaison team to the sea port of debarkation to ensure that all equipment shipped is actually received. If equipment is not received on time, the team should investigate and possibly initiate a financial liability investigation. Do not wait until the deployment is completed and the unit has returned to home station to take action. This is a big mistake!
- Take necessary measures to ensure that your unit has a PBO assigned to monitor unit property and a supply sergeant to manage all logistics transactions,

including those in the rear detachment.

• If possible, do not migrate to a new property accountability system until all rear and forward property accountability records have been reconciled.

• Make sure that unit supply sergeants keep up with logistics administrative actions and documentation. Historical records are essential when reconciling property issues.

Supply Responsibilities

The Army standard for maintaining and tracking supplies is to treat the property as if it were your own. The Army Command Supply Discipline Program (CSDP), which is implemented by AR 710–2, Supply Policy Below the National Level, is the embodiment of that standard. The CSDP provides Soldiers and leaders alike a common set of rules for safeguarding scarce resources.

Many Soldiers and leaders believe that they have no responsibility or culpability for Army property unless they have accepted it on a hand receipt. This is a myth. Every Soldier has some level of responsibility for property in his unit.

The commander has *command responsibility* as soon as he takes command. A platoon leader or section chief has *supervisory responsibility* once he assumes his position. Squad leaders, team chiefs, and staff officers in charge and noncommissioned officers in charge incur this same supervisory responsibility. Soldiers have *direct responsibility* if they have physical control of property or if they have signed for it on a hand receipt. Soldiers who sign a hand receipt are accountable for all components of items listed on the hand

Above, Soldiers of B Company, 440th Signal Battalion, fold a general-purpose tent during property book operations in preparation for deployment. Below, a specialist with A Company, 440th Signal Battalion, counts camouflage screen support system stakes in order to adjust the brigade property book.

receipt unless they receive a valid shortage annex that lists components that are not available for issue. Without a valid shortage annex, an item is assumed to be complete. The final type of responsibility, *personal responsibility,* should be inherent in all members of the Armed Forces.

These four types of responsibility are linked to one common goal: the proper care, use, and safeguarding of Army property. These responsibilities are a cornerstone of sound leadership; they cannot be delegated, withdrawn, or ignored. These responsibilities are assumed with or without a written hand receipt. The CSDP allows commanders to set a climate in which supply policies are enforced. It establishes an environment in which Soldiers and leaders can manage property proactively and requisition supplies and equipment. Soldiers and leaders who are responsible for equipment must know their equipment, its whereabouts, and its status. When one person deviates from the standard of maintaining, caring, and safeguarding Army property, the CSDP is compromised.

The bottom line is that the Army has a proven, time-tested process for managing property. By following the CSDP and providing proper command emphasis to its enforcement, your unit will have the lethal resources needed to fight and win wars. **ALOG**

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The author wishes to thank Major Mark Rosenstein and Captain Gamaliel Rosa of the 440th Signal Battalion for their assistance in preparing this article.

The 22d Signal Brigade property book noncommissioned officer in charge processes hand-receipt adjustment documents using the Property Book Unit Supply Enhanced (PBUSE) system.

Gun Trucks: A Vietnam Innovation Returns

BY MAJOR DEAN J. DOMINIQUE

Before 1967, there was no relevant doctrine for using gun trucks to support convoys. Today, our military forces in Iraq face an enemy that has chosen to attack soft targets, just as the enemy did in Vietnam. In Vietnam, soft targets often were supply convoys traveling with little protection. Our Soldiers quickly began using gun trucks to protect themselves and deter attacks. That is the situation our forces are facing today, and they are repeating many of the lessons of Vietnam.

The Enemy Targets Convoys

In the fall of 1967, the North Vietnamese Army (NVA) decided to sever the lines of communication along Route 19 to the combat units at An Khe and Pleiku. Route 19—unknown to many U.S. drivers—had a fateful past. Thirteen years earlier, during the French Indochina War, the Viet Minh completely destroyed an entire brigade-size French element along the same route. The U.S. forces were overly dependent on trucks for fuel and supplies, and the enemy commanders knew that.

Guntrucks. See anything suspicious on the passes—shoot it. Use judgment.

—James Rose,
Vietnam Convoy Standing Operating Procedures

On 2 September 1967, a convoy of almost 40 vehicles from the 8th Transportation Group was returning from Pleiku. By the time it reached An Khe Pass, the convoy was split because of mechanical problems with a fuel tanker. It was almost dark when the lead gun jeep was ambushed. Simultaneously, the rear half of the convoy was attacked and the rumbling fuel tanker began to burn. Many of the Soldiers were unprepared and were caught by surprise. Before this ambush, enemy attacks on U.S. convoys had been minimal and limited to sniper-like attacks. This was the first major ambush of an American convoy, and it changed the nature of logistics operations for the rest of the war.

Crews often gave their gun trucks colorful names, sometimes, like "Canned Heat," derived from contemporary popular culture.

