

SUMMER 2026

ARMY SUSTAINMENT

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STRENGTHENING THE SUSTAINMENT WARFIGHTING PROFESSION



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ON THE COVER

The theme for the summer issue of *Army Sustainment* is Strengthening the Sustainment Warfighting Profession. On the cover, a petroleum supply specialist assigned to 2nd Squadron, 6th Cavalry Regiment “Sabers”, 25th Combat Aviation Brigade, fuels an AH-64 Apache at a forward arming and refueling point during aerial gunnery training designed to certify pilots on their weapons systems at Pohakuloa Training Area, Hawaii, Feb. 25, 2026. (Photo by SGT Olivia Cowart)

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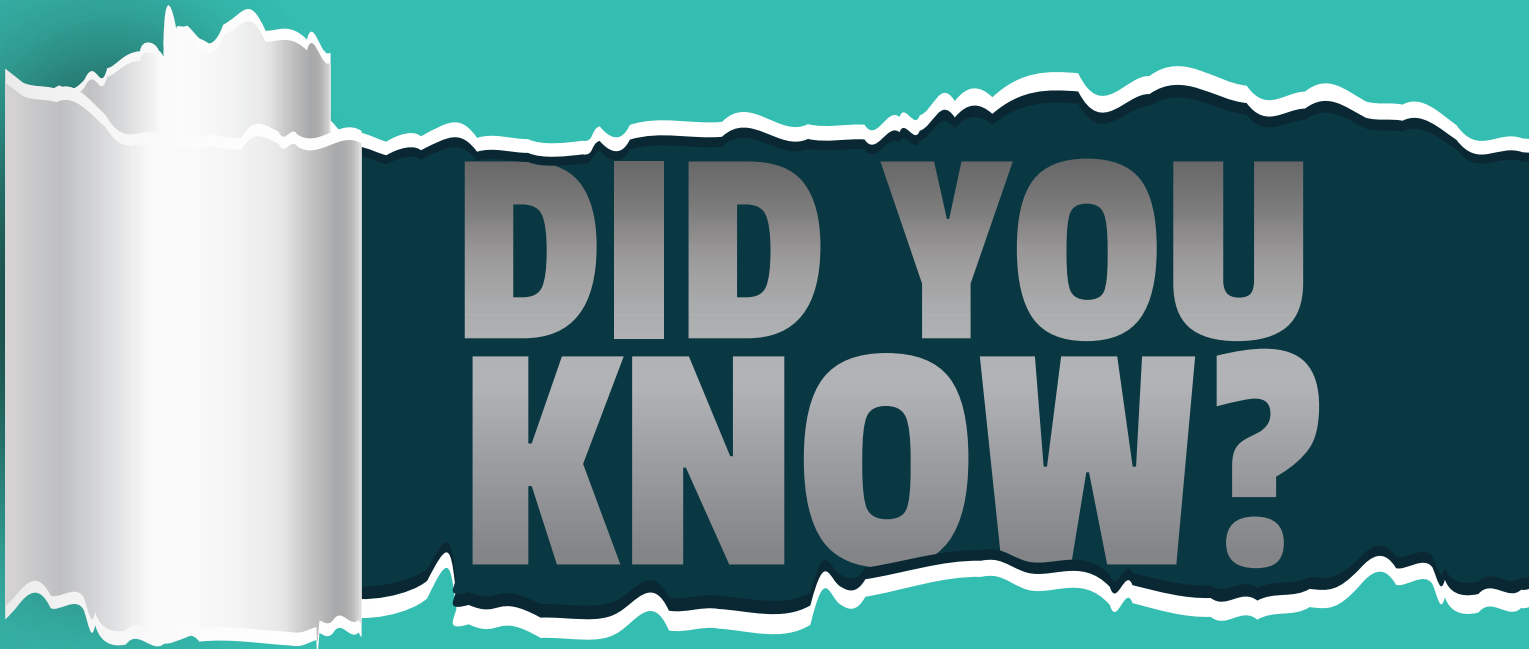
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Is your formation working on new, cutting-edge initiatives or developments that could significantly impact the entire sustainment enterprise? Your work is crucial, and we want to hear from you!



Our new “Did You Know?” section is a platform for units and Service members to showcase initiatives that enhance formations and operating procedures. By sharing your successes, you're not just highlighting your hard work, but also helping other units avoid duplicating efforts.

Let's make sure no one has to reinvent the wheel.



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STRENGTHENING THE SUSTAINMENT WARFIGHTING PROFESSION

An Imperative for the Modern Battlefield



■ By LTG Chris Mohan

Today's operational environment has shown that the speed and complexity of combat operations are unlike

anything we have experienced. Yet one fundamental truth remains unchanged: weapons systems alone do not win wars. The decisive advantage always belongs to the warfighters who wield them and the sustainers who maintain them. Strengthening the sustainment warfighting profession is not an option; it is an imperative, and it requires more than modernizing systems. It requires modernizing how we think, learn, and operate as Army sustainers. Current and past operations, exercises, and real-time support missions continue to reinforce that the Army's ability to sustain the fight depends on its ability to adapt. Our sustainers are evolving alongside the environment, and that progress is visible across the force.

In recent columns, I have emphasized the need for the

Army sustainment enterprise to become data-centric. That priority has not changed. Data are no longer supporting tools; they are warfighting capabilities. Across the enterprise, teams are applying advanced analytics and artificial intelligence to anticipate requirements, understand risk, and enable commanders to make informed decisions at the speed the mission demands. We have better visibility of data, logistics statistics, and sustainment information than ever before; now we must turn common operational pictures into decision-support tools. These capabilities help sustainment maintain speed and operational tempo in contested environments and ensure our warfighters receive what they need, when and where they need it.

Strengthening our profession also means taking a deliberate approach to capturing and applying lessons learned. Operations across the globe continue to provide insight into how we sustain the force. When those insights are examined and put into practice, they shape better processes, smarter decisions, and more resilient sustainment networks. This learning is becoming a defining part of who we are as sustainers.

As the Army moves toward new formations, capabilities, and operational concepts, sustainment is not only keeping pace but leading the way. Recent forums like the Army Materiel Command Commanders Forum in April and Sustainment Week in May enable sustainment leaders to strategize and chart a clear path forward for our enterprise. Yet, sustainment transformation cannot happen solely at the strategic level; success dictates that every Soldier, civilian, and contractor at echelon in our formations fundamentally understands and champions this new direction. And we are seeing that take shape.

Across the enterprise, our workforce is operating differently and evolving. It is also embracing new skillsets, emerging technologies, and innovative ways of delivering sustainment effects — whether supporting operations at the tactical edge or enabling readiness at the strategic level. When logisticians, data scientists, analysts, maintainers, and innovators work together, we create solutions that improve how

we sustain the force today and shape how we will sustain it in the decades ahead.

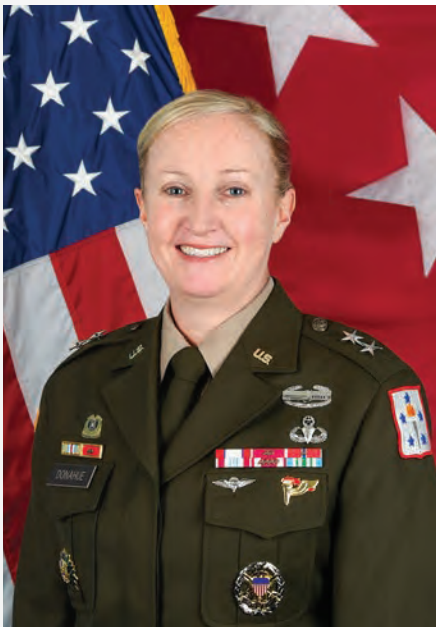
Our profession continues to transform at a rapid pace, and we must empower innovation through data-informed decisions to deliver ready combat formations. As sustainment leaders, I challenge you to break legacy patterns and disrupt the status quo by applying disciplined, analytical thinking to risk mitigation and embracing new sustainment strategies. By embracing data, applying lessons learned, and preparing our workforce for rapid change, we are building a sustainment enterprise ready to support the Army, the joint force, and our allies and partners in any environment. Our mission remains constant: deliver decisive sustainment at the speed of war. That commitment is what ensures we can do so today, tomorrow, and in the future fight.

LTG Chris Mohan currently serves as the commanding general of U.S. Army Materiel Command. He was commissioned into the Army from Appalachian State University in Boone, North Carolina, where he graduated as a Distinguished Military Graduate. His military education includes the Ordnance Officer Basic Course, the Combined Logistics Officer Advanced Course, the Naval College of Command and Staff, and the Army War College. He holds a Master of Science degree in national security and strategic studies from the Naval War College and a Master of Science degree in military strategy from the Army War College.

Yet one fundamental truth remains unchanged: weapons systems alone do not win wars. The decisive advantage always belongs to the warfighters who wield them and the sustainers who maintain them.

NOT JUST A COMPETITION

The Strategic Value of the Army's Sustainment Award Programs



■ By LTG Michelle Donahue

Strengthening our sustainment warfighting profession is the central task of our time, and at its core this endeavor is about people. It is about cultivating a generation of sustainers and maintainers who are masters of their craft: innovators,

problem-solvers, and leaders who thrive on excellence. But excellence is not an accident. It is cultivated through deliberate effort, visionary leadership, and a culture that recognizes, rewards, and replicates success through formal sustainment and maintenance awards. These programs do more than honor individual and unit achievements; they institutionalize the standards of our craft. It starts with leaders who set the bar, and it is validated in the units that pursue these honors, proving that maintenance and supply excellence is the bedrock of our warfighting readiness.

The Pinnacle of Leadership: The LTG (Retired) Arthur J. Gregg Award

It is fitting to begin any discussion of excellence with the Lieutenant General (Retired) Arthur J. Gregg Sustainment Leadership Award. The Gregg Award establishes

foundational leadership as the prerequisite for all other logistical and maintenance successes. This is not a unit award; it is a recognition of an individual whose exceptional and lasting contributions have shaped the very fabric of Army logistics.

Named for a true pioneer, the award honors LTG Gregg's legacy of transformative leadership and visionary thinking. His career is a testament to the power of innovation and efficiency in driving the Army's sustainment mission forward. Since its inception in 2015, this award has recognized senior leaders who embody that same spirit — leaders who have not only achieved operational success but have fundamentally advanced the practice of logistics for the entire Army. Recognizing these individuals sends a clear message: leadership is the foundation upon which all logistical success is built.

They are the architects of the culture of excellence we seek to build across the force.

To ensure a broader spectrum of contributions could be celebrated, the award categories were expanded in 2022 to reflect the interconnected nature of Army sustainment:

- Military (all components): Recognizing exceptional leadership and achievements by military personnel across all components, including Active Duty, Reserve, and National Guard.
- Civilian (Department of War or Department of the Army): Honoring the dedicated civilian professionals who play critical roles in supporting and improving Army sustainment.
- Legacy (retired civilian or veteran): Acknowledging the lasting impact of retired civilians and veterans who have shaped and influenced Army sustainment practices throughout their careers.

While the Gregg Award recognizes the pinnacle of individual achievement, that standard of excellence must ultimately translate into unit readiness. Our premier unit awards shift the focus from the individual to the entire formation. These programs provide the framework through which we define what right looks like, challenging our units to test their systems, validate their training, and push the boundaries of organizational performance.

Defining the Standard: A Closer Look at Our Premier Sustainment Awards

Too often, our logistics awards programs are viewed simply as competitions — an opportunity to win a trophy or a streamer. But they are far more than that. They are a powerful mechanisms for professional development, a diagnostic tools for readiness, and a catalysts for innovation. From the unit to the individual level, these programs provide a comprehensive framework for excellence.

To institutionalize excellence, we must first clearly define it. The Army's sustainment awards programs provide this definition, creating a comprehensive framework that spans from the individual Soldier to the strategic enterprise. The consolidated guidelines for the fiscal year (FY) 2026 Logistics Excellence Awards (LEA) Programs provide clear direction for units in the active-duty Army, Army National Guard, and U.S. Army Reserve to compete. These are not separate, competing efforts; they are an interconnected framework designed to cultivate and recognize success across the full spectrum of our profession.

At the unit level, the LEA serve as the bedrock of this ecosystem. The LEA is an umbrella that encompasses three of the most critical warfighting functions, each with its own dedicated award program designed to test and validate the core competencies of a sustainment formation:

High-stakes competition reinforces the unit bonds and shared identity vital for success. This collective pride builds the resilience needed to remain effective in combat.

- The first of these essential elements is the Army Award for Maintenance Excellence (AAME). Governed by Army Regulation (AR) 750-1, Maintenance of Supplies and Equipment: Army Materiel Maintenance Policy, the AAME is the ultimate validation of a unit's command maintenance discipline program and goes to the heart of combat power generation. The AAME challenges competing units to achieve a level of proficiency that far exceeds simple pass/fail inspections. A unit competing for the AAME demonstrates its mastery of the internal processes and procedures that helps them drive readiness and showcases their entire maintenance posture. They are the engine of readiness, and the very best go on to represent the Army in the prestigious Secretary of War Maintenance Awards Program.
- Another crucial component, the Supply Excellence Award (SEA), reinforces the very foundation of our logistical system: accountability. In an era of fiscal constraints and contested supply lines, flawless stewardship of government property is a fiduciary and operational imperative. As outlined in AR 710-2, Inventory Management: Secondary Item Policy and Retail Level Management, the SEA is the ultimate validation of a unit's command supply discipline program.
- The third critical aspect of the LEA is the Deployment

Excellence Award (DEA), which recognizes our ability to project power at speed and scale — the hallmark of strategic readiness. If a unit cannot deploy efficiently into a theater of operations, it is strategically irrelevant. The FY26 DEA program evaluates units conducting deployments between October 2025 and April 2026, testing a unit's entire deployment process from its initial alert through port operations and onward movement.

While the LEA focuses on the readiness of our equipment and systems, the Philip A. Connelly (PAC) Awards Program highlights the collective excellence of our culinary teammates. Recognizing unit-level proficiency in Army Food Service, this program, co-sponsored with the National Restaurant Association, ensures our dining facilities and field feeding teams are sustaining the health, morale, and lethality of the force. For the 58th iteration of the program, the focus is on field feeding operations.

The General Brehon B. Somervell Coin-Medallion of Excellence honors the career-long contributions of our most seasoned professionals. Rather than a routine longevity award, this honor requires 25 years of distinguished service and a documented history of significant, multifunctional impact across the sustainment enterprise. Through a rigorous board review and general officer endorsement, the Medallion

of Excellence recognizes only the elite leaders who have fundamentally advanced the Army's mission throughout their lifetime of service. There is no strict annual quota, but it is not an automatic time-in-service medal.

Together, from the AAME to the PAC and from the DEA to the Somervell, these programs provide clear and consistent standards of what right looks like, creating a continuous cycle of evaluation, improvement, and recognition that fosters excellence and camaraderie at every echelon.

From Competition to Capability: Elevating Your Unit's Performance

Taking the first step in competing for an award is an opportunity to improve as an organization and to further refine your unit processes. While these programs are structured as competitions, their true value resides in the rigorous preparation and elevated standards they demand. This transformation from a simple contest into a vehicle for readiness is what makes the formation, and the Army, fundamentally better. Last year, the U.S. Army Combined Arms Support Command conducted an LEA collection and analysis team and innovation forum, and several key lessons and data points emerged across various logistical areas. A primary theme was the critical need for formalized processes and consistent training at the unit level. Units must do things consistently and within regulatory guidance. For example, the AAME trend analysis

revealed significant gaps in the corrosion prevention and control program, with most units lacking standard operating procedures (SOPs) and corrosion monitors being insufficiently knowledgeable about regulatory requirements. Similarly, the DEA analysis pointed to a lack of deployment training and readiness, treating deployment as a logistics function rather than a commander-led operation, and poor movement data quality due to inadequately trained personnel.

The PAC Awards Program highlighted deficiencies in both equipment setup and maintenance, noting that most units lacked the proper knowledge to set up field equipment according to regulations and failed to conduct regular preventive maintenance, with an average of four to six months passing between checks. In the supply domain, the SEA trend analysis found issues with record-keeping and inventory management. Units struggled with unstructured digital files, but best practices showed that leveraging platforms like Microsoft Teams and SharePoint for Army Records Information Management System-compliant filing significantly improved transparency and audit readiness. Furthermore, the underuse of automatic identification technology at the company level was found to reduce inventory accuracy and weaken accountability.

Going through rigorous evaluation preparation forces units to improve processes within the organization. The checklists and

standards for these awards are not arbitrary; they are derived from doctrine and regulations. Preparing for an evaluation is a deep-dive self-assessment. It compels you to dust off the SOPs, validate your procedures, and find efficiencies you never knew existed.

Finally, and most importantly, it improves your craft. All the lessons learned that were highlighted resulted in making the unit better and the Army better. Becoming a proficient logistician is important, especially in our current ever-changing environment. Over the past three years alone, we have seen over 1,500 units participate in the AAME, SEA, and PAC programs. his represents thousands of Soldiers demonstrating their exceptional expertise. High-stakes competition reinforces the unit bonds and shared identity vital for success. This collective pride builds the resilience needed to remain effective in combat. A maintenance section that can win an AAME is a section that can sustain a high operational tempo in combat. A supply room that can win an SEA is a supply room that can track critical parts in a contested environment. A culinary team that can wins a PAC award is a team that can sustain a battalion during an extended, austere operation.

A Call to Action: Driving Readiness from the Ground Up

I challenge every leader in the sustainment community to view these programs not as an administrative requirement, but as a

core component of your professional development strategy. I encourage you to leverage them to build your teams, diagnose your weaknesses, and celebrate your successes. Empower your junior leaders to take charge of the preparation and use the rigorous evaluation criteria as a roadmap to excellence.

A unit that excels in maintenance, supply, deployment, and food service is, by definition, a combat-ready unit. By embracing these awards programs, you are taking a tangible step to build and validate combat readiness from the ground up.

This We'll Defend!

LTG Michelle K. Donahue serves as the Deputy Chief of Staff of U.S. Army G-4. She served as the commander of the U.S. Army Combined Arms Support Command/Sustainment Center of Excellence, and as a sustainment brigade commander, support squadron commander, battalion executive officer, battalion support operations officer, battalion S-4, battalion S-2/S-3, and battalion and brigade S-1. She also served as the 56th Quartermaster General and Commandant of the U.S. Army Quartermaster School at the Sustainment Center of Excellence; Deputy Director for Readiness, Strategy and Operations for the Army's Deputy Chief of Staff/G-4; and Special Assistant to the Director, Army Staff for the 2023 Army Transition Team. A Distinguished Military Graduate, she received her commission in the Quartermaster Corps from Duke University in 1996. She also holds advanced degrees from Georgetown University and National Defense University.