The kill zone was almost ½-mile long. Many of the Soldiers were not trained to react to ambushes, and they depleted what little ammunition they had. In less than 10 minutes, the enemy company had damaged or destroyed all but seven vehicles and killed seven Americans. The ambush was merely a rehearsal for future attacks that would be launched to shut down supply lines of communication before the Tet Offensive of 1968, which was only 5 months away.

U.S. Transporters Develop a Response

Before this ambush, many Soldiers regarded convoy security primarily as a function of the military police or combat arms. Protection was provided by jeeps or task vehicles with single machineguns, much as in past wars. The Soldiers of the 8th Transportation Group realized how important dedicated firepower was to protecting convoys, so they began to develop the concept of gun trucks and hardened convoys.

Initially, the Soldiers mounted machineguns on 2½-ton cargo trucks. Some of the companies, under the direction of the group's executive officer, constructed sandbag-filled boxes in the back of cargo trucks to

The author's cousin (right) and another Soldier sit in a gun jeep (with dual M60 machineguns) on a convoy in the Central Highlands of Vietnam on the way to Pleiku in 1967.

protect an M60 machinegun and gunner. However, the rain-soaked sandbags proved too cumbersome for the vehicles. So drivers began using steel plates to reinforce the vehicles. Precut steel-plate armor kits designed in the United States also were fielded for the vehicles. To avoid depleting the tasking fleet, the companies began using administrative 2½-ton cargo vehicles as gun trucks. The group commander also decided to increase the number of gun trucks from 1 to 3 per 30 trucks in a convoy. The improved gun trucks began to incorporate a second machinegun for added firepower.

The next significant step in the evolution of the gun trucks resulted from the leadership of Colonel Joe Bellino. He assumed command of the 8th Transportation Group less than a month after the 2 September ambush. Bellino understood the importance of what the companies were doing to protect the convoys, and he encouraged his subordinates to experiment with gun trucks and convoy doctrine. He did not want to rely on military police escorts and increased the number of gun jeeps for convoy escort. Although trucks with ring-mounted machineguns were used in World War II and the Korean War, Bellino fostered the idea of the gun truck as a dedicated fighting platform. By this time, ring mounts finally arrived in Vietnam and the number of machineguns could be increased to three on each gun truck.

One 8th Group change was to divide convoys into march units that were spaced at least 5 minutes apart, creating smaller elements that were easier to command and control. This change is now part of convoy doctrine. Another development involved communication with the gun trucks. Up to this point, gun trucks did not have the means to communicate with convoy commanders. Bellino ensured that all convoys had a radio-equipped gun jeep in the lead, followed by a 2½-ton gun truck, with a gun truck in the middle and a third gun truck in the rear with a wrecker.

The doctrine for gun truck employment developed as well. Gun truck crews were trained not to drive into a kill zone to attack the enemy. Instead, they initially would provide suppressive fire to the enemy flank until a security team could sweep the enemy from the area. The trucks were well equipped to survive in a kill zone, but their crews were trained to attack the enemy flanks. Once the enemy was suppressed, the trucks then would move up to provide covering fire so the convoy could consolidate and reorganize.

The Enemy Tries Again

It had been less than 90 days since the first large-scale ambush against U.S. convoys when the enemy made a second coordinated attempt. But in that short time, the 8th Group's leaders and drivers had put many of the new gun trucks and associated doctrine into play. On 24 November 1967, a convoy of six march units departed with a gun truck leading each one.

> Convoys are more vulnerable to attack than ground maneuver forces and they, along with all other seemingly routine operations, should be planned and executed as a combat operation.
>
> —Quick Reaction Force Headquarters, Mogadishu, Somalia, 19 October 1993

The total number of vehicles was almost 70, including 6 gun trucks and 3 gun jeeps. The NVA opened up with a coordinated attack on the convoy along a 1,000-meter kill zone. Following the updated doctrine resulted in a severe blow to the enemy forces. The drivers fought back and held the enemy

"Eve of Destruction," believed to be the only surviving Vietnam War gun truck, begins its journey home from Vietnam (below). It is now on display at the Army Transportation Museum at Fort Eustis, Virginia (right).

until mechanized infantry from the nearby checkpoint moved in to mop up. When it was all over, the 8th Group had lost 14 trucks with 2 drivers killed. On the other hand, the enemy lost 41 killed and 4 captured. The new doctrine of the gun truck had begun to pay big dividends.

Only a week later, a convoy of almost 80 vehicles was ambushed by the Viet Cong. In less than 15 minutes of battle, the gun trucks broke up the ambush and killed 13 enemy soldiers. The Americans lost one killed in action and six wounded. This action clearly demonstrated that the updated tactics of the gun truck could reduce losses significantly while resulting in increased damage to the enemy. Lieutenant General William B. Rosson, the commander of I Field Force, Vietnam, said in a review of the ambushes, "These 8th Group truckers are the unsung heroes of this war." The gun truck, though not authorized on paper, was unofficially accepted and encouraged at all levels of the U.S. command in Vietnam.