AMC

DRIVES INNOVATION IN MILITARY CONSTRUCTION BY INFUSING COMMERCIAL CONSTRUCTION BEST BUSINESS PRACTICES



■ By LTG Gavin A. Lawrence

At a pivotal moment of transformation across the Services, I am proud to be part of the U.S. Army Materiel Command (AMC) team as we spearhead a revolutionary approach to military construction (MILCON), repair, and maintenance projects. Under legacy construction processes, projects are taking too long and often exceed their budget. We must get better at executing and improving the Soldier experience and quality of life. As part of a Secretary of the Army-directed

initiative to embrace commercial construction best business practices and innovative contracting methods, we are ensuring faster, more efficient delivery of critical facilities to support the warfighter.

For decades, MILCON and repair projects have relied on traditional, often cumbersome processes that are costly and inflexible. Conventional contracting under the Federal Acquisition Regulation frequently results in lengthy timelines and limited opportunities for innovation. These legacy methods struggle to keep pace with rapidly evolving mission needs and emerging technologies, creating gaps in readiness and capability. Recognizing these challenges, AMC is actively transforming its approach by embracing streamlined contracting mechanisms and commercial best practices that get better, faster results. Such methods have been used across the military Services, but AMC is leading the Army in bringing these initiatives to bear under one program.

This includes transitioning from a traditional design-bid-build process to a more efficient design-build-to-budget model, similar to one

successfully used by the Federal Bureau of Investigation (FBI). The FBI leveraged partnerships with private industry to design and build facilities at its Redstone Arsenal campus in Alabama, using design-build contracts to manage budgets effectively. This combines design and construction into one contract, saving money since integrating design and construction minimizes change orders and communication gaps.

Our focus is simple: to execute construction and repair projects sooner, faster, and cheaper. Our primary goal is to accelerate the delivery of new technologies and facilities to our warfighters.

The FORGE program, which stands for Facilities, Operations, Readiness, Growth, and Experience, is a key AMC initiative that exemplifies this commitment. Similarly, the construction of a new Rotational Unit Billeting Area, or RUBA, at Fort Polk, Louisiana, using 3D-printing technology, will support expeditionary and temporary mission requirements. Both FORGE and RUBA leverage innovative technologies and new contracting methods to accelerate

modernization efforts and deliver timely capabilities. RUBA provides specialized, temporary living quarters designed to accommodate military personnel during training rotations. The intent is to bridge the gap between garrison and field environments for service members.

To further streamline MILCON and renovation and modernization (R&M) delivery, we are contracting architectural engineering firms under both FORGE and RUBA to manage projects from design concept through construction, cradle to grave. This shifts project and construction management responsibilities from traditional government organizations like the Department of Public Works and U.S. Army Corps of Engineers to experienced commercial firms, enabling faster decision making and more efficient execution.

One hallmark example of this innovation is a recent Fort Bliss barracks project in which we used 3D-printing technology to construct three barracks buildings, at 5,500 square feet each, in less time and at a lower cost than traditional construction methods. This rapid, cost-effective approach highlights the promise of integrating commercial construction advances into military projects.

AMC is also looking at other cutting-edge construction methods to improve MILCON and R&M projects. Modular building techniques, which involve offsite prefabrication and rapid onsite assembly, help shorten construction timelines,

reduce base disruptions, and ensure consistent quality across multiple sites. Fabric tension buildings are lightweight, durable, and quickly deployable structures; they offer flexible, weather-resistant solutions ideal for expeditionary missions and temporary facilities. Together, these innovations demonstrate AMC's commitment to leveraging diverse, advanced construction technologies to meet evolving Army infrastructure needs.

Central to FORGE and RUBA's success is the use of Other Transaction Authorities (OTAs). Unlike traditional federal acquisition regulations, OTAs allow us to use more commercial-like terms and conditions, which offer flexibility, reduce bureaucracy, and substantially shorten the acquisition process.

The success of OTAs has been demonstrated in other government initiatives, such as Operation Warp Speed, where rapid innovation and delivery were paramount. We are now applying those lessons to MILCON and R&M projects, fostering partnerships with small businesses, research institutions, and non-traditional contractors to infuse fresh ideas and innovative solutions into Army construction.

In addition to physical construction innovations, AMC is advancing the use of data-driven tools to automate the Army Facility Investment Plan and streamline project approvals, ensuring faster, more transparent decision making throughout the MILCON and R&M lifecycle.

We emphasize the importance of early engagement with industry partners, encouraging collaboration that breaks down traditional barriers and expedites delivery. The message is clear: start earlier, move faster, and be smarter in how the Army builds and maintains the infrastructure that supports its mission.

These initiatives are crucial for the future of our Army. It is not just a concept; it is a pathway to revolutionizing how we think about contracting and construction for Army facilities. We are committed to improving the way we do business.

As we at AMC continue to advance these efforts, the Army stands poised to modernize its facilities and enhance warfighter readiness through a construction model that blends military precision with commercial efficiency. The FORGE and RUBA initiatives are not just transforming how the Army builds — they are forging a new path for innovation, partnership, and operational excellence in MILCON.

LTG Gavin Lawrence currently serves as the deputy commanding general of U.S. Army Materiel Command. He is a graduate of the U.S. Military Academy where he was commissioned as a second lieutenant in the Quartermaster Corps. He has a Master of Arts degree in national security and strategic studies from the U.S. Naval War College, Rhode Island, and a Master of Arts degree in strategic studies from the U.S. Army War College, Pennsylvania, where he successfully completed the Advanced Strategic Arts Program. He has also completed the Massachusetts Institute of Technology Seminar XXI program and the University of North Carolina's Institute for Defense & Business LOGTECH Executive program.

Forging the Sustainment Functional Data Analyst

Institutionalizing Analytics with the L9 Skill Identifier

■ By MAJ Kyle Weinerth

In its present state, the sustainment enterprise values data as a strategic asset that helps empower predictive logistics, enhances materiel readiness, and provides commanders with decision-making superiority. To effectively use this asset, the Army must prioritize the deliberate talent management of its most analytically minded sustainment officers. This has been occurring through an ad-hoc process, relying heavily on directly commissioning data analysts from industry and internally identifying officers within formations to do the heavy analytical lifting. Now, however, through a concerted effort by the Logistics Branch Proponency Office (LOGPRO) and the U.S. Combined Arms Support Command (CASCOM), the Army is institutionalizing this skill set through the establishment of a new skill identifier (SI): L9 Sustainment Functional Data Analyst.

Formalizing the Skill Set: The Purpose of the L9 Identifier

The Sustainment Functional Data Analyst SI is being created to formally recognize, manage, and develop leaders who are skilled in applying advanced data analytics to complex sustainment challenges. This SI aims to formalize the previously informal talent acquisition/identification process and improve assignment transparency while prioritizing the filling of these identified analytics billets.

It is important to note that being awarded the Sustainment Functional Data Analyst SI does not lock the recipient into a specific data career path. Instead, it operates like any other SI (e.g., Airborne or Pathfinder). It makes the recipient eligible to serve in L9-coded billets and provides the Army with greater talent management visibility. Specifically, for logistics officers, holding the

L9 SI will provide additional career benefits. All 90A Logistics positions coded with the SI will be designated as key developmental (KD) opportunities for the billet's corresponding grade. These KD assignments will be codified through updates to Department of the Army Pamphlet 600-3, Officer Talent Management, to ensure that officers serving in these critical data-centric positions receive the appropriate credit.

How to Qualify: Requirements and Processing for the L9 SI

The path to receive the Sustainment Functional Data Analyst SI is designed to recognize both formal education and existing expertise:

- **Primary Pathway:** The main avenue for L9 SI qualification is through the completion of the Virginia Commonwealth University (VCU) Master of Supply Chain Management (MSCM) advanced civilian schooling (ACS) program. To align this program with the proponent's expected learning outcomes for L9-eligible officers, the MSCM degree path has been updated for future cohorts to include a higher data analytics course load. This CASCOM-sponsored 12-month ACS program, targeted for post-KD captains, currently produces 15 graduates annually and will increase its cohort size to 20 beginning in academic year (AY) 26-27. The application window is currently open for the AY27-28 cohort. Please refer to Military Personnel (MILPER) Number 26-086, Selected to attend Academic Year 2027-2028 U.S. Army Combined Arms Support Command Virginia Commonwealth University, Master of Supply Chain Management Advanced Civilian Schooling Program for more details.

* Important Note: Due to the noted changes to

the MSCM curriculum, prior CASCOM-VCU cohorts are not automatically eligible for the SI. However, LOGPRO is developing a supplemental package that will allow former VCU-MSCM graduates to gain eligibility. This process will be publicized to past cohorts once finalized.

- **Alternate Pathways:** Individuals who hold an equivalent degree from a LOGPRO-approved university will also be eligible for the L9 SI.
- **Award Process:** Applicants must submit a packet with the required documents (transcripts, diploma, Soldier talent profile, Army Combat Fitness Test, height/weight, etc.) to LOGPRO. Following a review and approval from the LOGPRO chief, an award order will be issued. The L9 SI will be permanently awarded through a personnel action request in Integrated Personnel and Pay System-Army.

A Measured Approach: Implementing the L9 Across the Force

To expedite the implementation of the SI, LOGPRO is pursuing a two-phased administrative approach. In phase one, the SI will be titled Logistics Functional Data Analyst and scoped specifically for 90A Logistics officers. This initial military occupational classification and structure proposal is currently in world-wide staffing with Headquarters, Department of the Army G-1, for approval, and LOGPRO anticipates the SI will be approved for individual award on or about August 2026.

Phase two will begin upon approval for the award. Revisions will be submitted to expand eligibility for the awarding of the SI to officers and warrant officers across the entire sustainment corps (career management fields [CMFs] 88 Transportation, 89 Ammunition, 91 Mechanical Maintenance, 92 Supply and Services, 94

Electronic Maintenance and Calibration, 42 Adjutant General, and 36 Financial Management). The SI will be officially renamed Sustainment Functional Data Analyst.

While the plan is for all sustainment CMFs to be eligible for the award of the L9 SI, only 90A Logistics billets are planned to be coded with the L9 SI. The billet-coding strategy will follow a multi-phased rollout, beginning in fiscal year (FY) 29 (effective October 1, 2028) with 59 billets across Component 1 and growing to an estimated 92-coded billets by FY32. This approach ensures the demand for this skill set is met as the talent pool matures, while also avoiding over-coding. The implementation plan and billet breakdown are provided in the enclosed slides.

Overall, this initiative is a key investment in the future of the greater sustainment community. Institutionalizing this skill set enables the Army to ensure the sustainment enterprise is prepared to leverage data as a strategic asset, drive readiness, and guarantee our ability to support a globally responsive force.

For More Information

For questions or comments regarding the Sustainment Functional Data Analyst SI, please contact LOGPRO.

- Email: usarmy.lee.asu.mbx.logpro@army.mil
- Phone: 804-734-0312
- Website: <https://asu.army.mil/logpro/Analyst.html>

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TRANSFORMING SUSTAINMENT FOR ARMORED FORMATIONS

Building Aerial Delivery Capabilities in the ABCT

■ By MAJ Patrick Smith

The Spartan Aerial Resupply team, or SPAR, is executing aerial delivery to 2nd Armored Brigade Combat Team (ABCT) by way of sling loads, tactical drones, and parachute insertion from rotary and fixed-wing aircraft. Working with joint partners and corps enablers, SPAR is changing the landscape of responsive and rapid replenishment in armored formations. SPAR is composed of mechanics, truck drivers, supply techs, and medics of the 703d Brigade Support Battalion (“The Heart of Sparta”).

A CH-47 Chinook helicopter silhouette suddenly flies over a

clearing in a small valley. “Execute, execute, execute,” CPT Tori Basso mutters over her hand mike, straddling the dirt-caked running board of her Joint Light Tactical Vehicle. A rectangular bundle instantly disgorges from the aircraft, as a small black canopy twists and unravels above it. The load sways from side to side as the parachute blossoms and slows its descent. More bundles, each carrying MREs, are ejected from the Chinook as it thunders across the drop zone, forming a neat line of oscillating aerial pendulums and falling to the muddy valley floor.

Truck drivers and quartermasters, waiting among the pines, prepare to

scoop the boxes from the sandy valley once the all-clear was given. The tankers, meanwhile, take in the show. Most stand atop the hulks of M1 Abrams tanks or Bradley Fighting Vehicles with their phones oriented skyward at the Chinook, which by now is arcing around the scene for another pass. This is an uncommon sight in the armored world.

Tank formations consume enormous quantities of water, food, fuel, ammunition, and vehicle parts. To satisfy the unquenchable thirst of armored crews and machines, ABCTs are tethered to networks of ground-based networks providing provisions and necessities from rear areas to the

front. But the arterial architecture of armored sustainment is susceptible to be cut from a variety of threats. The most discernible are improvised explosives buried into roads, a tactic so effective at severing supply lines that it is sure to be repeated in future conflicts.

Large-scale combat operations introduce additional challenges. Long, lumbering convoys present massive and predictable signatures to enemies that can saturate roads, intersections, and rally points with high volumes of fire. Add the nearly ubiquitous presence of low-flying drones and enemy patrols orbiting the battlefield, and a far more menacing picture is presented to commanders. In short, contested ground lines compel sustainers to find alternate ways of supporting armored formations.

Vertical replenishment extends endurance and operational reach to remote or isolated units. Armored cavalry squadrons may operate 40 to 50 kilometers (25 to 31 miles) from the front-line trace — and even farther from logistical units. Aerial delivery bridges this supply gap from tooth to tail. Whether navigating jagged mountain passes, murky swamplands, or dense urban terrain, restricted ground corridors clot the flow of supplies to the front. Parachute or sling-load packages have the advantage of precision, speed, and responsiveness that ground-based logistical methods cannot match.

Nonetheless, some in the armored community squint at the sky with suspicion. For one, the lack of

expertise within ABCTs challenges rapid and efficient supply support to tanks starved for beans, bullets, and gas. Air load planning, packaging, parachute rigging, departure airfield operations, and drop zone control are the domain of airborne and light infantry elements. Armored units have very little aerial resupply knowledge or capability.

Others argue that supplies cannot be delivered in the quantities needed to sustain the rapid tempo of an armored fight. Helicopters can deliver several parts, a day’s worth of rations, and perhaps several hundred gallons of fuel, but nothing to sustain a battalion in contact for over 24 hours.

To meet this challenge, 2 ABCT’s SPAR program expanded from low-cost, low-altitude delivery to high-performance containerized insertions. SPAR maximized the volume of support packages from several hundred-pound bundles to 16 bundles weighing up to a ton each. Tracked vehicle parts, tires, tools, several days of food, 1,000 gallons of fuel, and a battalion’s worth of medical supplies were dropped from a single C-130 aircraft flight. In all, two C-130 lifts delivered nearly 20 short tons of equipment to armored units during 2 ABCT’s brigade-wide tactical exercise. In the minutes between flight passes, forklifts, high-mobility trucks, and Soldiers swarmed the drop zone, recovered supplies, and hauled them into the waiting arms of tank crews and support counterparts positioned nearby.

It was proof of concept that with the right expertise, joint partners, and a little initiative, armored units could be supplied for enduring operations from the air.

In the lead-up to the operation, mechanics, truck drivers, supply techs, and medics worked side-by-side with parachute riggers from the 3rd Corps Sustainment Command to assemble tailorable loads. Quartermaster officers supervised uploading them into aircraft on the flightline. Ordnance officers combed over maps with pilots to mark restricted operational zones and flight paths.

On the ground, a group of officers with Pathfinder, Ranger, and Airborne experience established the drop zone with Air Force tactical elements, conversed with the flight crew, and marked points of impact. SPAR is a collection of sustainment officers and NCOs who are driven to learn, network, and execute these operations. But for the future of armored logistics, sustainment leaders must build a training and operational framework to fully use these capabilities.

Below are several proposals for sustainment leaders across the force.

Aerial Delivery Planners

Not everyone wants to jump out of planes or pack their own parachute, which is why the Aerial Delivery Materiel Officers Course (ADMOC) is not every young officer’s first choice for professional education. However, the initial

portions of ADMOC contain the seeds for growth and development for all logistics officers, regardless of whether they have an inclination for the Airborne life.

We propose that the Army offer an Aerial Delivery Planner Course, principally modeled after the initial weeks at ADMOC. The ADMOC introductory blocks familiarize students with aircraft capabilities and cargo capacity, types of parachutes and delivery methods, and means of packaging containerized loads. Classroom instruction is augmented by hands-on training and exams that test students' ability to build and rig loads with several variants of parachutes. The planner course would absorb this instruction and culminate with an airborne operation as the capstone event. In the final assessment, students would manage departure airfield operations, review flight plans and drop zone surveys, and deliver supplies by airborne insertion.

This type of training will attract far more talent, regardless of an officer's heavy or light affiliation. It will likely broaden units' tactical tool kits to present battalion and brigade commanders with a variety of resupply options across the battlefield.

Rigging and Recovery

The Army must expand familiarity, if not proficiency, with building and rigging bundles so that teams like SPAR are arrows in the quivers of aerial delivery planners. I propose that the U.S. Army Quartermaster

School initiate an aggressive training plan to augment aerial delivery technicians across sustainment brigades to build aerial delivery capabilities throughout division support elements.

Sling Load Resupply

Sling-load capabilities must not be overlooked. SPAR teams effectively delivered flat racks full of critical tank parts, bulk water, and medical equipment across 2 ABCT support clusters. Sling-load teams provide unit commanders with greater supply depth in joint operations, too, because commodities can be rapidly dispatched from surface vessels, and vessel-borne containment can be circumvented by speeding distribution from land-based rear areas in an archipelagic fight. This unique approach was tested when SPAR sling-load teams worked with local law enforcement, the National Guard, and the U.S. Coast Guard to relocate deep-water buoys across islands within the Savannah coastal region.

Eyes on the Sky

Sustainers must keep their eyes on the horizon as new capabilities vault into the Army's inventory from proving grounds across the force. Unmanned resupply offers simple, high-precision, and low-cost methods of logistic insertion without compromising warfighters. The TRV-150 heavy-lift drone prototype is one example. 2 ABCT's medical company trained and certified a team of medics in a matter of hours in a TRV operation. While the TRV's payload capacity

is limited (only 150 pounds), its cargo in this instance was life saving. Spartan medics rigged and delivered blood to separate nodes across miles of training area as the TRV darted over the tree lines and marshy roads of Fort Stewart while maintaining a low flight profile.

Employing various methods of aerial delivery will open logistical valves for armored formations when sustainment ground lines are constricted. Giving flight to these initiatives requires an aggressive campaign by the Army Quartermaster School, continued initiative by tactical support elements, and a sustained demand signal for expertise from sustainment brigades across the Army.

MAJ Patrick Smith is the executive officer of the 703rd Brigade Support Battalion, 2nd Armored Brigade Combat Team ("Sparta"), 3rd Infantry Division. He has served in staff, command, and enlisted assignments with the 82nd Airborne Division, 75th Ranger Regiment, and U.S. Army Combat Capabilities Development Command. He is a graduate of the U.S. Army Airborne School, Aerial Delivery Materiel Officers Course, and Jumpmaster Course. He holds a master's degree in defense and strategic studies from the U.S. Naval War College.

Featured Photo
Soldiers of Spartan Aerial Resupply Sling Load Inspector Certification Course team, partnering with the Georgia National Guard and the U.S. Coast Guard, prepare to move a deep-water buoy from Tybee Island for the state of Georgia, Jan. 14, 2026. (U.S. Army photo)



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WELCOME TO THE JUNGLE

What JOTC Reveals About the Future of Sustainment

■ By MAJ Sean McLachlan



I just finished the Jungle Operations Training Course (JOTC) on Schofield Barracks, Hawaii. Like most Soldiers heading there, I expected to learn how infantry formations move, survive, and fight in one of the most unforgiving environments on earth: the jungle. JOTC is built around small-unit tactics, jungle patrolling, survival, and leadership under severe physical strain. But walking away from the course, I found it revealed something much bigger than infantry skills alone.



For sustainers, JOTC is not just an infantry school. It is a window into a problem our profession must confront more seriously. In the jungle, the final leg of sustainment, the last tactical mile, is no longer theoretical or hidden behind a logistics graphic. It is exposed in every pound carried, every slope climbed, and every bottle of water hauled forward — and every assumption about support starts to break down under such highly restricted and challenging terrain.

The bottom line is that sustainers, especially those aligned with the Indo-Pacific, must go to Jungle School. JOTC does not just teach what jungle operations demand of the rifle squad; it shows what they demand of the sustainment enterprise. And the lesson is clear: if we want to support formations fighting in restrictive terrain, then we must think much harder about the last tactical mile, Soldier load, power generation, and what support really looks like beyond the road.

The Jungle Exposes the Real Sustainment Problem

In many operating environments, sustainment planning still assumes that vehicles can eventually close the distance. Trucks, trailers, fuelers, generators, and larger distribution systems form the backbone of support. Even when units move beyond immediate road access, there is often a belief that support can still push close enough to reduce the burden on the Soldier. The jungle breaks that model.

Under triple canopy, the final leg of sustainment is not simply longer but is more physically demanding, more time-consuming, and more tactically risky. Terrain degrades speed. Heat and humidity accelerate exhaustion. Vegetation constrains maneuver. Footpaths may be narrow, muddy, and barely navigable. Casualty evacuation, water distribution, battery replenishment,

and ammunition resupply all become harder at precisely the point where they matter most. In that environment, sustainment becomes brutally simple: if a Soldier cannot carry it, drag it, or receive it through some alternative low-signature means, it may as well not exist.

That reality reframes the problem. The question is no longer merely how to move supplies from a support area to a logistics release point. The question is how to sustain combat power, endurance, and mobility in formations operating beyond roads, beyond vehicle access, and often beyond the practical reach of legacy support systems. The jungle forces sustainers to confront the last tactical mile not as a planning graphic but as a human problem measured in fatigue, time, and physical strain.

The Last Tactical Mile Becomes the Decisive Mile

JOTC reinforces a truth that sustainers cannot afford to ignore: the last tactical mile is often the decisive mile in the supply distribution chain. It is where logistics friction becomes combat friction. Water is one of the clearest examples. In any environment, water is essential. In the jungle, it is non-negotiable, yet heavy to carry and difficult to distribute. A liter weighs more than 2 pounds. Multiply that across a squad operating for extended periods, and water alone becomes a major factor in combat endurance. The same is true of batteries, ammunition, medical supplies, communications equipment, and sustainment items that appear manageable in a planning spreadsheet but become crushing when carried over steep, wet, vegetation-choked terrain.

At the squad level, this burden compounds quickly. Soldiers do not just carry their weapons and mission-essential gear. They often carry the cumulative inefficiencies of the larger sustainment system. When the Army lacks practical means to reduce, cache, air deliver, or otherwise decentralize support, the burden falls directly onto the Soldier’s back.

That has profound implications for sustainers. Too often, logistics discussions end at the point where supplies arrive at a logistics release point or company command node. Jungle operations demand a more honest question: what

actually reaches the point of need, by what method, and at what human cost? If the answer depends on dismounted Soldiers carrying excessive loads over punishing terrain, then the sustainment design is incomplete.

The jungle does not care what was successfully pushed to a distribution point. It only cares what the Soldier can still fight with after carrying it.

Soldier Load Is a Sustainment Problem

One of the most important lessons from JOTC is that Soldier load is not merely an infantry challenge. It is a sustainment challenge, a force design challenge, and ultimately a combat effectiveness challenge.

The Army often treats the individual Soldier as the final flexibility measure in the distribution system. When packaging is inefficient, the Soldier carries more. When terrain becomes restricted, the Soldier carries more. When batteries are not optimized, water is not available forward, or mission command systems impose added demand, the Soldier carries more. Over time, the individual rifleman becomes the shock absorber for a system that cannot fully close the sustainment gap.

Jungle terrain immediately punishes overloading. Every additional pound reduces speed, increases fatigue, and raises the risk of injury. More importantly, it degrades tactical performance. The heavily burdened Soldier is less agile, slower to react, and more quickly exhausted. A unit can no longer separate its sustainment burden from its tactical effectiveness. They are one and the same.

That should force a shift in how sustainers think. Packaging, commodity forecasting, load planning, and last-leg distribution all must be assessed not just for throughput, but for what they demand of the supported formation. If the system ultimately requires the squad to carry the weight of poor sustainment design, then the force is not being sustained. It is merely enduring.

Vehicles Are Not a Universal Answer

The Army remains conditioned to think about movement and sustainment through the lens of vehicles. In many environments, that makes sense. But jungle terrain places



A jungle instructor prepares to board a UH-60 Blackhawk during the Jungle Operations Training Course, class 10-25 at Lightning Academy, Hawaii, Sept. 16, 2025. (Photo by PFC Peter Bannister)

severe limits on the use of conventional logistics platforms, especially in the final stages of distribution.

Vehicles do have a role in jungle sustainment. They remain essential where roads, support areas, or trails allow access. They can still move bulk supplies, support repositioning, and extend operational reach. But JOTC highlights the danger of assuming that vehicle-supported distribution can solve the sustainment problem for forces operating deep in restrictive terrain.

The closer a unit moves toward the point of need in the jungle, the less useful many platforms become. Vehicles require access, turning space, maintenance, fuel, and

protection. They create a signature. They often stop short of where the supported formation operates. What appears effective on a sustainment overlay may leave a large and punishing gap between where supplies arrive and where combat power is needed. That gap is often filled by Soldiers on foot.

This matters even more as the Army continues to emphasize mobility platforms like the Infantry Squad Vehicle (ISV) and Small Multipurpose Equipment Transport (S-MET). Both offer important utility in the right conditions. They can extend mobility, reduce individual load, and in some cases provide limited charging or electrical support through onboard alternators



Soldiers assigned to 25th Infantry Division execute the Green Mile, a physical endurance course that concludes their training for the Jungle Operations Training Course, on April 1, 2021, at Lightning Academy near Schofield Barracks, Hawaii. (Photo by SGT Sarah D. Sangster)

or associated power systems. In permissive or semi-restrictive terrain, those are real advantages.

But jungle terrain changes the equation. Dense vegetation, narrow footpaths, steep slopes, wet ground, and triple-canopy conditions sharply limit where such systems can go. If an ISV or S-MET cannot physically close with the supported force, then its value as a mobility asset and a power-distribution node begins to collapse. The same logic applies to any platform the Army expects to use as part of a broader sustainment or energy architecture. If it cannot reliably reach the point of need, it cannot solve the last tactical mile.

That is the larger lesson. The jungle demands sustainment methods designed around terrain and dismounted operations first, not around the assumption that a platform will eventually arrive.

Generators and Platform-Based Power Become Sustainment Anchors

JOTC also sharpens another important insight: the Army's current approach to tactical power distribution is poorly aligned with restrictive terrain operations. In many formations, generators remain the default answer to

electrical demand. But in the jungle, generators introduce serious friction. They are heavy, difficult to move, depend on fuel, tactically noisy, maintenance intensive, and often oversized for the loads they support. Most important, they assume a sustainment architecture that can move fuel and equipment forward and reposition it as the force maneuvers. That assumption is increasingly fragile in restrictive terrain.

The same critique applies to the growing reliance on tactical platforms as energy enablers. ISVs, S-METs, and other systems may offer the potential to serve as charging nodes or alternator-driven support platforms. But if those systems are terrain limited, their role in power distribution is also terrain limited. A power system that cannot get where the Soldier is needed is not a solution.

In this sense, generators and platform-based power systems become sustainment anchors. They tie support to fuel demand, maintenance requirements, physical movement constraints, and terrain accessibility. For larger nodes, that may still be manageable. For smaller, distributed, or dismounted formations, it is often not.

That points toward a different energy paradigm for jungle sustainment. The Army needs lighter, quieter, and

more modular approaches to power: portable batteries, distributed charging, hybrid storage, low-signature energy systems, and solutions built to support dismounted forces rather than immobilize them. Tactical power cannot remain synonymous with generator support or platform access if the future battlefield includes environments where neither can reliably close the distance.

What the Sustainment Enterprise Must Take from JOTC

JOTC must matter to sustainers for five primary reasons:

- First, the Army must treat Soldier load as a sustainment problem from the outset. Every pound carried by a Soldier reflects decisions made upstream in doctrine, equipment design, load planning, and distribution methods. Sustainment leaders must ask how to reduce what the force must carry.
- Second, sustainment planning for jungle operations must begin with dismounted distribution as the baseline assumption, not the exception. Smaller loads, modular packaging, low-signature delivery methods, and terrain-informed support concepts must be foundational.
- Third, the Army must accelerate alternatives to road-bound last-mile distribution. That includes aerial resupply, precision delivery, autonomous systems, human-portable sustainment solutions, and caches tailored to small-unit operations.
- Fourth, the Army must rethink tactical power in the same way. The sustainment community must stop assuming that generators, vehicles, and platform-based alternator systems can reliably solve energy demand in every environment.
- Fifth, JOTC must be viewed as more than an infantry school. It is a laboratory for sustainment adaptation. It reveals what combat support looks like when road access disappears, platform utility declines, and the supported force depends on what can be physically carried beneath the canopy.

A Warning and an Opportunity

The broader lesson of JOTC is that jungle warfare punishes bad assumptions. It punishes excess. It punishes overreliance on large platforms. It punishes sustainment

systems that appear efficient on paper but collapse under the realities of terrain and human endurance.

That is why JOTC matters to sustainers. It reveals a future operational problem with clarity the Army must not ignore. If the Army expects to fight in the Indo-Pacific or other similarly restrictive environments, it cannot assume that current sustainment methods will simply scale down into the jungle. In many cases, they will not.

But that warning is also an opportunity. By studying what JOTC exposes, sustainment leaders can adapt now. They can challenge assumptions about load, packaging, power, and platform access. It pushes us to ask harder questions. How much of what we plan to deliver can actually reach the point of need? What are we making Soldiers carry because our support concepts remain incomplete? What would support look like if we started with the dismounted Soldier first, rather than the distribution platform?

JOTC does more than teach Soldiers how to survive and fight in the jungle. It shows the Army what jungle sustainment demands: lighter loads, lower-signature power, indirect and irregular delivery methods, and support concepts built around the reality that the last tactical mile may be the most decisive mile of all. Sustainers must go to the Jungle School.

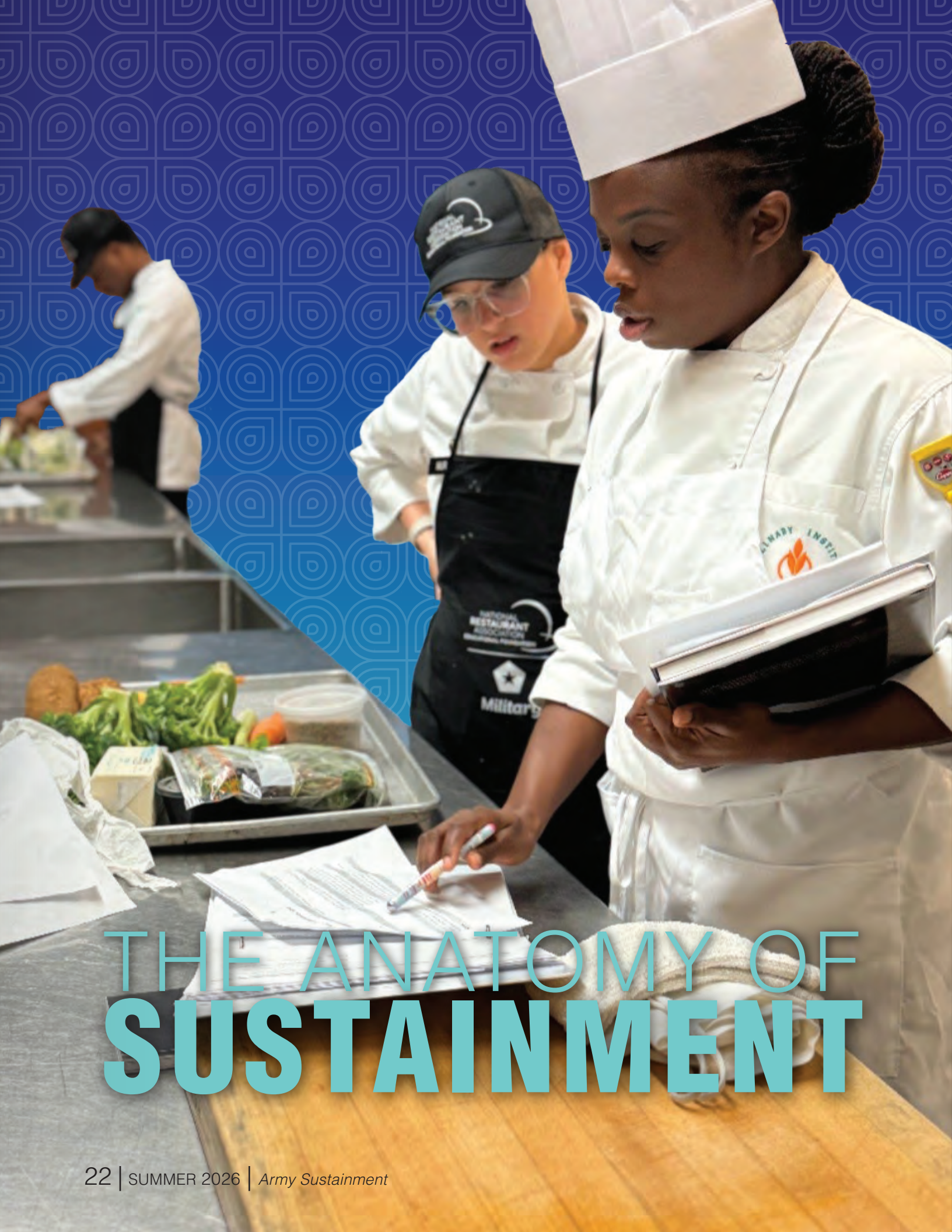
Welcome to the jungle, sustainers. The last tactical mile is ours to solve — so when is your jungle date?

MAJ Sean McLachlan is the deputy G-4 for the 25th Infantry Division and formerly the support operations officer for the 225th Light Support Battalion, 2nd Light Brigade Combat Team, 25th Infantry Division. He has earned master's degrees in military history from Norwich University and the U.S. Army Command and General Staff College and is a Ph.D. candidate at Liberty University. He is the winner of the 2024 LTG Arthur Gregg Sustainment Leadership Award and the Transportation Corps Field Grade Officer of the Year.

Featured Photos

Left: Soldiers in Jungle School perform waterborne operations at Schofield Barracks, Hawaii, Oct. 15, 2022. (Photo by SPC Daniel Proper)

Right: Soldiers pull rear security during the Jungle Operations Training Course, Class 10-25, at Lightning Academy, Hawaii, Sept. 16, 2025. (Photo by PFC Peter Bannister)



THE ANATOMY OF SUSTAINMENT

Strengthening the Culinary Management Profession through Training with Industry.

■ By SFC DeShonta Meares

The image of the Army cook has long been tethered to the mess hall, a stationary building with industrial ovens, fluorescent lights, and fixed schedules. To the average observer, the 92G Food Service Specialist is a service provider, someone behind a steam table. However, the true history of the culinary management NCO is rooted in a far more rugged, visceral reality. To truly strengthen the sustainment warfighter profession, we must strip away the modern comforts of the garrison dining facility and look back to our origins in the American Revolutionary War.

In the late 1700s, there were no culinary schools, no technical manuals, and no supply chains managed by digital interfaces. There were only Soldiers, heavy iron pots, and the unforgiving wilderness. These men were the original tactical logisticians. They did not just cook; they managed survival. My journey through the Training with Industry (TWI) program at the Culinary Institute of America (CIA) in San Antonio, Texas, served as a bridge between this ancestral grit and modern-day innovation. It reaffirmed a fundamental truth: the

culinary profession is not a support function tucked away safely in the rear. It is a combat multiplier that directly enhances the lethality, endurance, and mental toughness of the American Soldier.

In the 18th and 19th centuries, sustainment was a matter of raw survival and intuition. Soldiers cooked stews in large pots over open flames, often having to forage or hunt to feed their battle buddies. There were no pretty buildings in sight — only grass, water, and trees. These early culinarians understood a truth that we are now relearning as we pivot toward large-scale combat operations: the ability to provide hot meals in harsh, unpredictable environments is essential for troop morale and psychological resilience. When a Soldier has been moving for 72 hours in the rain, a hot meal is not just calories; it is a reminder of home, a boost to the spirit, and a reason to keep fighting. Those early Soldiers did not know the term “tactical logistician,” but they lived it. They managed local resources and converted them into human energy.

My time at the CIA mirrored this survivalist mindset, albeit through a highly polished, professional lens.