During the Army's remaining time in Vietnam, gun trucks continued to develop into dedicated fighting platforms. Soldiers were proud to be part of the gun truck crew. They trained hard, and they showed their extreme pride in the trucks by personalizing them with names and flamboyant designs. According to Rich Killblane, the Transportation Corps historian—

> There were lots of changes to convoy doctrine in Vietnam. Bellino experimented with dividing convoy serials into ten trucks with a gun truck. That was the organization during the 24 November 1967 ambush. By the next year, they settled upon 30 as the optimum number for a serial. There was lots of experimentation with gun truck designs: quad 50s, APC gun trucks and V–100 armored cars. The 5-ton with gun box proved the best. As late as 1969, senior leaders thought the V–100 would replace the gun truck. The drivers did not like the idea of being buttoned up. The armored car had limited visibility and fire power. If a round penetrated the armor, then it would ricochet around inside. As the gun truck design improved, the crews gained greater confidence in them. They then began to drive into the kill zone to protect disabled vehicles and rescue drivers.

Unfortunately, the lessons learned in Vietnam were forgotten during the Cold War. It was not until 1993 in Somalia that the Army once again began to armor support vehicles. After Somalia, however, the Army focused on building a fleet and not on protecting it. The initial wake-up call in Iraq came at An Nasariyah in March 2003 with the heavily reported ambush of the 507th Maintenance Company. In the following months, the Iraqi insurgency stepped up attacks against the relatively unprotected logistics convoys leaving Kuwait. The result was that many students of Vietnam gun trucks and doctrine began to turn to the lessons of the past. Because of those lessons learned on battlefields almost 40 years ago, the military was able to quickly adapt Vietnam-era doctrine and integrate new techniques to combat the Iraqi insurgency. The result is that logistics convoys are no longer an easy target and that, if they are engaged, convoy escort platforms (as they are now known) can inflict heavy damage on an enemy force.

Many Soldiers' lives have been saved, both in Vietnam and in Iraq, because of the gun truck doctrine developed in Vietnam. Convoys cannot be expected to travel as freely as they once did through the linear battlefields of World War II, Korea, or even Desert Storm. The enemy knows that it cannot defeat America's strength, so it will continue to attack soft targets wherever it can find them. Thanks to the gun truck, the targets will no longer be our convoys. **ALOG**

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The author would like to thank Rich Killblane, the Transportation Corps historian, for his assistance in writing this article.

This gun truck is protected by an armor kit developed by Lawrence Livermore National Laboratory.

Centralization of Cataloging Procedures for Nonstandard Materiel

BY CHIEF WARRANT OFFICER (W–5) DAVID A. DICKSON, USAR

The Army, like many commercial businesses, relies on cataloging supplies and equipment to standardize requisitioning and accountability. When items are entered into the Federal supply system, they are cataloged and assigned specific codes that identify their characteristics. These items normally are assigned national stock numbers (NSNs) and, in some cases, line item numbers (LINs). However, it is often necessary to procure and account for items that are not in the standard catalog. These items are cataloged at various levels and entered in a nonstandard, or user-created, catalog. A nonstandard item is assigned a nonstandard LIN (NSLIN) instead of a standard LIN (S–LIN) and a management control number (MCN) instead of an NSN.

An item is assigned an NSLIN or MCN for one of three reasons. The first, and most common, reason is that the item is a commercially procured item requiring property book accounting; automation equipment falls into this category. The second reason is that the item has an NSN but not a LIN and requires property book accounting. In this case, the NSN can be used, but an NSLIN will have to be assigned. The third reason is that newly procured equipment is fielded before the item manager type-classifies it and enters it into the standard catalog.

The Shadow 200 unmanned aerial vehicle is an example of an item that would be listed in a user-created catalog because it is non-type-classified.

A property book record cannot be established for a piece of equipment unless a standard or user-created catalog record exists for that item. Since commercially procured items and items that are not type-classified are not in the standard catalog, they must be entered in a locally developed catalog.

Type Classification

When an item is being considered for use, a materiel developer determines its acceptability, taking into account authorizations, procurement, logistics support, and asset and readiness reporting for the item. Once this process is complete, the item is cataloged. This procedure is known as type classification. Before this process occurs, the item is considered non-type-classified.

User-Created Catalogs

Under the accepted procedure for cataloging non-type-classified items, the local property book officer (PBO) creates a record in the user-created catalog (originally called the nonstandard catalog). At the division-level, a division-level catalog team performs this function. The use of decentralized cataloging procedures has led to the establishment of user-created catalogs that, although they may contain the same items, cannot be cross-referenced to determine what items the units have in common.

The Army National Guard adopted a policy of cataloging non-type-classified items at the state or territorial level at United States Property and Fiscal Offices. This reduced the number of user-created catalogs to 54—one for each state and territory. The Active Army and the Army Reserve cataloged these items at the PBO level, which resulted in thousands of distinct user-created catalogs.

Recognizing this tendency for duplication, the U.S. Army Reserve Command (USARC) decided to set up a centralized user-created catalog for all of its subordinate units in 2001. The agency designated to maintain the user-created catalog for the Army Reserve is the Office of the Deputy Chief of Staff, G–4, USARC. Around the same time, U.S. Army Europe

(USAREUR) also decided to establish a centralized user-created catalog for the European theater. USAREUR assigned this task to the 200th Theater Distribution Brigade.

The Supply Policy Division of the Office of the Deputy Chief of Staff, G–4, Headquarters, Department of the Army, is studying the possibility of centralizing the cataloging of commercially procured and non-type-classified items at Army level for Active Army units. Various advances in technology now make the centralization of nonstandard-item cataloging more feasible and desirable.

The move from the stand-alone property book system, the Standard Property Book System-Redesign, to the Web-based property book system, the Property Book Unit Supply Enhanced (PBUSE), has made real-time asset visibility possible at the highest level. Soon the Army plans to change its current supply automation systems to an enterprise resource planning (ERP) system format developed by SAP, a software development company headquartered in Germany. A SAP NetWeaver brief, "Manage Rich Product Content," stated—

> Product data in most companies typically can be found in multiple systems, spreadsheets, and applications. As long as this data resides in disparate systems, the data in each system will continue to evolve independently and sometimes contradictorily. Decisions and processes based on unsynchronized master product data lead to a greater risk, greater waste, and greater consumer dissatisfaction.

Using the SAP software to consolidate and centralize catalog functions is more in line with recommended procedures and simplifies the migration process.

The Army Materiel Command's Logistics Support Activity (LOGSA) is projected to get the Active Army nonstandard-item cataloging mission. This is a departure from the standard cataloging responsibilities and procedures defined in Army Regulation (AR) 708–1, Logistics Management Data and Cataloging of Supplies and Equipment. Although LOGSA does have some personnel with cataloging experience, their main function is to extract and organize catalog data from the Army Central Logistics Data Bank (ACLDB) for use in various Army publications. Since LOGSA usually does not enter catalog data into the ACLDB, it does not have employees whose sole function is cataloging supplies and equipment.

SLAMIS

LOGSA uses a system called SSN–LIN [standard study number-line item number] Automated Management and Integrating System (SLAMIS) to provide visibility and support the management of a system's life-cycle process. A module has been added to SLAMIS that allows units in the field to request the LOGSA research cell to catalog nonstandard items.

SLAMIS provides PBOs with a completely automated, Web-based system for requesting NSLINs and MCNs. After a PBO enters information into SLAMIS and submits a request, the system sends an email message to the research cell. The research cell takes one of three actions: adds the item to the catalog, rejects the request because the item does not meet the criteria to be added to the catalog, or returns the request to the submitter for more information. The requester receives an email message informing him of the action taken.

Benefits of Centralized Cataloging

Having centralized cataloging procedures has several benefits. First, it provides visibility of nonstandard items at the highest levels. Using the current system, each person developing a catalog probably will assign different numbers to the same item. Although this is not a problem at or below the cataloging level, it makes it nearly impossible for managers at higher levels to determine the density of a particular nonstandard item. The ability to identify like items located in different commands can be especially useful if a unit has excess nonstandard items that might be used in other units. For example, the Army National Guard units in one state may have excess items that could be used by units in another state. However, since each state runs an independent catalog, it is virtually impossible for one state to know what is available in another state. Items that could be used by another command often end up being turned in to a local Defense Reutilization and Marketing Service center.

Another benefit of centralized cataloging is decreased strain on the server that stores consolidated data. The Army now uses a Web-based property accountability system, and all property data and catalog information normally are consolidated on a single server or in a server bank rather than on each using unit's system. Having hundreds or even thousands of distinct records that identify the same item could put an unnecessary strain on the server. The Army plans to migrate its current logistics automation systems to an ERP system. Reducing the amount of data in the system before the migration to the new system will ease this transition.

The ability to track demand history for commercially procured items is another benefit of a consolidated, centrally managed catalog. If the trend shows

Proposed NSLIN Structure	
Type	**Characteristics**
CTA-type equipment	1. Five numbers followed by an N or R (for example, 12345R). 2. Identifies items authorized to specific organizations by CTA.
Pushed equipment	1. Five numbers followed by a letter other than N, R, I, or O (for example, 12345A). 2. Identifies items that have been pushed to the field by the Department of the Army, the Army Materiel Command, or a program manager. 3. Items expected to be adopted into the standard Army system and assigned a S–LIN.
MTOE/TDA-type equipment	1. Two letters followed by a four-digit serial number. 2. First letter matches the first letter of the LIN of a standard item. (For example, a commercially procured radio would be assigned an "R" in the first position.) 3. Second letter is the first letter of the generic nomenclature of the item. (For example, a commercially procured radio would be assigned an "R" in the second position.) 4. Last four positions are a locally assigned four-digit serial number (for example, RR0001).