One of the most intense aspects of my training involved the time-sensitive dissection and fabrication of various animals. Standing in a cold room with a side of beef or a whole hog, knife in hand, I was not just learning to cook. I was learning the anatomy of sustainment. In a high-intensity conflict, a 92G might not always have the luxury of a pre-packaged shipment of boxed beef. We may find ourselves in an austere environment where local procurement is the only option. The CIA taught me how to break down an animal with surgical precision. I learned to identify muscle groups, distinguishing between the tough, collagen-heavy cuts that require time, and the lean, tender sections that can be cooked in minutes. I learned which parts were the healthiest and most digestible for a Soldier needing to recover from the physical rigors of a ruck march. This is the intersection of biology and battle: knowing exactly how to extract the most nutritional value from a raw resource under a ticking clock.

The technical transition from the world-class kitchens of San Antonio to the tactical footprint of a Mobile Kitchen Trailer (MKT) is a rigorous application of science.

At the CIA, meat fabrication is a discipline of maximum yield. For a tactical logistician, this skill is vital. In the field, every ounce of waste is a failure in the supply chain. When I look at a modern burner unit in the back of an MKT, I do not just see a heat source but also a tool for thermodynamic management. Fuel is a limited resource in combat. By using the knife skills I honed at the CIA to filet meat into precise, uniform cutlets, I ensure fast-twitch cooking. Uniform thickness means the meat cooks evenly and quickly, which saves diesel fuel and cuts down the time-to-target for feeding a hungry platoon. Time and fuel are the two most precious commodities in a war-fighting environment.

Furthermore, a 92G must master the chemistry of flavor, specifically the Maillard reaction. This is the chemical reaction between amino acids and reducing sugars that gives browned food its distinctive flavor. In a professional kitchen, this is about high-end dining; in an MKT, this is about morale. A gray, boiled piece of meat provides calories, but a seared, flavorful piece of meat provides will. We also must master the science of carryover cooking. In the field, we do not serve food immediately off the grill. It goes into mermite (insulated containers) for transport to a forward operating base or a fighting hole. If an NCO does not understand the physics of residual heat, the meat will continue to cook inside that container. By the time it reaches the Soldier, it is a dry, unpalatable mess. Applying CIA-level precision — pulling the protein off the heat at the

exact right moment to account for the cook time during transport — is how we maintain the standard of excellence in the dirt.

The most profound lesson I took from TWI was not about the food; it was about the people. In the military, we often lead through rank and authority. In a high-pressure professional kitchen, leadership is earned through competence and communication. I realized that effective leaders and instructors do not teach from where they stand; they teach from where others are. My TWI experience changed my identity as a staff NCO. I stopped demanding they meet my level of expertise immediately and started practicing instructional patience. I became intentional about the why behind the how.

If I tell a Soldier to cut a potato a certain way because I said so, I have managed a task. If I explain that uniform cuts ensure the potato cooks at the same rate, preventing foodborne illness and ensuring a better meal for their battle buddies, I have developed a leader. Growth happens when we invest in the person, not just the process. As 92Gs, we are instructors by trade. We must be able to translate complex culinary science into actionable tactical steps that a junior Soldier can execute while wearing body armor.

When a Soldier gets a meal that is colorful, nutrient-dense, and flavorful, their body recovers faster, and their mind stays sharper. We are not just feeding the Army; we are

fueling a high-performance engine. A Soldier who is properly nourished is a Soldier who thinks clearly under fire. In this way, the 92G is a direct contributor to the readiness of the entire force.

TWI reaffirmed my belief that investing in people and partnerships is the only way to sustain the force. When we deliberately capture lessons learned, improve our technical communication, and empower our NCOs to bring innovation back to the MKT, we do more than just improve a program. We strengthen the entire sustainment warfighter profession.

The journey from the iron pots of the Revolutionary War to the precision blades of the CIA shows that the 92G has always been at the heart of the fight. We are the keepers of morale and the managers of energy. TWI has the potential to shape the next generation of adaptive, forward-thinking leaders who do not just know how to cook but know how to sustain a nation's will to win.

SFC DeShonta Meares currently serves as the executive assistant to the Regimental Command Sergeant Major at Fort Lee, Virginia. She has completed Advanced Leader Course, Senior Leader Course, Food Service Contract Management and Common Faculty Development Instructor's Course. She has a master's degree in organizational leadership with a grade point average of 3.8.

Featured Photo
SFC DeShonta Meares teaches a military student basic knife cuts at the Culinary Institute of America in San Antonio, Texas. (Photo by SFC DeShonta Meares)

RETROGRADE UNDER CONTACT

Sustainment Challenges in LSCO

■ *By CPT Shawn J. Madison and CPT Paul Ou-Yang,
Captains Career Training Department, Army Sustainment University*

Imagine you find yourself as a sustainment staff officer for 2/1 Infantry Division (ID), Task Force (TF) Dagger during an operation against the Olvana People's Army. TF Dagger transitions to a hasty defense following the seizure of Objective Apollo from 475th Armor Brigade. 2nd and 3rd Brigades, 25th ID (2/25 ID and 3/25 ID), our adjacent units to the west and east, fail to secure their objectives. Our flanks are currently exposed with 2/25 ID and 3/25 ID, 75 kilometers (46.6 miles) to the rear. 25th Division Sustainment Brigade is approximately 105 kilometers (65 miles) from our forward line of own troops (FLOT).

Intelligence indicates the 475th Armor Brigade and the 743rd Airborne Brigade are staging for a coordinated counterattack to isolate and recapture Objective Apollo within the next 24 hours. Simultaneously, the 449th and 450th Mechanized Brigade to the west and east are maneuvering south to envelop TF Dagger.

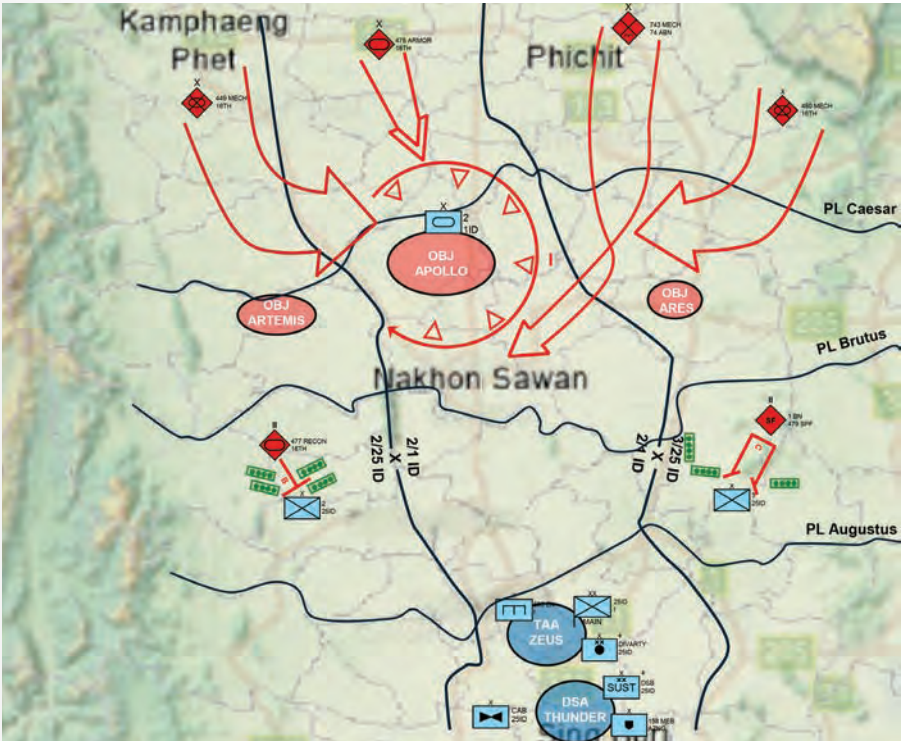
To the south roughly 75 kilometers, 1/1 ID has secured the area and is prepared to conduct reverse passage of lines with TF Dagger for their deliberate withdrawal.

Common Operating Picture Task Organization

TF Dagger is currently at 79% strength. Following the loss of three companies (identified as combat ineffective due to personnel and critical combat equipment losses), the remaining elements have been redistributed into organic battalions to reinforce depleted units.

Logistics Status (LOGSTAT)

Current sustainment levels are degraded, necessitating synchronized support from the 299th Brigade Support Battalion (BSB).

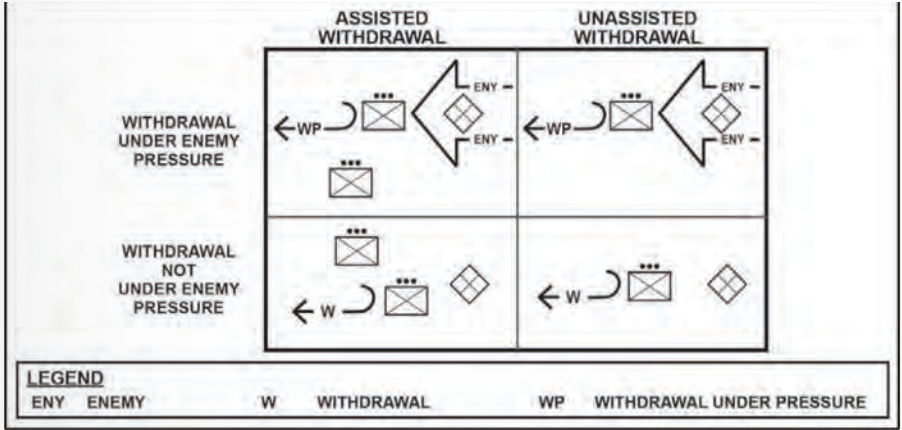


This depicts the situation 2/1 Infantry Division faces in this logistics scenario with its fictional enemy, the Olvana People's Army. (Created by the Captains Career Training Department at Army Sustainment University as a training aide for a mission analysis practical exercise, modified by CPT Paul Ou-Yang)

expended; Class I(R) rations are reduced to one day of supply, while Class I(B) bulk water levels are at 60% and Class III(B) fuel has been reduced to 56%. Class V ammunition is 50% depleted, requiring 15.75 container roll-in/roll-out platforms to replenish. For chemical protection, units maintain one protective gear set forward, with secondary sets staged at the BSB.

Health Service Support

The medical footprint is heavily burdened, presenting a critical evacuation requirement for the upcoming retrograde. There are currently 101 total casualties awaiting rearward movement. Medical personnel are treating 93 wounded in action at Role 1 battalion facilities distributed across the CTCPs. An additional eight casualties are located at the Role 2 brigade facility, six of whom are categorized as urgent surgical and require immediate prioritization.



This depicts the doctrinal types of withdrawals. (From Army Techniques Publication 3-21.8, Infantry Rifle Platoon and Squad, figure 5-16, Types of withdrawals)

Combat Power and Mobility

TF Dagger is at 67% combat power, with a projected recovery to 75% within 24 hours. The unit faces a severe maintenance burden of 40 not-mission-capable (NMC) tracked platforms (28 field-level, 5 sustainment, 7 non-repairable). Additionally, task force transportation assets have degraded to 86%, creating critical lift shortfalls that directly threaten the tactical mobility of the battalion combat trains command posts (CTCPs) and the BSB.

Supply and Consumption Status

Following the seizure of Objective Apollo, heavy consumption significantly degraded the brigade's critical logistics commodities. Class IV construction materials have been

TF DAGGER LOGSTAT									
TF HC	386	498	616	483	539	433	545	454	Total
TF EQUIP	2-1 ID HQ	5-4 CAV	1-18 IN	1-63 AR	2-70 AR	1-7 FA	82 BEB	299BSB	TF Dagger
M1	14	10	10	12	14	0	0	0	60
M2		25	27	16	19	0	3	BSB loses three fuel system (5K)	92
M3		3	3	2	3	0	BEB has 3x Dozers, 1x Skid Steer, 4x Dozer with Rip	capacity reduced to 75,000, and LHS/PLS	11
M109/CATS						11/10			11/10
ABV		0	0	1	2	0	0	16 M978, 16 TRM	3
M978/TRM		5 M978, 5 TRM	4 M978, 6 TRM	5 M978, 6 TRM	5 M978, 6 TRM	3 M978, 3 TRM	3 M978, 3 TRM		47/51
M997		0	0	0	0	3	3	17	23
M113		7	6	6	6	0	0	6	31
PLS/TRL		0	0	0	0	30 PLS, 34 Trailer	0	26/26	60/60
LHS/TRL		8 LHS, 10 Trailer	6 LHS, 8 Trailer	6 LHS, 8 Trailer	8 LHS, 8 Trailer	0	2 LHS, 3 Trailer	20/21	59/61
M84		2	2	2	2	2	6	2	19
M88		6	6	6	6	4	6	4	34
Hippo		0	0	0	0	0	0	10	10
Wat Buff/Camel	3 WB	5 WB, 1 Camel	4 WB, 1 Camel	6 WB, 1 Camel	5 WB, 1 Camel	7 WB, 1 Camel	9 WB, 1 Camel	8 WB, 1 Camel	55 WB, 8 Camel
MRBC									
Fuel Capacity	25000	25000	27500	27500	15000	15000	15000	75000	210000
OH Fuel	10000	15000	14500	19500	7500	6500	45000	45000	118000
CL III (B) OH %	40%	60%	63%	71%	50%	43%	60%	56%	56%
Required Via LOGSTAT	15000	10000	13000	8000	7500	8500	30000	92000	
Water Capacity	2800	2400	3600	3200	3600	5200	20000	40800	
OH Water	1400	1000	1999	2739	1478	4513	17760	30889	
CL I (B) OH Percentage	50%	42%	56%	41%	41%	41%	41%	76%	
Required Via LOGSTAT	1400	1400	1601	461	2122	687	2240	9911	
CI(R)	1 DOS O/H	1 DOS O/H	1 DOS O/H	1 DOS O/H	1 DOS O/H	1 DOS O/H	1 DOS O/H	All have 1x DOS OH	
CLII	Have 1x Internal	Have 1x Internal	Have 1x Internal	Have 1x Internal	Have 1x Internal	Have 1x Internal	Have 1x Internal	Have 1x Internal Set & 1x Set for TF	2x Total Pallets
CLII(P)	2x Package A (4 Pallets)	None	1 Pallet	None	None	None	None	4x Package A (8 Pallets)	13 Pallets
CIV (Required)	None	None	None	None	None	None	None	None	None
CV (Required)	1x CCL 3(1 Crop)	1x CCL 3(1 Crop)	2x CCL 3, 2x CCL 2 (4.5 Crop)	1x CCL 1, 1x CCL 2, 2x CCL 3 (3.25 Crop)	None	1x CCL 15 (1.5 Crop)		15.75 Crops	
CVII (Losses)	4x M1, 16x M2, 1x M3, 2x JLTV, 2x M1075, 1x M113 (Non Ambulance), 1x M88, 2x WB, 1x M978, 1x TRM	6x M1, 9x M2, 1x LMTV, 2x JLTV, 1x M1064, 2x M978, 2x M1075, 2x WB	1x Javelin, 17x M1, 4x M2, 1x M3, 1x M1069, 1x JLTV, 1x M113 (Non Ambulance), 2x ABV, 2x LHS	1x M1, 3x M2, 1x M557, 1x M88, 2x M1068, 1x ABV, 1x M978	7x M109, 6x CATS, 4x JLTV	1x M2, 1x M1074, 1x JLTV, 1x VMMD(Husky), 1x Javelin	3x JLTV, 1x M884, 2x M1120, 1x M997, 1x M978, 1x TRM, 1x M1078	7x M1, 15x M2, 1x M3, 1x M109-CATS, 2x M997, 2x M88, 3x LHS, 1x M978/TRM	67%
COMBAT OR	60%	80%	64%	72%	61%	50%		67%	
COMBAT SUPPORT/COMBAT ENABLERS OR	50%	50%	49%	50%	50%	50%		50%	
CVIII (Required)	WIA: 15 (Role 1)	WIA: 18 (Role 1)	WIA: 30 (Role 1)	WIA: 7 (Role 1)	WIA: 20 (Role 1)	WIA: 3 (Role 1)	WIA: 3 (Role 1)	WIA: 8 (Role 2)	
EVAC (Required)	KIA: 7 (CTCP CCP), 1x MRS	KIA: 15 (CTCP CCP), 1x MRS	KIA: 49 (CTCP CCP), 2x MRS	KIA: 4 (CTCP CCP), 1x MRS	KIA: 45 (CTCP CCP), 1x MRS	KIA: 1 (CTCP CCP), 1x MRS	KIA: 1 (CTCP CCP), 1x MRS	FRSD: 6 (Urgent Surgical), KIA: 1 (BSA CCP), MAGP: 15 KIA Stored 1 HR Processing, 5x MRS	12x MRS
CIX (Required)	6 Pallets	4 Pallets	10 Pallets	4 Pallets	5 Pallets	5 Pallets	3x Pallets	37 Pallets	
CX (Retrograde)	2x M1, 5x M2, 1x M88	3x M2, 3x M2	4x M1, 1x M2, 1x M1113 (Non Ambulance), 2x ABV	2x M2, 1x M557, 1x M88, 1x ABV	6x M109, 6x CATS, 2x JLTV	1x M2	1x JLTV	40x Track Vics /3x Wheel Vics	

This chart highlights the strain on the logistics enterprise. (Created by the Captains Career Training Department at Army Sustainment University as a training aid for the Logistics Captains Career Course mission analysis practical exercise, modified by CPT Shawn Madison)

subsequent defensive positions to preserve combat power and mitigate degraded readiness conditions for successive missions.

What Are Retrograde Operations?

Retrograde operations are deliberate, organized movements to the rear or away from the enemy. Executed during large-scale combat operations (LSCO), they are designed to preserve combat power, gain time, avoid unfavorable conditions, or reposition forces, it is not indicative of defeat.

Questions

1. What type of withdrawal is this and would you recommend an assisted or unassisted withdrawal?
2. How would TF Dagger organize to conduct the withdrawal?
3. What are the greatest sustainment risks for TF Dagger during the retrograde?
4. In this scenario, what are the critical classes of supply for this operation?

During retrograde operations, how should commanders synchronize casualty evacuation and position maintenance collection points and logistics release points (LRPs)? And, what criteria should be used when equipment recovery is no longer feasible?



PROPERTY ACCOUNTABILITY THROUGH A WITHDRAWAL

Effectively Retrograding and Reposturing Forces

■ By CPT Hunter A. Everett

The typical end state for any U.S. overseas conflict involves the withdrawal and reposturing of forces to sustain gains made during the campaigns and to allow for the growth of local security forces. As sustainers, we focus much of our effort on surging combat power forward and removing broken equipment from the forward line of troops. For good reason, most of our professional military education culminates with this drill, but the ability to effectively retrograde full mission-capable (FMC) equipment and reposture forces is a necessity in real-world operations where objectives and policies change quickly.