The chart above defines the proposed NSLIN structure for a centralized non-type-classified item catalog.

that a particular type of item is procured on a regular basis by several different units, it may be worthwhile to add this item to the standard Federal catalog and centralize the procurement of the item.

Disadvantages of Centralized Cataloging

With any change comes the potential for problems. Implementation of the new system will be no different. The time lag that will occur between the time that the item is acquired and the time that it is cataloged could present a problem because an item cannot be added to the property book until it is cataloged. AR 710–2, Supply Policy Below the National Level, states that receipt processing time should be 1 to 3 days. If the cataloging agency is external to the unit procuring the item, there will be a time lag between the time when the item is received and the time when it is cataloged.

Another problem is the level of definition of the nomenclature. If an item description is too general or if the catalog research cell makes assumptions about an item that they have never seen, the nomenclature may not describe the actual item. Determining the level of definition also includes deciding if similar nonstandard items will be broken down by make and model. For example, will all laptop computers be assigned the same NSLIN and MCN or will the various models be identified with a distinct MCN? Consolidating like items will help control the size of the catalog. However, it will cause other problems.

The most noticeable problems will occur when one of these items is missing. AR 735–5, Policies and Procedures for Property Accountability, prescribes the use of "fair market" value to determine the value of the loss. However, the specific make and model of the item must be known to determine fair market value. Those who favor consolidating like items have stated that it is the G/S–6's responsibility to track automation assets by make and model for life-cycle replacement purposes. However, if an automated system, such as PBUSE, already exists to perform this function, it is not sound business practice to add duplicate administrative burden in another section.

NSLIN Structure

The structure of the NSLIN needs to be carefully implemented. The typical structure of a NSLIN is

based on whether it is more like a common table of allowances (CTA) item or a modification table of organization and equipment (MTOE) or table of distribution and allowances (TDA) item. The NSLIN structure for a CTA-like item is five numbers followed by a letter, and the NSLIN structure for an MTOE- or TDA-like item is two letters followed by four numbers. In an MTOE or TDA NSLIN, the first letter matches the first character of the LIN for a standard item that is similar to the nonstandard item. The second NSLIN character is the letter of the nomenclature of the item. By using this format, the nonstandard item will print out on the primary hand receipt in the same area as Army-adopted items that serve the same general purpose.

The table at left shows the proposed structure of NSLINs that has been recommended in the draft standing operating procedure for assigning NSLINs to be used in the centralized catalog. Since researchers sometimes do not know why an item was purchased, it may not be possible to determine the publication that is authorizing the item unless it is provided in the request.

What Should Be Cataloged?

One of the most controversial issues is determining who will decide what will be cataloged. AR 710–2 allows items to be added to the property book at the discretion of the local commander and PBO. This provision gives the commander and PBO maximum flexibility in adapting their accounting system to the operational needs of their specific unit.

Many recent discussions have addressed the strict implementation of Department of the Army policies that establish dollar thresholds for property book accounting. In the article, "Durable Property Accountability," in the Winter 2004 issue of the *Quartermaster Professional Bulletin,* Chief Warrant Officer (W–5) Leslie Carroll categorizes automation equipment as durable property based on the new $5,000 threshold. Although this may be an appropriate classification for some units, others may need to have the visibility of items that only the property book provides. For example, a laptop and a data projector used in a TDA-type activity may be considered an administrative piece of equipment; however, the same laptop and data projector in a unit deployed to a theater of operations may be used to project map data on the wall of an operations van. In this case, the equipment obviously supports the warfighter and a commander may want the equipment visibility that can be provided by having it on the property book.

Unfortunately, implementation of the increased dollar threshold has created some discord in the user community, where some believe that situational priorities override these policies. It is important to realize that, because the Army is such a diverse organization, it is not always advisable to implement absolute rules. A commander and PBO should be given the maximum latitude when presenting their case for inclusion of an item in the nonstandard catalog.

Changes to LOGSA Operations

Another challenge to centralized cataloging lies with the LOGSA research cell. Since LOGSA is generally not involved in the actual cataloging of supplies and equipment, centralizing the cataloging of nonstandard equipment would create the need for a substantial training period to bring the cell up to a level of proficiency that would enable its personnel to provide a timely response to requests. They also will need a training program for new employees.

Changes in technology require the Army to change the way it catalogs nonstandard items. It is important, however, that the Army not adopt new procedures without carefully evaluating the consequences. Before implementing a change of this magnitude, the Army must set up a comprehensive set of business rules based on input from all levels. Centralized cataloging of nonstandard materiel can work if implemented carefully and correctly. On the other hand, changing to a centralized cataloging system can be disastrous if poorly implemented or designed using one-dimensional thinking.

As the Army continues to move into the world of advanced automation technology, its leaders must keep in mind that it is the largest and most diverse "corporation" that exists today. Any change on the scale of the one described above must be well staffed and planned in order to minimize the effect on the warfighter and ensure a smooth transition. **ALOG**

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The author would like to thank Chief Warrant Officer (W–5) Jeffrey Hodgdon, Chief Warrant Officer (W–5) Gary Lanier, and Chief Warrant Officer (W–4) Gene Baker for their assistance in preparing this article.

ALOG NEWS

(continued from page 1)

logistics processes, SCP 06 will provide quality logistics support for the Army aviation community through the transition period to GCSS-Army (F/T).

The Standard Army Maintenance System-Enhanced (SAMS–E) is another interim improvement to Army logistics in advance of GCSS-Army (F/T). SAMS–E also has successfully passed the developmental testing phase and, once deployed, will simplify current business processes and provide information more quickly and accurately to commanders on the maintenance posture of their units. Upgrades to the Standard Army Retail Supply System (SARSS), including the use of radio frequency identification (RFID) technology and the Materiel Release Order Control (MROC) capability, will bridge another gap. These capabilities currently are being fielded.

GCSS-Army (F/T) will be a single management information system that will provide frontline forces with real-time logistics information. In part because it incorporates lessons learned during Operation Desert Storm and the initial stages of Operation Iraqi Freedom, GCSS-Army (F/T) will provide commanders with the logistics support they must have to make informed decisions. GCSS-Army (F/T) eventually will replace 16 stovepiped legacy supply and maintenance systems that have operated independently, lacked interoperability, and required input from separate sources.

ARMY AWARDS FIRST DEMONSTRATED LOGISTICIAN DESIGNATIONS

The Army recognized the pilot group of 29 Demonstrated Logisticians on 18 October in a ceremony at the Army Logistics Management College (ALMC) at Fort Lee, Virginia. The recipients earned recognition under the Army Designated Logistician Program, which was developed in a partnership between ALMC and SOLE—The International Society of Logistics.

The new designation program complements other educational and certification programs and provides progressive and sequential recognition in the various stages of development of multifunctional logisticians. The program recognizes three levels of designated logisticians: Demonstrated Logistician (DL), Demonstrated Senior Logistician (DSL), and Demonstrated Master Logistician (DML). Each designation has a standard list of requirements that are based on academic education, lifelong learning, mandatory learning, and a blend of two categories of experience (enablers and functionality, which will be documented as specific job experiences of 3 to 7 years, depending on the designation). Examinations are not required. The program is open to military and civilian logistics personnel in all ranks and grade levels.

The certificates were presented to the pilot group by Tom Edwards, the Deputy to the Commander, Army Combined Arms Support Command, and Sarah James, the Executive Director of SOLE—the International Society of Logistics.

Officers and warrant officers who have been awarded DL, DSL, and DML designations are authorized to include the designations in their Officer Record Briefs and Official Military Personnel Folders.

For more information on the Designated Logistician Program, visit the ALMC Web site, www.almc.army.mil.

NCO LEADER DEVELOPMENT COURSE REVAMPED

The Army has renamed its former Primary Leadership Development Course as the Warrior Leader Course (WLC) and revised the course curriculum to provide Soldiers with the small-unit tactical skills required to succeed in the Army's modular force structure. The WLC trains noncommissioned officers (NCOs) to visualize, describe, and execute squad-level operations in contemporary operational environments. To accomplish this, it includes lessons learned in Iraq and Afghanistan.

WLC students receive detailed squad-level combat leader training from instructors who have squad leader and platoon sergeant experience and are certified to teach the entire curriculum. The training is learner-centered and outcome-based and serves to reinforce small unit tactics, techniques, and procedures. Combat skills are evaluated in a 96-hour situational training exercise (STX) that includes 9 battle drills and 39 warrior tasks. The new format is expected to produce more competent, innovative, adaptive, and agile combat leaders who can perform in the current operational environment. The course will be constantly updated to meet world threats by incorporating experiences from the battlefield.

MODULAR FORCE DESIGN INCLUDES TRADITIONAL NUMERICAL DESIGNATIONS

The Vice Chief of Staff of the Army announced in September that the final modular force design developed for the Army includes unit designations that preserve the historic lineages of many of its Active component regiments and divisions. During the development of the design, the Army had used terms such as unit of employment (UEy or UEx) and unit of action (UA) to describe various units and their levels of responsibility. The design is now complete, and those terms have been dropped. The Army will retain the historic terms of army, corps, division, and brigade.

The army, which had been referred to as a UEy during development of the modular force design, will be able to function as the Army service component command or a joint force land component command in support of a regional combatant command. Numerical designations under the design include the following—

Army Training, Readiness, and Mobilization Command (1st Army), an Army Reserve unit to be located at Rock Island, Illinois.