Over the past year, this was the exact problem set that was given to my team while deployed in support of Operation Inherent Resolve. As

commander of the forward support company and the Special Operations Task Force–Levant support center (SUPCEN), I was directly responsible for the retrograde of multiple positions as they transitioned to a new footprint. These outposts also contained warfighting materiel going back years with varying degrees of usefulness. With the Afghanistan withdrawal fresh on the minds of my NCOs and senior leaders, everyone

knew we needed a deliberate plan and to focus on reposturing efforts to avoid the property loss seen in previous retrogrades.

While this is a Special Operation Forces (SOF) element's retrograding, the lessons learned can greatly benefit logisticians in all units. Our logistical challenges mimic those seen in our conventional counterparts, except that we experience a lower quantity

of supply and a higher tempo and diversity in the type of supplies the Special Forces Operational Detachment Alphas (SFODAs) need. This is by design. Army Doctrine Publication 3-05, Army Special Operations, states, "The Army special operations sustainment infrastructure is deliberately limited when compared to a conventional force infrastructure of similar echelon." This forces a reliance on

external support. Army Techniques Publication (ATP) 3-05.40, Special Operations Sustainment, notes that Army SOF "sustainment is not self-sufficient and that it is reliant upon regional or combatant command theater of operations infrastructure for virtually all support above organic unit capabilities." Understanding this dependency was critical to our process, from which any unit can benefit during retrograde operations.

As we began retrograde discussions, it was important to clearly define terms and expectations from higher elements. Constant communication with the battalion executive officer and battalion commander, to ensure our outcomes were always in line with their end state, was essential to completing the mission. It was important to define what retrograde meant in this operation. The answer depended on whom you asked. SFODAs would claim it was when the equipment leaves the outstation. Accountable property officers might claim it was when equipment was on the retrograde unit identification code (UIC). Special Operations Command Central (SOCCENT) would not consider it retrograded until it was turned in. The definition of retrograde was eventually agreed upon, based on our battalion commander's end state, as equipment fully accounted for at the SUPCEN.

This led to a discussion about the priorities during the retrograde. Our battalion commander was presented with options to prioritize accountability, turn-ins, or speed of movement. Each priority comes with its own drawbacks and benefits; an accountability focus allows for the least risk of avoidable financial investigation of property loss but slows the speed of the withdrawal and disposition process. A focus on turn-ins allows for the quick clearing of property but puts more pressure on the teams' enablers to conduct technical inspections at the outstations and requires equipment to be left on the team UICs even at the SUPCEN awaiting turn-in. This

caused delays with the movement of equipment and accountability since the primary hand receipt holder for the SFODA had equipment no longer in their control across the area of responsibility (AOR). Lastly, prioritizing movement can lead to the rapid closure of sites but can also cause chaos for accountability and inventories, thus creating long delays in the turn-in process. It should be noted that all options were affected by the operational environment and were ever-changing. As threat levels, timelines, and force posture guidance changed from higher, we were left to adjust our process to meet the desired end state.

Creating a shared understanding of priorities, definitions, and analyses of courses of action (COAs) allowed us to approach this unique problem set with a foundation of the same assumptions and facts. Next came the execution of our COA, and this dictated how we remembered the retrograde. Our planning was guided by the principle of achieving unity of effort, which ATP 3-05.40 describes as "the most critical of all logistics outcomes." To achieve this "shared awareness across the logistics domain," we pulled the entire property book by serialized item and exported it to an Excel sheet. This became our retrograde bible and was used to track every piece of property being retrograded from the outstations.

Taking the time to set up this Excel sheet saved hours of work in reporting requirements since we had auto-calculated formulas for

progress reports. We mapped out a location column, technical inspection column, disposition instructions, and complete column (removed from the property book). As the primary hand receipt holder for the retrograde UIC, I owned the location column. I used the updates from this column to cut lateral transfers to the retrograde UIC. Maintenance personnel were responsible for the technical inspections. Supply coordinated disposition instructions and finally marked the items as complete. This was a common fighting product, shared with the J-4, SOCCENT, and command teams, allowing everyone to see the retrograde effort in real time.

Following the flow of equipment, we started at the outstation. Some of these outstations had been operating for decades and had seen a buildup in equipment. We can all relate to equipment assigned to our unit that is never used and passed from platoon to platoon. This was one of those instances. SFODAs were bogged down with broken, old, or obsolete equipment from years of fighting the enemy in each location. Now all this equipment had to move. Retrogrades like this are only possible with buy-in at the lowest level. For us, this was the teams. They did a fantastic job of maintaining their property book, inventorying their equipment, packing containers, and completing DD Form 1750s, Packing Lists, accurately. Without proper documentation when the equipment arrived at our SUPCEN, we would have had no idea what some of the equipment was. Oversight

from the team leaders and team sergeants led to nearly perfect DD Form 1750s and passed the pressure of accountability to the SUPCEN.

The equipment was then sent on a five-day journey to the SUPCEN and dropped off at the centralized receiving and shipping point yard. Within 24 hours, my team moved the retrograded equipment to our camp and began inventories off the submitted DD Form 1750s. After this inventory, I updated the location column on our tracker to show the inventoried items that arrived. At this point, the equipment was considered retrograded and reported as such due to our established definition of the word.

To keep accountability, we labeled containers and receiving yards with letters while simultaneously marking letters next to each item on the tracker. This allowed us to filter the Excel sheet by container to see everything inside or to use the find function to instantly pull the location of any property book item. Our supply team went one step further and created storage locations (SLOCs) within the property book for each container and yard. Following the lateral transfers to the retrograde UIC, the supply team then moved the equipment to the SLOC corresponding with the container letter. When we were eventually replaced, this made inventories a breeze. With equipment already separated by container on the property book, we just had to lay out one container at a time until complete.

This organizational system was also vital during the technical inspections and turn-ins. With accountability still being the priority, we established draw and return times when the supply teams issued new items to the mechanics so they could conduct technical inspections of the equipment. Adding this structure caused delays to the inspection progress but created controls for the supply team to ensure equipment returned to the same container, keeping the integrity of the tracker.

Requesting dispositions was often the longest wait during the retrograde process. Waiting for approval from either SOCCENT or U.S. Army Materiel Command took time, and during this time the equipment just sat in a container. The period after technical inspections also presented an opportunity to fill gaps in capabilities with retrograded FMC equipment across the AOR. Boosting enduring locations with fresh supplies both alleviated our bottleneck with disposition instructions and gave SFODAs more combat power. Teams were still required to operate until the last moment, causing them to keep the best equipment until the end. As the retrograde was ending, our motor pool and weapons racks became full of much-needed FMC combat power to be used in developing locations.

The NCOs and senior officers often spoke about their fears of this retrograde given the experiences they had in Afghanistan, but they were all surprised by the success our

SUPCEN had in this operation. Following this flow of equipment, we were able to close outstations within weeks, an AOR in a month, and move over 2,600 line items out of the AOR in a combat zone. With over \$90 million worth of equipment accounted for, we successfully retrograded from a country while not abandoning or losing any equipment. This was a truly remarkable feat in an Army that struggles with change of command inventories in the continental U.S.

Finally, this would not have been possible without conventional forces and the excellent support we received during our rotation. Without the great work from the rotational support operations officer coordinating the transportation of over 600 20-foot equivalent units of SOF equipment, we would not have made our timeline and maintained strict accountability of our property book.

CPT Hunter Everett is currently assigned to 277th Aviation Support Battalion out of Fort Drum, New York. His previous assignments include distribution platoon leader and executive officer of the Forward Support Company, 20th Engineer Battalion, Fort Hood, Texas, before becoming the executive officer and commander of the Forward Support Company, 2nd Battalion, 5th Special Forces Group, Fort Campbell, Kentucky. He is a graduate of the Logistics Captains Career Course, and the Basic Officer Leaders Course, and has completed a deployment to the Middle East in support of Operation Inherent Resolve. He has a Master of Business Administration degree from the Texas A&M University-Central Texas.

Featured Photo
High Mobility Artillery Rocket Systems of the 1-181 Field Artillery Regiment and Delta Company 3-172 Infantry stage in Kuwait, supporting the drawdown in Afghanistan, April 23, 2021. (Photo by SSG Chris Marks Taylor)

Expanding Operational Dentistry in the Brigade



A Starting Framework

■ By LTC Mike Sanford and CPT Becky Lee

Army dentistry must strategically adapt to the unique challenges that austere environments present. Dental teams must provide agile dental care to ensure the health and readiness of Soldiers deployed in dispersed or contested locations. Consequently, leaders must equip dental teams with portable equipment and streamlined protocols that enable them to deliver both effective and expeditious care. This agility would allow dental providers to manage dental emergencies immediately while simultaneously implementing preventive measures to eliminate potential issues before they escalate. When Army Dentistry embraces innovative strategies and mobile dental solutions, it enhances force resilience and ensures commanders maintain Soldiers in mission-ready status despite unpredictable conditions in both garrison and theater environments. This proactive approach will sustain operational effectiveness and support the overall health and well-being of military personnel.

Historical trends since World War II have proven the burden caused by dental emergencies. Between November 1942 to November 1943, over 650,000 dental patients were seen by U.S. Army Dentists in Europe. During the Vietnam War, numerous reports showed how dental issues impacted combat effectiveness, often preventing Soldiers from performing their essential duties for up to a week. In Operation Inherent Resolve, medical evacuations (MEDEVACs) due to dental disease and nonbattle injuries were as high as 16%. Dental Readiness Classification 1 (DRC1) Soldiers have no remaining dental treatment needed, whereas those in Dental Readiness Classification 2 (DRC2) have pending treatment needs that are non-urgent. Between 2009 and 2023, Soldiers who were DRC1 and DRC2 actually accounted for 70% of dental emergencies. A closer look at Ukrainian dental emergencies since February 2022 shows that oral surgery was the primary treatment in 63% of encounters. This was likely due to inconsistent dental care from the civilian population that was rapidly mobilized. With the shift to large-scale combat operations and subsequent restrictions for MEDEVACs, Role 2 must be capable of addressing any emergencies that lie within its scope.

During residency training, the first exposure to operational dentistry and mentors were from an experienced U.S. special operations forces (SOF) dental team that had conducted recent expeditionary dental missions. They proved the demand, productivity, and practicality that functional mobile dental platforms provide to deployed units.

With just one year of active-duty experience as a dental resident and no time in an operational unit, I reported to the 703rd Brigade Support Battalion (703rd BSB), 2nd Armored Brigade Combat Team (2 ABCT), in August 2025. Within a few weeks, I found myself thrust into a joint field training exercise (FTX) in September, while planning for my unit's own FTX in October. Surprisingly, leadership held little expectations or requirements for field dentistry. In recent years, the unit had not used operational dental equipment to deliver treatment at FTXs. Although time was limited, this presented the ideal opportunity for the dental team to leverage, test, and improve capabilities. Any success highlighting our operational dental ability would better prepare the unit for future training and deployments.

The Army Dental Corps defines its mission as follows: “delivering global dental services to enable sustained readiness of the Total Force.” Through collaboration with the Fort Stewart Dental Health Activity (DENTAC) and strong support from unit leadership, the dental team safely conducted patient care in the field, maximized training opportunities, and showcased future possibilities. This article discusses each phase as part of a process, which may serve as a starting framework for integrating consistent dental support into Army operations.

Planning

The previous brigade (BDE) dentist, experienced mentors, and continuing education resources guided me in this new process. I attended BDE medical synchronization meetings to achieve a better understanding of medical logistics within the unit, contacted the medical officers and platoon sergeants of each battalion, and gained Medical Protection System (MEDPROS) access,

which allowed me to identify Soldiers in need of dental exams. DRC4 Soldiers require an updated dental exam and are non-deployable.

A partnership with Fort Stewart DENTAC was developed early in the process. Communicating my limitations with the DENTAC dental liaison was an essential part in achieving the goals for the FTX. Upon my request, the Fort Stewart DENTAC provided essential supply items, which enabled field dental examinations and the delivery of emergent dental care. Moreover, the DENTAC suggested utilizing additional 68E Dental Specialists and 68EX2 Preventative Dentistry Specialists in the field to augment our expeditionary capabilities while providing valuable training experience.

Not-mission-capable (NMC) equipment and absence of Class VIII supplies were the main limitations for field dental care. The unit had not used the field dental equipment in nearly a year, since 2 ABCT's previous rotation to Europe. The sterilizer and dental operating unit, both critical for any long-term dental capabilities, were NMC. Moreover, alternative sterilization methods were discouraged. The solution was to use single-use instruments. Furthermore, the team located a backup portable dental operating unit, the Aseptico Transport II. Not providing dental care was not an option.

The goals of the 703rd BSB commander were combined with the preventative dental approach of the DENTAC commander. Therefore, we established the following objectives for the FTX: (1) confirm examination and radiographic capabilities; (2) conduct field dental examinations to increase unit dental readiness; (3) conduct at least one day of mobile dental care operations to identify capability gaps; and (4) enable 68E personnel to achieve proficiency in their individual critical task lists (ICTLs).

Preparing

The dental team organized preparation into two broad capability categories: readiness examinations and operational care. Preparing for readiness examinations required obtaining and updating a laptop that could access patient charting and capture radiographs in the field. Winn

Army Community Hospital Information Management Division and their technical contacts installed the local version of the Apteryx XrayVision software onto the government laptop. This configuration allowed the dental team to store images captured in the field without virtual private network (VPN) access. The images would later be forwarded to XrayVision with a single click once network connectivity was re-established. The team conducted a successful validation test to ensure the sensor and software could acquire, display, and upload images to the patient charts offline.

Preparing for operational care can be overwhelming, but the team identified the essentials necessary for routine and minor emergency care, tracked shortages, and relayed that information to the dental liaison. The BDE 68Es introduced me to the field equipment. Between 2 ABCT and DENTAC resources, we successfully packed the equipment and supplies needed for field dental examinations and minor emergency treatment.

By accessing MEDPROS, the team obtained lists of Soldiers from every battalion who required annual dental examinations. Subsequently, the lists were forwarded to the medical officers/leadership asking for Soldier availability to address their needs. A flexible patient care schedule was established in the field to align with the training rhythm. The dental team sustained ongoing communication with the medical officers and their platoon sergeants throughout the execution phase.

Executing

The hospital facilitated transportation between the ambulance exchange point (AXP) to and from the rear. Charlie Company (C Co) allocated personnel, time, and vehicles to transport DENTAC personnel to and from the designated AXP and Role 2 each day. Additionally, C Co leadership coordinated with other company commanders to send their Soldiers to the Role 2 for dental examinations.

With a total of 44 patient encounters, 40 of whom received periodic examinations, the dental team removed Soldiers from or prevented them from entering DRC4, or non-deployable status. All objectives established in the

planning phase were met. The team practiced preventative dentistry and educated patients in oral hygiene and nutrition, which were tailored toward field conditions. The BDE 68E as well as other motivated DENTAC 68EX2s and 68Es proactively educated fellow Soldiers on healthy habits. The team also triaged and treated several minor dental emergencies, including desensitizing agent and a temporary filling to address one Soldier's tooth pain. That Soldier was then able to participate with his unit's water training exercise symptom-free and without a MEDEVAC to the rear.

Four dentists, two 68EX2s, and eight 68Es from the DENTAC participated. They were introduced to the Role 2 setting and field environment, experiences they might not otherwise encounter during their careers. The providers obtained exposure to field dental care and its associated challenges. The 68E/68EX2s familiarized themselves with field equipment and provided hands-on clinical assistance, while completing their ICTL field requirements. The BDE 68E and I (the BDE dentist) remained for the FTX's duration, prepared to address any last-minute patients or sick calls.

The dental team successfully conducted examinations for one day at another battalion's Role 1 tent, further confirming limited mobile capability. Items packed consisted of one supply case, the dental unit, and a government laptop. We utilized a standing litter as the dental chair, completed set up within a few minutes, and began patient processing. The Aseptico dental unit required a sufficient power source for operation, such as a Light Medium Tactical Vehicle, as opposed to the smaller sources typically used at Role 1. Another challenge involved laptop connectivity issues with the VPN via Starlink throughout the field environment. The team adapted by using paper charts, which were later transcribed onto the integrated dental software in a timely manner with the support of the other brigade 68E in the rear. The team properly documented all vitals, patient notes, and radiographs, as if they were completed inside the garrison dental clinic.

Despite constrained timelines, capability gaps, and competing training priorities, the dental team achieved the established objectives for the 2 ABCT field exercise.

This success resulted substantially from the unit leadership supporting and trusting the team's vision as their dental provider and the partnership with the local DENTAC to overcome the deficiencies. This achievement demonstrated the potential of the BDE dental team as an asset deserving the resourcing and modernization required for future training and deployment scenarios. As observed in recent SOF dental missions, these platforms provide preventative, routine, and emergency care to our Soldiers, reducing the logistical burden to provide evacuation or outsource dental care to the local economies.

Expanding BDE dental capabilities will directly enhance Soldier readiness, while saving thousands of dollars in transportation and additional procedure costs. Extended training exercises will no longer prevent access to dental care. Although numerous improvements are required, a small investment in modernizing the dental platform can transform field exercises into opportunities to improve unit readiness and provide practical experience to the BDE dental team while identifying operational capability gaps. Continued recognition of dental services as an operational asset in field environments will directly benefit both the dental teams and unit effectiveness.

LTC Mike Sanford serves as the commander of 703rd Brigade Support Battalion, 2nd Armored Brigade Combat Team, 3rd Infantry Division, at Fort Stewart, Georgia. He previously served as the strategic planner to the Secretary of the Army and the executive assistant to the Joint Staff J-4 director. He also served as a brigade S-3 and battalion executive officer in the 82nd Airborne Division. He was commissioned as a lieutenant in the Transportation Corps in 2008. He earned a Master of Science degree in logistics management from Florida Institute of Technology and a Master of Public Policy degree from Georgetown University.

CPT Becky Lee serves as the brigade dentist of the 2nd Armored Brigade Combat Team at Fort Stewart, Georgia. She was a Health Professions Scholarship recipient and direct commissioned as a second lieutenant in 2020. She completed the one-year Army Advanced Education in General Dentistry program on Fort Sill, Oklahoma. She earned a Doctor of Dental Medicine degree from the University of New England.

Featured Photos
Left: CPT Becky Lee, a dentist with 2nd Armored Brigade Combat Team, 3rd Infantry Division, conducts a dental exam on a Soldier during a tactical field training exercise at Fort Stewart, Georgia, Oct. 13, 2025. (Photo by 1LT Brooke Putney)

Right: SPC Alejandra Reyes-Rivera, a dental specialist with U.S. Army Dental Health Activity, takes an X-ray during a dental exam of a Soldier during a tactical field exercise at Fort Stewart, Georgia, Oct. 8, 2025. (Photo by 1LT Brooke Putney)

THE CASE FOR A LOGISTICS CAREER MANAGEMENT FIELD SERGEANT MAJOR IN THE BSB

■ *By MSG Robert B. Ford*

Large-scale combat operations (LSCO) demand that classes of supply move at the speed of war, massing effects at decisive points. The transparent and lethal nature of the modern battlefield has eliminated the safety once guaranteed by distance from the forward line of troops, forcing sustainment lines of communication into higher degrees of dispersion and complexity.

In LSCO, being late to a logistics release point could be fatal. Any flaws in brigade (BDE) sustainment planning or execution could be catastrophic and create unplanned BDE culmination. Combat training centers

(CTCs) are the premiere training locations that place a mirror in front of BDE formations and let us see ourselves clearly. There are several observed CTC trends among brigade support battalions (BSBs) that hinder our BDE formations from being successful in LSCO. The BSB shortfalls that CTCs have highlighted will only get worse once our BSBs enter LSCO and BSBs face additional requirements.

The Army's Transformation in Contact initiative addresses greatly needed shortfalls in technology, data analytics, force restructuring, streamlined maintenance processes, doctrine, and equipment modernization.

A focus on the modernization of data, equipment, and analytics alone is not the solution to solve the BSB shortfalls at CTCs. The success of a BSB hinges on a consistent adherence to the operations process; effective, well-coordinated base defense of the brigade support area (BSA); and continuous assessment and coordination across the BDE area of operations.

To solve systemic failures in these areas, the Army must look beyond equipment modernization and address a critical gap in senior NCO leadership by authorizing a logistics career management field (CMF) sergeant major within the BSB S-3 current operations (CUOPS) section. BSBs need an additional master trainer and operations expert to assist with developing and executing BSB staff training and BSB collective training at home station.

MDMP Institutional Knowledge Deficit

NCOs, specifically sustainment CMFs, are rarely institutionally trained in the military decision-making process (MDMP) or complex staff synchronization until they attend the Sergeants Major Academy. There is the Battle Staff NCO Course, which is an excellent course, but it does not train NCOs to the depth required to assist support battalion (BN) commanders and executive officers (XOs) in the home station training of a BSB staff or to assist BN commanders and XOs with ensuring BSB staff can meet the requirements of sustainment missions at a CTC or in LSCO. This lack of institutional knowledge places the training burden on staff leads and XOs. Due to the many competing requirements on those individuals at home station and in the collective BSB, staff training is often not effective.

The senior tactical sustainment observer/coach at the National Training Center (NTC) has observed that many BSB staffs have not completed a full MDMP session before arriving at the NTC Leadership Training Program. This lack of repetition at home station hinders the ability of the BSB staff to work through the planning process at the depth required and within the time constraints. NTC recommends home station training for all sustainment units. The BDE suffers when the BSB staff, which includes a support operations

(SPO) section, does not complete a thorough MDMP repetition with enough time to assist the BDE planners and BDE S-4 with refining the BDE sustainment plans.

The importance of the operations process within a BDE or BN staff has been discussed across the force, and CTCs continue to see similar trends. The Army is currently adjusting and refining the NCO professional education system to reflect the future needs across all CMFs, but we may not get a vote on when LSCO begin, and this burden cannot be placed on future NCOs. The urgency is now.

A dedicated logistics CMF S-3 sergeant major in the BSB would possess the institutional knowledge and experience to immediately elevate a staff's ability to train at home station, advise the BN XO, coordinate with BDE plans, and ensure that the BSB staff adhered to the operations process and executed a coordinated base defense while at any CTC. Unit personnel authorizations can be approved and filled more quickly than the NCO education system can create a better prepared NCO corp.

Adherence to the Operations Process

In a BSB, the SPO operates similarly to any unit future operations (FUOPS) section while the BSB S-3 operates similar to any CUOPS section. These BSB staff sections are not manned in similar ways to their maneuver counterparts, and the SPO is focused on the future sustainment operations of the BDE, not just the BSB or BSA. The SPO uses the forward support companies (FSCs), organic BSB distribution, supply, and maintenance assets to sustain the BDE. The BSB S-3 must then synchronize SPO plans and publish them to all subordinate units and staff. While this operates like any unit FUOPS and CUOPS, BSB CUOPS are often small, led by a logistics captain and master sergeant, and there is often a throughput issue within BSB CUOPS, resulting in orders being pushed late or not at all.

The orders handover between the SPO and the S-3 is a frequent point of failure at the Joint Multinational Readiness Center (JMRC), and similar trends have been observed at other CTCs. Observations indicate

A BSB operations sergeant major would serve as the permanent bridge, ensuring the transition from planning to execution would be faster and more deliberate.

that the BSB S-3 often lacks the bandwidth to translate SPO plans into executable orders to FSCs and BSB companies at the speed required at the CTC. This can result in the SPO jumping over the BSB S-3 within the orders process, with the intent of ensuring BDE sustainment is met on time, tasking FSC and BSB companies directly. This can lead to conflicting orders, desynchronized logistics packages, and general confusion among BDE sustainment leaders.

A BSB operations sergeant major would serve as the permanent bridge, ensuring the transition from planning to execution would be faster and more deliberate. Orders must be published on time to ensure BDE sustainment is synchronized and maneuver BNs maintain the required tempo. The operations sergeant major's ability to train staff NCOs, across all warfighting functions, while at home station, could multiply the BSBs ability to plan and publish orders by using cross-trained staff NCOICs to create more throughput within BSB CUOPS.

Continuous assessment is an often-overlooked aspect of the operations process. Too often, assessments are saved until a pause or the conclusion of training. Leaders are so focused on ensuring training objectives are met, missions are accomplished, and Soldiers are safe that we do not feel like we have the time to step away from the exercise and mission to reassess whether our plan is still meeting the intent. The continuous assessment often falls on a BSB command team because they are the least stuck in a planning and execution cycle. An additional sergeant major in the BSB would greatly assist the command team and XO with stepping back and making a deliberate assessment of their unit, companies, and staff processes. Sustainment must be dynamic because LSCO is dynamic. Continuous assessments must be emphasized for BSB success.

Land Management and Survivability

Effective base security is another trend identified by JMRC for improvement. LSCO forces the BSA to configure to dispersed base clusters to survive aerial, ground, enemy observation, and long-range threats. However, this creates a spatial deconfliction crisis within the BDE, complicates BSB command and control (C2), and places additional requirements on the BSA defense plan.

The base cluster method requires three times as much land space as a traditional BSA. This puts the BSB in direct competition for terrain with other BDE war fighting functions, such as field artillery. BSB staff must advocate for themselves with BDE planners to deconflict position areas for artillery (PAAs) from the BSA footprint. Planning and coordination become more difficult as secondary and tertiary PAA and BSA locations are being planned, placed on the BDE priority protection list, and synchronized with

the BDE protection assets, such as engineers digging in fighting positions large enough to conceal bulk fuel systems.

An operations sergeant major would greatly assist the BSB command team and XO with the required BDE staff coordination and planning. BDE sustainment C2 nodes, equipment assets, and commodities must be protected by having engineer-prepared areas. The days of going to a CTC and hoping the BDE engineers show up to create a burm around your BSA are over. The BDE and BSB commanders assume unnecessary risk when BSA protection is not resourced appropriately and synchronized with the overall BDE maneuver plan. It is a requirement for BDE survival that requires knowledgeable, experienced senior NCO advocacy between BSB staff and BDE staff.

The Science vs. the Art of Sustainment

Sustainment has often been treated as a math problem. Every logistics officer fought from spreadsheets, calculating pallets allocation by vehicle system and requirements by class of supply and time-distance factors. While the science of sustainment remains foundational to forecasting material requirements, LSCO demand an increase in the art of sustainment.

LSCO may force BSB commanders and staff to make decisions that are more nebulous, with triggers that are not as clear. BSB commanders' decision matrices and risk management tools must reflect the fog of LSCO. Does the BSA conduct a survivability displacement, even though the secondary BSA location is still waiting on engineer assets and is unprepared? How does the BSA mitigate the risk associated with making a sudden survivability displacement, requiring multiple large convoys, when every main service route is assumed to be observed by enemy aerial threats? A sergeant major provides the intuition to recognize a trigger before the situation becomes a crisis.

Conclusion: A Personnel Solution to Correct a Long-Term Trend

These are trends that have been observed and reported by expert observers and coaches at every CTC for

dozens of rotations, across multiple years, but BSBs routinely still fall short. BSB leaders know what they must do to succeed. They want to put their staff through multiple planning sessions at home station. The BSB CTC shortfall is not due to a lack of understanding the problem or an unwillingness to fix it. The shortfall is that we are simply failing to provide BSBs with the NCO support required to execute at the level the mission requires.

The Army is restructuring and modernizing across multiple warfighting functions and headquarters. This provides Army senior sustainment leaders with a unique opportunity to not just modernize equipment but to potentially gain additional logistics CMF sergeants major from across the force.

LSCO will find our flaws and shine a bright light on them for every enemy to see. It is imperative that a personnel change is made within BSB formations to correct CTC trends that have shown years of shortfall. The Army must formalize the position of an operations sergeant major within the BSB.

When the mission is nebulous, the terrain is contested, and the math fails, the Army has successfully relied on the experience of the sergeant major to find a way. It is time to put that experience where it is needed most: in the heart of the BDE formation.

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READINESS BEGINS WITH SUSTAINMENT EXCELLENCE

The Tactical Field Readiness Training Center as a Combat Multiplier

■ By CW3 Heidi-Ann T. Holmes

The Army's ability to fight and win in complex, contested environments depends on maneuver dominance and on sustainment systems that are agile, expeditionary, and trusted. Within this framework, the Tactical Field Readiness Training Center (TFRTC), executed by the Joint Culinary

Training Department (JCTD), represents a critical investment in sustaining the warfighting profession. By delivering realistic, standardized, and performance-driven training, the TFRTC ensures 92G Culinary Specialists are prepared to operate as integral members of the combat force in large-scale combat operations (LSCO).

At its core, the TFRTC bridges the gap between institutional learning and operational execution. Training is deliberately designed to replicate the friction, tempo, and complexity of the battlefield. Trainees are not only trained on systems such as the Containerized Kitchen, Mobile Kitchen Trailer, and Assault Kitchen, they are evaluated

on their ability to employ these systems under conditions that mirror contested logistics environments. This approach reinforces a key tenet of the profession: competence is validated through performance, not assumption.

Equally critical is the TFRTC's role within the institutional domain, where it serves as a cornerstone for building foundational competence and standardization across the force. Within the JCTD, the TFRTC provides a controlled, doctrine-informed training environment that shapes culinary specialists before they transition to operational units. It ensures that Soldiers are not only technically proficient, but also grounded in Army standards, safety, and the expeditionary mindset from the outset of their careers. By codifying best practices, integrating lessons learned from the field, and aligning with Quartermaster School guidance and the U.S. Army Transformation and Training Command (T2COM), the TFRTC strengthens the Army's ability to generate ready forces at scale. This deliberate linkage between institutional training and operational requirements ensures continuity, reduces variability across formations, and reinforces a shared professional identity within the sustainment community.

The JCTD is the Army's doctrine, organization, training, material, leadership and education, personnel, facilities, and policy integrator for the tactical food program. It ensures that TFRTC training is not conducted in isolation. The training

is synchronized across doctrine, materiel modernization, leader development, and policy to produce a cohesive and scalable capability. This integration directly supports T2COM's objectives and aligns with the Army Food Program Strategy, reinforcing the Army's commitment to building a sustainment enterprise capable of supporting distributed and prolonged operations.

A defining strength of the TFRTC is its emphasis on repetition, adaptability, and leader development. The TFRTC provides training at all levels: Advanced Individual Training, the Advanced Leader Course, and the Senior Leader Course. Through small-group instruction and maximized instructor engagement, Soldiers gain the hands-on experience necessary to build confidence and technical mastery. Training methodologies such as field kitchen operations and performance-based assessments ensure that every Soldier is exposed to multiple systems and scenarios, fostering versatility across the formation. Leaders, in turn, are developed to synchronize operations, manage resources, and make informed decisions in dynamic environments — skills that are essential to sustaining combat power.

Equally important, the TFRTC contributes to the stewardship of the profession by driving standardization across formations. By providing a common training framework and incorporating lessons learned from operational units, the TFRTC ensures consistency in how culinary specialists are trained and evaluated.

This standardization builds trust between Soldiers, leaders, and supported units and reinforces the professional identity of Army sustainers as reliable enablers of combat effectiveness.

Field feeding's impact on readiness is often underestimated; however, it directly influences endurance, morale, and the will to fight. The ability to deliver timely, quality meals in austere environments is not simply a sustainment function; it is a combat multiplier. The TFRTC institutionalizes this understanding by preparing Soldiers to operate independently, adapt to resource constraints, and sustain operations under degraded conditions.

As the Army continues to refine its approach to LSCO, the role of sustainment in enabling operational success will only grow in importance. The TFRTC exemplifies how targeted, realistic training can strengthen the warfighting profession. By investing in people, enforcing standards, and aligning training with operational requirements, the Army ensures that its sustainers remain ready, resilient, and capable of supporting the fight anywhere, at any time.

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CLOSING THE GAP

Making Sustainment as Agile as the Fight It Feeds

■ By 1LT Alexis LeBlanc

ADM Hyman George Rickover emphasized the importance of logistics when he said, “The art of war is the art of the logistically feasible.” Sustainment operations in the U.S. Indo-Pacific Command (USINDOPACOM) present unique challenges because of the region’s limited infrastructure, vast distances across the Pacific Ocean, and the constant need for multinational cooperation. As we prepare for potential conflict with China, many leaders predict that sustainment will be the most influential factor determining success or failure.

To modernize the force and prepare for large-scale combat operations (LSCO) in the Indo-Pacific, the Army is transforming forward support companies (FSCs) into combat logistics companies (CLCs) within new light support battalions (LSBs). The CLC has similar personnel and equipment capabilities as the FSC, including a distribution platoon, maintenance company, and field feeding section. Their modified table of organization and equipment is being updated to align with the newly structured LSBs and the task forces they directly support, but it still needs major improvements to increase its effectiveness.

I served in the Army’s first CLC, supporting 1st Battalion, 27th Infantry Regiment (1-27 IN BN), 2nd Mobile Brigade, both in garrison and during Joint Pacific Multinational Readiness Center (JPMRC) 25. We had the unique tasking to sustain 1-27 IN BN without any heavy expanded mobility tactical truck (HEMTT) platforms, except for one M984 wrecker, for the entire exercise. Operating under this constraint forced Coyote CLC to move all classes of supply on smaller, more mobile platforms without creating any gaps in support for 1-27 IN BN. My experience in Coyote CLC highlighted USINDOPACOM’s need for lighter and more mobile sustainment without increasing the risk of culmination. To strengthen the Transformation in Contact (TiC) initiative and close

Sustainment operations in the U.S. Indo-Pacific Command present unique challenges because of the region’s limited infrastructure, vast distances across the Pacific Ocean, and the constant need for multinational cooperation.

the gap between sustainment and the force it supports, the Army must field the Tactical Light Fueler (TLF), Lightweight Water Purification System (LWPS), and lighter vehicles to CLCs to improve sustainment operations in the complex USINDOPACOM.

TLF

Coyote CLC sustained 1-27 IN BN during JPMRC 25 without any HEMTT platforms except for one M984 wrecker. This requirement led to the invention of the TLF as a replacement for the Modular Fuel System (MFS). The team built the TLF from an M1152 cargo/ troop carrier, three 100-gallon fuel drums, and a blast shield to protect the Soldiers operating the vehicle. CW2 Noe Aleman and SGT Ronald Rodriguez from Coyote CLC's maintenance platoon led the effort to design and refine this new fueler, spending the months before JPMRC preparing it to support a battalion's fleet of Infantry Squad Vehicles (ISVs), Humvees, and Light Medium Tactical Vehicles (LMTVs). The TLF carries 425 gallons of fuel, consisting of three 100-gallon tanks and 25 five-gallon fuel cans, compared to the MFS's 2,500-gallon capacity.

COL Christopher D. Johnson, the former 25th Division Sustainment Brigade commander, noted that during the first JPMRC rotation with ISVs, A Company distributed only 2,700 gallons of fuel as opposed to 45,000 gallons the previous year. Because of this significantly lower consumption rate, Coyote CLC successfully sustained 1-27 IN BN with the TLF. A combination of fuel-can swaps at preplanned cache sites and refuel-on-the-move operations kept 1-27 IN BN ready for continuous operations. In addition, its smaller profile allowed Coyote CLC to maneuver to remote logistics release points (LRPs) and conceal the platform in Oahu's jungle terrain.

Modern drone warfare has made sustainment a vulnerable and decisive target, and the ability to conceal our sustainment assets allows our maneuver forces to remain in the fight. Recent conflicts have shown that disrupting sustainment operations has a more decisive effect on combat power than engaging with maneuver forces directly. In the modern fight, survivability now

matters as much as capacity. Because fuel consumption rates are considerably lower, we can scale down the platforms that need support. Water consumption, however, remains high in the Indo-Pacific's heat, creating a sustainment problem that cannot be solved by fielding smaller vehicles.

LWPS

Soldiers in USINDOPACOM consume large amounts of water to stay hydrated in the region's heat and humidity. Without the ability to employ Hippos, Coyote CLC relied on alternate sustainment methods. During JPMRC 25, the company used water-can swaps at cache sites and refilled Water Buffalos using CAMELs to prevent any gaps in support. While these methods worked, Coyote CLC relied on frequent resupplies from the brigade support area (BSA) because of its small internal capacity. An LWPS would further increase flexibility by allowing Coyote CLC to filter their own water for extended periods without relying on the BSA for continuous resupply.

While LWPS can reduce the amount of water resupplies from the BSA to the CLC, they are not practical for maneuver units to operate independently. In USINDOPACOM, units are often dispersed and constantly displacing. The LWPS would add unnecessary vulnerability to the maneuver unit in an already complex tactical environment. While the LWPS is impractical to employ at the maneuver unit level, it has a small enough footprint to make it an asset in the CLC without sacrificing combat power or survivability.