U.S. Army Central (3d Army), headquartered at Atlanta, Georgia, which is the Army component of the U.S. Central Command.

U.S. Army North (5th Army), headquartered at Fort Sam Houston, Texas, which will be the Army component of the U.S. Northern Command.

U.S. Army South (6th Army), headquartered at Fort Sam Houston, Texas, which will be the Army component of the U.S. Southern Command.

U.S. Army Europe (7th Army), headquartered at Heidelberg, Germany, which is the Army component of the U.S. European Command.

U.S. Army Pacific, headquartered at Fort Shafter, Hawaii, and the Army component of the U.S. Pacific Command, will become 8th Army after 8th Army stands down in Korea.

The corps and the division, both previously referred to as a UEx, will consist of a headquarters of about 800 Soldiers commanded by a three-star general and a headquarters of about 1,000 Soldiers commanded by a two-star general, respectively. The corps and divisions will have structure and personnel required to serve as joint task forces or joint force land component commands without the need for extensive force augmentation. Divisions will be command and control headquarters only. Modular brigade combat teams or combat support brigades will be assigned to a corps or division to provide the capabilities needed to support a joint force commander.

What were termed units of action (UAs) will become heavy, infantry, or Stryker brigade combat teams with increased intelligence, surveillance, and reconnaissance and network-enabled battle command capabilities.

The elements previously referred to as support units of action (SUAs) will be organized into combat aviation brigades, fires brigades, battlefield surveillance brigades, combat support brigades (maneuver enhancement) or sustainment brigades.

DEFENSE HUMAN CAPITAL CONFERENCE PLANNED

The HCM [Human Capital Management] for Defense 2006 conference will be held 6 through 8 February at the Renaissance Hotel in Washington, D.C. The theme will be "Seamlessly Transforming DOD Personnel Into the Workforce of the Future." The conference will address aspects of the strategic management of human capital, which is the number one issue on the President's Management Agenda. For more information, see the conference Web site, www.hcmd2006.com.

HUMVEES RECEIVE SAFETY UPGRADES

To enhance combat operations and increase Soldier safety, the Army is installing five upgrades in high-mobility, multipurpose, wheeled vehicles (humvees) at forward repair sites in Southwest Asia. The upgrades include a fire suppression system, improved seat restraints, an intercom system, a gunner's restraint, and single-movement door locks. Vehicles undergoing repairs or receiving up-armor will automatically receive the new safety upgrades.

Although these upgrades initially will be installed in humvees, the Army is adapting some of the new equipment to other medium and heavy tactical vehicles. The entire tactical fleet will receive the fire suppression system. New gunner restraints will be installed on all vehicles with gun-mounted turrets, and most tactical vehicles will receive the new seat restraints. Adding intercom systems to tactical vehicles with turret gun mounts will improve Soldiers' ability to communicate when under fire.

Technical teams from the TACOM Life Cycle Management Command are visiting sites throughout the theater to train installers and provide technical expertise on the safety improvements.

Rapid response initiatives such as these reflect the Department of Defense's commitment to respond immediately to battlefield conditions.

U.S. FORCES PROVIDE AID TO DISASTER VICTIMS

In addition to fighting the Global War on Terrorism, U.S. forces are active participants in humanitarian operations around the world. During September and October of last year, they participated in relief operations for the victims of three major hurricanes and an earthquake.

Immediately after Hurricane Katrina struck the Gulf Coast of the United States on 29 August, Army and Air National Guard personnel deployed to the areas of Louisiana, Mississippi, and Alabama devastated by the storm. On 3 September, the 5,000-member "Joint Task Force All American," which was made up of Soldiers from the 82d Airborne Division at Fort Bragg, North Carolina, and the 1st Cavalry Division at Fort Hood, Texas, and Marines, began providing assistance. By 8 September, 41,500 National Guardsmen and 17,500 Active-duty personnel were working in the states affected by the hurricane. Relief efforts included search and rescue; security; traffic control; and food, water, and ice distribution. Army Corps of Engineers personnel began repairing breached levees and removing floodwaters. In addition, about 400 Reserve Soldiers deployed to the area to provide helicopter, truck, and mortuary affairs support.

Before Hurricane Rita hit the coast of Texas on 24 September, Texas National Guard Soldiers refueled 260 buses to be used for evacuating residents and also refueled privately-owned vehicles that ran out of gas on the highways outside of Houston. In the hurricane's wake, Joint Task Force All American provided search-and-rescue and humanitarian assistance in western Louisiana. The 1st Air Cavalry Brigade and the Army National Guard provided supplies to the southeastern Texas counties that were hardest hit by the storm.

When Hurricane Stan hit Guatemala on 4 October, the United States sent UH–60 Black Hawk and CH–47 Chinook helicopters and C–130 transports to assist in delivering food, water, plastic sheeting, and medical supplies to storm-ravaged areas.

After a devastating earthquake in Pakistan and parts of India and Afghanistan in October, the United States joined a multinational support effort by sending to the area an Army Reserve unit that had been preparing to deploy to Afghanistan and by deploying the 212th Mobile Army Surgical Hospital from Miesau, Germany.

A 5-ton truck from the 212th Mobile Army Surgical Hospital in Miesau, Germany, drives into the belly of a Russian AN–124 Condor cargo aircraft at Ramstein Air Base, Germany, on 17 October. The truck was part of the lead element of Task Force 212, which deployed to Pakistan to join the multinational earthquake relief effort.

Above, New Mexico and Arkansas National Guard members maneuver a 3,000-pound sandbag, suspended from a UH–60 Black Hawk helicopter, onto a levee breach in Belle Chasse, Louisiana. The breech was caused by Hurricane Rita when it passed through the area on 24 September. Below, Soldiers from the 2nd Battalion, 104th Cavalry, Pennsylvania Army National Guard, hand out food, water, and baby supplies to New Orleans victims of Hurricane Katrina.

INFORMATION INTERFACE IMPROVES VISIBILITY OF AIR SHIPMENTS

The Air Mobility Command (AMC) and Defense Logistics Agency (DLA) now have earlier visibility of cargo destined for troops overseas. In August, AMC and DLA introduced an electronic interface between DLA Distribution Standard System (DSS) and the Global Air Transportation Execution System (GATES) that improves the information flow between DLA's consolidation and containerization points (CCPs) and Air Force aerial ports of embarkation (APOEs). With the help of the U.S. Transportation Command in its role as the Department of Defense's (DOD's) Distribution Process Owner, DLA and AMC are seeking to speed up the delivery of equipment and supplies by using the new interface.

An increasing number of DOD air shipments are consolidated and loaded onto 463L pallets. When a 463L pallet is ready for onward movement, it is considered "capped" and given the status code "C." The electronic interface then allows CCPs to notify GATES users at the APOEs of the estimated time of arrival of capped cargo almost immediately.

The CCP sends two additional updates through DSS to GATES: the first when the truck destined for the aerial port is completely loaded, and a second when the truck actually departs the CCP. Using the interface makes information available to everyone from the air clearance authority to the load planner and speeds the process for aerial port cargo handlers as well as airlift mission planners. Planners at the Tanker Airlift Control Center at Scott Air Force Base, Illinois, can monitor cargo bound for various APOEs and adjust flight schedules to improve efficiency.

NEWEST STRYKER VARIANT INTRODUCED

Last summer, the newest variant of the Stryker combat vehicle, the mortar carrier version B (MCV–B), was delivered to the Yakima Training Center in Washington for testing by Soldiers of the 3d Brigade, 2d Infantry Division, at Fort Lewis.

The new Stryker variant replaces the MCV–A, which carried mortars that had to be unloaded and set up to fire. The MCV–B is very much like the basic Stryker vehicle, except that it has a 120-millimeter mortar mounted in the crew compartment that can be fired from inside the vehicle through doors on top that swing open. The vehicle also has a digital fire-control system that can receive fire missions and help its five-man crew aim the mortar more accurately.

In addition to the mounted 120-millimeter mortar, each MCV–B carries a second mortar that has to be unloaded and set up for firing. At the battalion level, the MCV–B carries an 81-millimeter mortar; at company level, the MCV–B carries a 60-millimeter mortar.

"The Soldiers like it; it's easy to maintain, and it's pretty simple," said Brian Jenne of the Army Training and Doctrine Command Systems Management Office at Fort Lewis. "They like not having to dismount the weapon. It's also very, very accurate; they like that the best," he added.

All feedback is not positive, however. Soldiers would like to have a hatch in the mortar doors on top of the vehicle, an option now being considered. The previous variant also could be emptied of its contents and used as an alternate troop carrier—an option that is not practical with the new version. Jenne welcomes all feedback. "Any time that we can interface with the Soldier on a new piece of equipment and gather information from them, then we'll take that into consideration to see how we can make the system better," he said.

Army Logistician (ISSN 0004–2528) is a bimonthly professional bulletin published by the Army Logistics Management College, 2401 Quarters Road, Fort Lee, Virginia 23801–1705. Periodicals postage is paid at Petersburg, VA 23804–9998, and at additional mailing offices.

Mission: *Army Logistician* is the Department of the Army's official professional bulletin on logistics. Its mission is to publish timely, authoritative information on Army and Defense logistics plans, programs, policies, operations, procedures, and doctrine for the benefit of all logistics personnel. Its purpose is to provide a forum for the exchange of information and expression of original, creative, innovative thought on logistics functions.

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Postmaster: Send address changes to: EDITOR ARMY LOGISTICIAN/ALMC/2401 QUARTERS RD/FT LEE VA 23801–1705.

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ISSN 0004–2528
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ARMY LOGISTICIAN
US ARMY LOGISTICS MANAGEMENT COLLEGE
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