The LWPS can purify up to 125 gallons per hour (GPH) of fresh water (75 GPH of salt water), can operate 20 hours per day, and can be transported by two Soldiers. Its small frame can be transported in a Humvee, and its adaptable configuration allows units to adjust quickly to changing tactical environments. Its six optional additional attachments expand its capability for cold weather; ocean intake; nuclear, biological, and chemical survivability; and other mission requirements. They have immense power versatility and can be operated with multi-fuel or electric engines. These systems are easy to learn and would significantly increase the independence of maneuver units.

In USINDOPACOM, water remains a constant necessity. Enabling CLC units to partially sustain themselves and their maneuver unit would strengthen their lethality during LSCO. To successfully provide LWPS to the CLCs, proper training and maintenance are imperative to ensure effective use. As lighter platforms for water and fuel sustainment become more viable, the requirement for large HEMTT platforms decreases, reinforcing the need to modernize and lighten the sustainment fleet.

Lighter Vehicles

HEMTT platforms, particularly the M1120 Load Handling System, have supported Army sustainment operations for decades. As mobile brigades field ISVs, sustainment platforms must evolve to match the maneuver fleet's mobility. CLCs need lighter systems such as Humvees, flatbed LMTVs, and ISVs instead of traditional HEMTT platforms. Humvees support TLF configurations; LMTVs carry palletized classes of supply; and ISVs transport sustainment Soldiers. ISVs enable infantry units to push deeper into remote terrain where HEMTT platforms cannot follow. During JPMRC 25, Coyote CLC could not have executed critical cache missions or LRPs with HEMTTs due to their size, limited mobility, and inability to traverse deep jungle routes. In addition to the size and immobility, HEMTT platforms are loud and easily detectable, increasing operational risk.

It is undoubtably expensive to field new vehicles to CLCs. However, the repair parts on lighter vehicles are significantly cheaper, and the engine compartments are more accessible, making on-the-spot repairs more feasible in comparison to HEMTT platforms. Modern drone warfare has made logistics the primary target set. Continuing to employ large equipment increases the likelihood that enablers will be targeted and destroyed. In addition, the sole reliance on preplanned LRPs creates targetable patterns, allowing the enemy to know where sustainment will be and when. Employing caches degrades that predictability and reduces the massing of vehicles. Caches support a dispersed and constantly displacing fight where maneuver units can resupply themselves as the battlefield allows. The modern fight

demands leaders that are willing to innovate and adapt. Reliance on old methods creates vulnerabilities that the enemy can and will exploit. To keep pace with mobile brigades, the next essential step in TiC is modernizing the sustainment fleet to align with the Army's light mobile platforms.

Conclusion

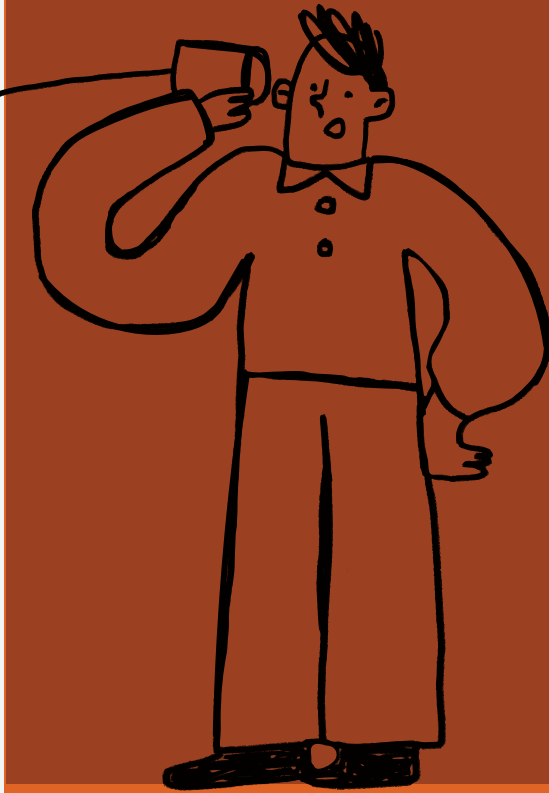
The Indo-Pacific region requires lighter and more mobile sustainment systems to keep pace with the rapidly transforming mobile brigades. In a dispersed operational environment, plagued with drone strikes and the absence of secure rear areas, innovation is now an operational requirement. The transformation of FSCs to CLCs is just the beginning of the necessary sustainment modernization. CLCs need the TLF, LWPS, and lighter vehicles to strengthen the TiC initiative. With these capabilities in place, sustainment forces will be positioned to support maneuver units effectively and maintain operational reach across the Pacific.

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Featured Photo
SGT Joseph Goodwin, a culinary specialist assigned to 2nd Battalion, 8th Cavalry Regiment (2-8 Cav), 1st Cavalry Division, hands off a plate of food to the command team of 2-8 Cav near the end of the containerized kitchen cook-off competition during Cav Week 104 on Fort Hood, Texas, Sept 3, 2025. (Photo by SPC Steven Day)



Our Own Worst Enemy



Overcoming the Challenges of Army Communication

■ By CPT (P) Garrett H. Pyle

Communication. What a simple word, yet what a difficult concept to put into execution sometimes. At its core, communication is the exchange of information between entities. This could be individuals, businesses, units, governments, and everything in between. When there is a breakdown of communication, the flow of information ceases and problems gradually arise. Just think about your own personal relationships throughout life. The Army is not immune to this, either. We can be our own worst enemy when it comes to establishing and executing communication between ourselves.

I have had the unique opportunity to see Army communication at a variety of levels by serving as the Sustainment Center of Excellence (SCoE) Harding Fellow for the last two years. As I close out this chapter of my career and pass the torch to my successor, I want to provide some insight into ways that I believe we can overcome the challenges of Army communication. My goal is

to shed some light on these challenges so that we can continue to have the dialogue needed to thrive in all aspects of our operations.

The Foundation of Professional Discourse

The first area is not so much a direct challenge but truly the foundation of Army communication: professional discourse. If you have read anything about the Harding Project or listened to any of the episodes of The LOGSTAT podcast, you know all about this concept. It is to encourage a shared understanding by bringing together different lessons learned, information, and solutions while not being restricted by rank or position.

The Army recognized there was a break in communication with the Army's professional journals and established the Harding Project to strengthen the profession by revitalizing the journals. Specifically, the *Army Sustainment Professional Bulletin (ASPB)* can see the success of this project in the 56%

increase in submissions alone. Check out the article “The Harding Project Unlocks the Key to Knowledge” in the winter 2025 edition of the *ASPB* to learn more about the Harding Project.

If we limit the opportunity for professional discourse, we hinder ourselves from discovering the best ideas possible. The journals and podcasts provide the avenue for anyone to share their perspectives on topics with which they themselves are familiar. Sometimes people are told they should not write about something because they do not have the rank required to make a change. This attitude completely goes against the entire foundation of the Harding Project.

I wrote my first article when I was a first lieutenant deployed to Atlantic Resolve in the U.S. Army Transportation Corps’ Spearhead Newsletter in which I discussed custom clearance operations. I recognized an issue and provided, from my perspective, a solution. I received feedback from other individuals, including majors and lieutenant colonels, that saw the same thing and appreciated my solution. Now, my story is just one of countless others I witnessed during my time as the SCoE Harding Fellow. I have even seen articles from privates that made impacts. Thus, writing knows no rank and must never be restricted because of rank.

Another issue that I have seen arise with professional discourse is the fear that allowing anyone to write unsupervised will create a space where misinformation could be shared. While yes, we do not want inaccurate or false information to be shared, we cannot allow this fear to rob us of individual perspectives. For instance, the *ASPB* had an article published that provided perspectives from a unit in the field on an Army system that was not completely accurate. They saw issues with the system and provided recommendations on how to improve it based on what they experienced. However, it was discovered from the higher headquarters that the unit did not have the training needed to complete the task. But what was so fantastic about this situation is that it got the conversation going. It sent the signal up the flagpole that there was a break in training being executed at the lower levels.

All too often higher headquarters establish guidance or procedures to complete a task but never get feedback on the execution. Unless they go down to the lowest level themselves, they may not know how the guidance is being implemented. Professional discourse provides the perfect avenue for the most junior individual to provide feedback to the most senior on how things are being executed in a professional and respectful way. Not only can they signal if things are being executed properly but they can provide improvements that others may have missed and that will further increase our lethality.

Everything that surrounds Army communication builds off this concept of professional discourse. For instance, how we use different terminology can create breaks in our communication.

The Term “Soldier”

When you hear the word “Soldier,” what do you think? Are generals Soldiers or only privates? The reason I ask these questions is that I have seen people use the term Soldier only to refer to the junior enlisted. I argue that using the term Soldier to only refer to the junior enlisted creates a significant break in our communication and creates a division between the ranks.

Everyone who wears the Army uniform is a Soldier, no matter the rank they wear. Those who think that Soldier refers only to the junior enlisted create an attitude that they are superior and do not have to do basic Soldier tasks. This attitude of “I do not need to do that because it is Soldier work” deters team building and trust within the ranks, which in turn affects our ability to communicate effectively. Who wants to follow someone who says, “That is not my job”? Now, every rank has its own roles and responsibilities and, yes, some things are not a certain rank’s job. No one expects a private to develop a brigade concept of support, just like no one expects a general to dig a fox hole. However, it is how you communicate and carry yourself that is the absolute key.

Something that I have always lived by is “never tell someone to do something that you yourself have not already done or are willing to do.” Therefore, building trust between the ranks and knowing that we are all

Soldiers who must be ready to do the basic Soldier tasks (shoot, move, and communicate) will ensure that we can effectively communicate between each other. Changing the way we think of the concept of rank and a Soldier is one thing, but our own systems can also create a break.

The Bottleneck of Middle Managers

Of all my years of experience in the Army, not just as the Harding Fellow, one critical area in which I have witnessed the biggest challenge for Army communication is the bottlenecking of information with middle managers. Now, I use the term middle managers loosely to describe anyone or any entity in a position that is between you and the person you need to communicate with in the moment. This could be an aide-de-camp, battalion S-3, executive officer, platoon sergeant, routing chain, squad leader, etc.

Before I continue, let me fully establish that I do not wish to see a private going right into the colonel’s office, ignoring the chain of command. We have a chain of command for a reason and when executed properly, it is very efficient. What I am referring to is the bottlenecking of information when someone or something slows or stops the flow of information for any reason.

For instance, how often in your career have you seen a Soldier submit a packet on time but be denied an opportunity because their higher headquarters failed to meet a deadline? Now that Soldier and unit must submit an exception to policy to participate in that opportunity when the Soldier did everything right. We are severely our own worst enemy in situations like this. We fail to have systems in place, or they break by an overload of steps to accomplish a simple task.

To further complicate this bottlenecking, the so-called “war on cover sheets” continues as units place obstacles for Soldiers to overcome to accomplish simple tasks like taking leave. We have dedicated systems in place that are designed for efficient flows of information, but we add repetitive layers that waste time and energy. All because everyone wants to have their hand in the cookie jar.

To solve this bottlenecking of middle managers we must employ the systems we already have in place and

restrict the urge to add more layers. When information is communicated to us, we must not hold it at our level but pass it to the appropriate level. Technology has greatly helped us with routing this communication but has also created the perfect storm to become a crutch for us.

Technology as a Crutch

We would think that with all the technology at our disposal we would have zero issues with communication. We have the ability for instant communication anywhere on the globe at a moment’s notice. Yet, we sometimes fail to get messages to our entire formation in a timely manner. Just think about all the late-night text messages you have received about something you have to do at 0500 the next day. How did we even survive a world before cell phones?

I would argue we were more deliberate before our reliance on technology. When you talk to older generations, they tell you that information was put out during first formation in the morning on the plan for the day. Then, it was put out during the formation around lunch if anything changed and/or with a final formation at the end of the day to provide details on the next day. Phone calls were only used for recalls or emergency information. This crutch we have with technology not only creates breaks in communication but affects our overall work-life balance. We must go back to our roots and standardize times when information is put out to our units. Yes, there will be exceptions, but it must not be the norm. Thankfully, many units have already recognized this and put into place policy letters that no communication is to be sent after final formation or before first formation unless it is an emergency.

AI – The Final Fall of Communication

If you read any of my previous articles (“Is Efficiency Worth Sacrificing Our Humanity?” and “GPT – The Death of Creativity and Critical Thinking”), then you know I could not write an article on communication without discussing artificial intelligence (AI). I continue to watch our ability to communicate with each other be eroded by AI because of our over-reliance on it. The push is for individuals to use AI to write emails, awards, evaluations, operation orders, and so much more. If AI

does all this work, then why are we needed in the first place? Communication is a skill that is written, verbal, and nonverbal. If we do not work at it like going to the gym for our muscles, we will lose our ability to communicate clearly and effectively.

The argument continues to be that AI should only aid our work and not replace it. However, I continue to see AI increasingly do our work more than aid it. Yes, humans will innately find the path of least resistance, but that does not mean we should. Communication is built on trust, and I argue that AI is the final fall for our ability to communicate. For instance, using AI to write an evaluation tells the individual that you did not care to take the time to truly evaluate their performance and build a bond with them. Trust is then broken between the two of you.

Once again, I am focusing my argument on the generative side of AI since the term AI encompasses a large array of areas. Thus, if we continue this reliance on generative AI, I believe we will witness the largest decline in critical thinking and cognitive skills in our history. Do we really need leaders asking ChatGPT how we should conduct battle plans? I am told that those who do not use generative AI will be left behind. Well, I argue that those who do not use generative AI will be the only ones with cognitive and communication skills left standing to complete the mission.

Communication is an art that we used to have courses on to teach us how to refine our skills. If we want to overcome these challenges of Army communication, then AI is not the answer.

Final Thoughts as the SCoE Harding Fellow

The Harding Project has significantly improved our ability to communicate in the last few years. Not only has the *ASPB* experienced a 56% increase in submissions, but the journal has also had a 35% increase in publications. Six new sections in the journal provide dedicated focus areas for conversations to be had. The Line of Departure website provides the one-stop shop for all journals, podcasts, and overall professional discourse for the Army. We have even launched a new mobile app of Line of

Departure to bring the journals directly into the hands of Soldiers. This is only the beginning as we continue to revitalize all the journals across the force.

The concept of Army communication is not a new one and the problems that we see today are very similar to ones throughout all history. It is like a revolving wheel of identifying a problem, finding a solution, implementing a solution that works for some time, and then the solution creating a new problem. Thus, we must always work to stay one step ahead and work to refine our ability to communicate in all aspects.

Building trust through professional discourse and not restricting communication based on rank greatly increases the flow of ideas across the force. Additionally, we must always remember that everyone who wears the uniform is a Soldier and must be treated as such. Technology can greatly assist us in building systems to increase the flow of communication, but we must never allow it to bottleneck information or to be used as a crutch. Lastly, AI is not the ultimate solution to everything and poses great risk to our communication skills if left unchecked. We must use and challenge the brains that we were given to be the best communicators possible.

This article has only touched on a few of the aspects I experienced during my time as the SCoE Harding Fellow. Thus, we must continue to refine our communication skills and not be our own worst enemy by creating barriers for communication. Our ability to communicate clearly and concisely is our key to being the most lethal fighting force the world has ever seen.

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THE

REVOLUTION

OF ARMY SUSTAINMENT

Strengthening the Sustainment Warfighter Profession

■ By LTC Xeon Simpson

For much of the past two decades, Army sustainment adapted to the demands of war. From Iraq and Afghanistan to today's global competition, sustainers have refined systems, improved efficiency, and expanded the scale and precision of support. The convergence of artificial intelligence (AI), cyber warfare, space-based dependencies, and persistent gray zone competition is not simply accelerating change within sustainment. It is altering the conditions under which sustainment exists. The system that once operated with relative sanctuary is now even more exposed, contested, and targeted.

This raises a critical question for the profession. Are we witnessing the continued evolution of Army sustainment, or are we in the initial stages of a revolution that will redefine it? This article argues that Army sustainment is undergoing a revolution. The scale and interaction

of technological, doctrinal, and organizational change are altering sustainment's nature and performance. The profession must recognize this shift and respond with equal urgency.

What Constitutes a Revolution in Sustainment

Revolutions in military affairs are often misunderstood as moments driven by technology alone. The scholarly consensus holds that technology must combine with doctrinal and organizational adaptation to fundamentally alter the conduct of war. The result is not incremental improvement but a discontinuity from prior practice. By that standard, the transformation underway in sustainment meets the threshold.

Philip L. Ritcheson has argued that revolutions occur when new technologies combine with changes in doctrine and organization to significantly alter

how forces conduct war. They also tend to compress the boundaries between the strategic, operational, and tactical levels. Andrew Krepinevich reached a similar conclusion in his study of historical military revolutions, concluding that each required the combination of technological change, operational innovation, and organizational adaptation to produce a fundamental shift in the character of conflict. Williamson Murray and MacGregor Knox reinforced this framework in *The Dynamics of Military Revolution, 1300–2050*, distinguishing between military revolutions driven by broad societal forces and revolutions in military affairs driven by deliberate institutional adaptation. Their work shows that recognizing a revolution while it is underway is among the hardest intellectual tasks a military profession faces.

Technology has changed the environment. AI and machine learning are reshaping decision making. Cyber operations have made logistics networks vulnerable in ways that were previously theoretical. Space-based systems have become indispensable to navigation, timing, and communication. The electromagnetic spectrum has appeared as both an enabler and a contested domain.

Doctrine has changed alongside it. Multidomain operations assume that sustainment will operate under persistent attack. The concept of contested sustainment reflects a shift from protected lines of support to actively defended and contested systems.

Through actions such as the Army Transformation Initiative, the Army is restructuring elements of its sustainment enterprise, modernizing the organic industrial base, and integrating advanced manufacturing and data-driven systems into operational units. These efforts represent an attempt to realign the institution with a new reality. Taken together, these changes redefine the sustainment system.

The Case for Evolution and Why It Falls Short

Before accepting the revolution thesis, the profession must confront the main counterargument. Previous generations of military sustainers believed their moments were transformational. The introduction of

railroads, the mechanization of supply in World War II, the containerized logistics revolution of Vietnam, and the precision logistics of Desert Storm all appeared revolutionary to those who lived through them. Each produced real and lasting change. None, by itself, constituted a revolution in military affairs.

A skeptic could argue that today's changes follow the same pattern. By this reading, the profession is experiencing rapid modernization, not revolution. This argument deserves respect but misses the critical distinction.

Previous changes improved discrete functions within a stable system. Railroads accelerated movement. Containerization improved throughput. Precision logistics reduced waste. In each case, the fundamental architecture of sustainment remained intact: centralized planning, hierarchical distribution, and operations conducted from relative sanctuary.

What distinguishes the current transformation is that these foundational assumptions are problematic. The planning environment is contested by cyber and information operations. The distribution architecture is targeted by long-range precision fires and autonomous systems. The sanctuary that enabled efficient sustainment no longer exists. The technologies may not be revolutionary, but their convergence, combined with doctrinal and organizational upheaval, is revolutionary. All this grows even more urgent given that our adversaries are pre-positioning within the information technology and operational technology infrastructure directly related to our ability to rapidly mobilize and sustain the joint force.

Sustainment as a Contested War-Fighting System

The most important shift is conceptual. Sustainment can no longer function as a supporting effort operating behind the fight. It now operates as a warfighting system that exists within the fight. Forces will have to fight for every inch of the battlefield required to support operations. This distinction changes how sustainment must be designed, led, and executed.

Historically, sustainment derived strength from efficiency and scale. Centralized distribution networks, optimized supply chains, and predictable demand signals enabled the Army to generate and maintain combat power. Leaders managed risk within established frameworks.

That model is increasingly fragile. In a contested environment, efficiency becomes vulnerability. Centralization creates targets. Dependency breeds predictability. Predictability invites disruption. The very attributes that once defined effective sustainment now expose it to risk.

The Russia-Ukraine War offers a concrete illustration. In the early months of Russia's 2022 invasion, the Russian 58th Guards Combined Arms Army's logistics columns advancing toward Kyiv became fixed along predictable road networks. Ukrainian forces exploited this predictability, using artillery, drones, and small-unit ambushes to destroy fuel and ammunition vehicles, halting the advance. Conversely, Ukrainian logistics forces adapted by dispersing supply points, using civilian infrastructure for concealment, and employing small, mobile resupply elements that reduced signature and improved survivability. These were not theoretical adjustments. They were survival adaptations that validated the core premise of contested sustainment.

The implication is clear. Sustainment must be designed for endurance under attack, not for efficiency in permissive environments. The mission endures; the system that delivers it does not.

The Rise of Data as Combat Power

Among the many changes affecting sustainment, none carries greater consequence than the elevation of data from a supporting tool to a central component of combat power.

Sustainment has always relied on information. What has changed are the speed, scale, and consequence of data-driven decision making. Systems that aggregate readiness data, predict maintenance failures, and optimize distribution are now integral to operational success.

Data enables unprecedented visibility. Leaders and staffs can anticipate requirements, identify vulnerabilities, and allocate resources with greater precision. Tools such as predictive maintenance models and digital twins offer the potential to move from reactive to anticipatory sustainment.

However, this reliance creates new dependencies. Adversaries can disrupt, degrade, or manipulate data systems. Overreliance on digital tools without corresponding analog competence creates brittleness. The sustainment leader must therefore balance the advantages of data with the requirement to operate without it.

The profession has begun to recognize this shift. The emergence of data-focused roles within sustainment organizations signals an institutional response. Yet the deeper implication is cultural. Sustainers must think about data as a resource they must manage, protect, and contest.

Blurring the Levels of War

Another indicator of revolution is the compression of the strategic, operational, and tactical levels of war. This compression is increasingly evident in sustainment.

Actions at the tactical level now carry strategic consequences. A disrupted supply chain, a compromised maintenance system, or a degraded network can affect operational reach and national objectives. Conversely, strategic decisions about industrial capacity, acquisition policy, and supply chain security directly shape tactical outcomes.

The sustainment warfighter must operate with an understanding that extends beyond the immediate formation. Leaders must connect tactical actions to operational design and strategic objectives. This includes understanding the defense industrial base, the implications of acquisition reform, and the vulnerabilities inherent in global supply chains.

Technical competence alone no longer suffices. Strategic awareness is now a requirement at every echelon where sustainment leaders make decisions that ripple beyond their formations.

The Tension Between Dispersion and Mass

One of the defining challenges of this unfamiliar environment is the tension between dispersion and concentration. Smaller, mobile sustainment elements reduce signature and complicate enemy targeting. They align with the lessons emerging from the Russia-Ukraine War, where large, static nodes have proved vulnerable to attack.

However, dispersion introduces risk. Smaller elements carry fewer resources. They may struggle to meet demand. They create friction in coordination and reduce the efficiency of distribution. Concentration, by contrast, enables mass and efficiency. It allows sustainment formations to deliver large volumes of support rapidly, but it also increases vulnerability.

The future of sustainment lies in managing this tension, not resolving it. Units must operate in dispersed configurations while retaining the ability to rapidly concentrate effects. This requires deliberate planning, disciplined execution, and leaders who understand risk at its operational level.

What Endures Amid Change

Amid this transformation, the profession must recognize what has not changed.

Sustainment still exists to generate and sustain combat power and readiness. The fundamental requirements for fuel, ammunition, maintenance, and medical support persist. Echelons of sustainment will continue to exist. The structure may evolve, but the need for layered support remains.

But enduring purpose must not be confused with enduring method. Revolutions do not eliminate fundamentals. They transform how those fundamentals are executed. Recognizing the continuity and the rupture is the central intellectual challenge now facing the sustainment.

Implications for the Profession

If sustainment is undergoing a revolution, the implications for the profession are significant and demand more than incremental adjustment.

The most urgent implication concerns how the Army trains and certifies its sustainment professionals. Several sustainment leaders have already called for changes to training management, and their instincts are correct. CPT Stephanie Torres, writing in *Army Sustainment*, argued that sustainment formations now operate inside the kill web as deliberate, high-payoff targets. She documented how Russian forces in Ukraine have used coordinated drone surveillance and rapid sensor-to-shooter linkages to destroy logistics convoys with lethal efficiency. Her conclusion is blunt: sustainment forces must integrate the same survivability, active defense, and deception measures as maneuver units or face destruction.

LTC Kimberly DeFour and her team at 3rd Brigade Combat Team, 1st Cavalry Division (3/1CD), demonstrated what a structured certification program can achieve. Their sustainment qualification tables applied the logic of gunnery tables and the Integrated Weapons Training Strategy to sustainment tasks, creating a progressive, gated certification model that held sustainers to the same standards as tank and Bradley Fighting Vehicle crews. The results at the National Training Center validated the approach: a 28% improvement in logistics release point efficiency, a record low in back-hauled fuel, and an operational readiness rate exceeding 70% on combat platforms.

These efforts represent important first steps. The current training model was designed to produce competence in permissive environments. The contested battlefield demands a fundamentally redesigned approach to individual, collective, and gunnery training, one built around the threats that adversaries direct at the sustainment enterprise. What the Army needs is a next-generation sustainment gunnery model that integrates the sustainment qualification table framework with the threat-driven survivability tasks CPT Torres identified: counter-unmanned aircraft system (C-UAS) engagement, signature management, rapid displacement, deception, and operations under persistent aerial surveillance.

The Army has long acknowledged that it struggles to defend against threats from above. The proliferation of UAS has made this shortcoming dangerous. CPT

Torres rightly argued that embedded C-UAS assets within sustainment formations are critical for defending logistics elements against drone and missile attack. A revised sustainment gunnery model must incorporate C-UAS detection and engagement as a qualifying task at the crew and section level, alongside traditional weapons qualification and convoy live fire. No amount of logistical expertise matters on a battlefield where the enemy can see and strike every supply point and convoy.

The training model must also build proficiency in dispersion operations, reduced-footprint logistics, and the command-and-control challenges these create. CPT Torres called for sustainment nodes to transition from static brigade support areas to collections of mobile sustainment teams that displace frequently and adapt quickly. LTC DeFour proved that progressive, repetitive training produces measurable improvement in sustainment execution speed and precision.

The next step is to combine these insights in a training progression that certifies small teams on logistics execution and on executing those tasks while dispersed, under limited visibility, with degraded communications, and under simulated aerial threat. Operating in dispersed configurations demands that small teams execute complex sustainment tasks with limited supervision and with reduced access to higher headquarters. This kind of competence requires repetitive, realistic collective training at the platoon and company level.

Achieving this will require higher headquarters to accept and mitigate risk so that subordinate units have the time, space, and freedom to train at echelon. LTC DeFour's experience at 3/1CD offers a model: the brigade commander aligned sustainment qualification table certification with the brigade's tank gunnery timeline, providing dedicated time, space, and standards for sustainment training. Too often in other formations, garrison demands, administrative requirements, and risk-averse training oversight consume the bandwidth that battalions and companies need to develop tactical proficiency. If the Army is serious about preparing sustainment forces for contested sustainment, senior leaders must protect training time, resource realistic

scenarios, and create conditions where units can fail, learn, and adapt without interference.

Organizations must be designed for flexibility. The Army must consider establishing experimental sustainment formations tasked with testing contested sustainment concepts under realistic conditions, rather than validating new approaches exclusively through simulation and tabletop exercises.

The profession must adopt technology with discipline. Leaders must assess technologies based on operational relevance and maturity, avoiding both premature adoption and delayed integration. The history of military revolutions shows that organizations that adopt technology without corresponding changes in doctrine and training gain little advantage.

Conclusion: Recognizing the Break from the Past

The Army has long adapted to change. The convergence of contested environments, technological disruption, and doctrinal change is altering sustainment in ways that break from past practice. The system is no longer defined by efficiency and predictability. It is defined by resilience, adaptability, and endurance under attack. The sustainment warfighter profession must recognize this a revolution, not an evolution. It must prepare leaders, design organizations, and train formations for a future in which sustainment is contested, dynamic, and decisive. The sustainment profession must adapt quickly enough to remain relevant in the wars to come.

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SHOW ME THE DATA!

Analysis in Maintenance Manpower Utilization

■ By CW3 Scott Reed



The Army has invested more than 10 years and billions of dollars in integrating the Global Combat Support System–Army (GCSS-A). Data suggest maintenance personnel fail to fully leverage technological capabilities, representing a culture that contradicts Army leadership doctrine and the ethical obligation to ensure Soldiers’ time and talents are not misused. To maximize Army readiness, leaders must embrace data-driven manpower management in GCSS-A. Army principles and ethical obligations established in doctrine demand the proper use of management systems. This article establishes the importance of emphasizing the doctrinal and ethical foundations for accurately implementing and reporting manpower usage to support data-driven decisions.

Doctrine, Leadership, and Ethics

Army Regulation (AR) 750-1, Army Materiel Maintenance Policy, provides a single standard and regulatory foundation for all maintenance matters. It defines and describes doctrinal terms for leaders to follow and understand in areas of maintenance. However, Army leaders are expected to steward broad professional standards as well, that is, to uphold the five characteristics of the Army profession described in Army Doctrine Publication (ADP) 6-22, Army Leadership and the Profession: trust, honorable service, military expertise, stewardship, and esprit de corps. AR 750-1 must be read with this understanding in mind. Maintaining accurate records for analysis supports these outlined characteristics.

Furthermore, ADP 6-0, Mission Command: Command and Control of Army Forces, establishes disciplined initiative and is critical to creating a shared understanding between commanders and maintenance managers. A culture shift toward accurate reporting and data analysis is gaining momentum with the integration of systems like Vantage and Maven for sharing a common operating picture. Accurate reporting in the system of record leads to accurate real-time operational status and unit status reporting. Continuing to improve practices with an analytical mindset across maintenance organizations is crucial to ensuring commanders receive the information they need for effective decision making.

Defined Data Analysis

AR 750-1 dated 29 April 2026 removed all requirements for manpower utilization tracking. Despite the removal, maintaining utilization metrics is critical for garrison environment maintenance operations. For clarity in continuing previously defined definitions, assigned utilization equals the percentage of work completed on equipment compared to total work hours in the shop, whereas available utilization equals the percentage of work completed on equipment compared to available work hours in the shop. For example, a maintenance technician works 25 hours on equipment in a 40-hour week but is only available for 30 hours. The technician’s assigned utilization equals 62.5%, and available utilization equals 83.3%. By maintaining accurate timesheets, available utilization and assigned utilization can be validated properly. Doctrine deleted the available utilization requirement of 50%; units can now define their own metric of performance to ensure personnel are properly utilized. Available utilization only demonstrates that a timesheet has been filled out properly. Assigned utilization demonstrates actual job performance throughout the work week. Both are crucial for manpower maintenance management. Maintenance managers can easily track maintenance personnel’s daily activities and whether they are productive with maintenance or tasked with other duties.

Current Data Analysis

U.S. Army Combined Arms Support Command’s (CASCOM’s) Sustainment Enterprise Analytics (SEA) system provides the manpower usage metrics of Army maintenance personnel. The data feed from GCSS-A to the Army Vantage data analytics system. Data from November 2025 show available and assigned utilization of 14,123 ground, medical, and aviation maintenance personnel Army-wide. The data indicate that 10,627 personnel improperly entered timesheet data into GCSS-A, equating to 75% of maintenance personnel failing to account for timesheet data accurately. Data analysis reveals that maintenance personnel failed to enter timesheet data for a full 40-hour week each week in November.

So What?

Entering timesheet data for a 40-hour week into

GCSS-A is crucial for proper personnel accountability. Assigned utilization reflects personnel productivity over the entire work week. In contrast, available utilization only demonstrates that a technician entered timesheet data into GCSS-A. For example, a maintenance technician worked on equipment for eight hours in a 40-hour week but was only available for 10 hours in the shop due to taskings and appointments. Assigned utilization equals 20%, while available utilization equals 80%. The technician demonstrated an accurate timesheet but was not very productive throughout the week.

Is it important to report or analyze assigned utilization when maintenance is meeting mission requirements? Not necessarily. The importance is demonstrated when maintenance is not meeting mission requirements. When timesheets are accurately recorded, maintenance managers and commanders can see where their personnel are during the 40-hour week. Additionally, units may request additional manpower to assist with the maintenance workload from higher echelons. Assigned utilization determines whether support is warranted and validates that personnel are effectively utilized. Timesheets are critical for demonstrating maintenance utilization compliance and personnel accountability.

Impact

Currently, no standard exists for accurately entering timesheet data in GCSS-A when accounting for assigned utilization. Standardizing the process for manpower utilization accountability in GCSS-A is critical to ensure maintenance managers can conduct analysis to determine if their personnel are productive. A complete analysis can enable commanders to take action for data-driven decisions. For example, commanders can allow personnel to conduct maintenance during physical training hours for a limited time or by removing or reducing taskings on maintenance personnel to increase maintenance availability and operational readiness. Additionally, standardization would enable Headquarters, Department of the Army, to properly track all manpower maintenance utilization Army-wide through CASCOM’s SEA system.

Conclusion

Fully leveraging GCSS-A capabilities is an ethical

challenge for Army leadership. A culture shift that applies leadership, doctrine, and ethical principles supports the adoption of standardized, data-driven strategies for maintenance manpower utilization. Implementing proper manpower usage standards will increase and maximize the Army’s readiness. Fostering and encouraging an analytical mindset will ensure proper integration of Army systems and honoring our Soldiers’ time.

CW3 Scott Reed serves as the brigade maintenance officer for the 62nd Medical Brigade. He was commissioned as a warrant officer after 10 years of service and currently serves as a health services maintenance technician in the Medical Service Corps. He is currently pursuing a Master of Science degree in technology management from University of Arizona–Global Campus.

Featured Photos

Top Left: SPC Brittany Uses The Knife, a vehicle mechanic with the 665th Support Maintenance Company, South Dakota Army National Guard, works on a Humvee during exercise Combined Resolve 26-07, at Hohenfels Training Area, Hohenfels, Germany, April 24, 2026. (Photo by CSM Ryan C. Matson)

Top Right: CPL John Zyk, a UH-60 Black Hawk Helicopter repairer and aircrew member assigned to Task Force Saber, 25th Combat Aviation Brigade, conducts a 40-hour inspection on a UH-60 Black Hawk during Exercise Balikatan 2026 at Cagayan North International Airport, Lalo, Philippines, April 29, 2026. (Photo by SGT Olivia Cowart)

Bottom: Soldier assigned to the 2nd Battalion, 70th Armored Regiment, 2nd Armored Brigade Combat Team, 1st Infantry Division, conducts vehicle maintenance during Rotation 26-06 at the National Training Center, Fort Irwin, California, April 7, 2026. (Photo by PFC Kristopher Campbell)

FORGING THE HUMAN DIMENSION OF VICTORY

Strengthening the Sustainment Warfighting Profession

■ By MSG David Minder

From the perspective of the Adjutant General's (AG) Corps, our enduring mission is to serve the Army's most important asset: its people. In an era of profound strategic change (technology and structure), as the Army pivots from counterinsurgency to readiness for large-scale combat operations (LSCO), the demands on our profession of arms have never been greater. The modern battlefield is a crucible, testing every warfighting function to its absolute limit. For the sustainment community, and particularly for human resources (HR) professionals, this new reality requires a fundamental transformation. We are not merely adapting to the future fight; we are actively forging a new identity as fully integrated sustainment warfighters. This evolution, anchored by our new foundational doctrine, Field Manual (FM) 4-1, Human Resources Support, is critical to strengthening our profession and ensuring the Army can fight and win in any operational environment.

To build the future, we must first honestly assess our present. A candid look at our current capabilities

reveals significant gaps, which, if left unaddressed, pose an unacceptable risk to the force in a LSCO environment. The challenges we face are not trivial; they strike at the very heart of our ability to build and maintain combat power. Our most critical vulnerabilities lie in two core areas: Personnel Asset Visibility (PAV) and replacement operations.

Real-time, accurate PAV is the bedrock of a commander's decision-making process. It is not an administrative luxury but a combat imperative. Without knowing the

exact strength and duty status of Soldiers in their formations, how can a commander confidently commit forces in combat? Commanders care about combat effectiveness, not just numbers. For them, strength (unit readiness) equals combat power. A reported strength below 75% can be a critical decision threshold that directly impacts maneuver, tempo, and risk. How can logisticians plan for rations and fuel? How can we execute our other critical warfighting functions of casualty and replacement operations? The hard truth is that our current tools and manual processes

are insufficient for this task even in peacetime, let alone in a dynamic and contested operational environment.

Equally concerning is our readiness for replacement operations. The expected levels of casualties in a future conflict may reach volumes not seen since World War II. While our doctrine has finally begun to address this, it remains largely theoretical, untested in major exercises or real-world application. This is not a hypothetical problem. The entire casualty and replacement flow is a critical component of combat power

reconstitution. The speed of reporting and the velocity of replacements directly affect readiness and a commander's operational decisions. The inability to efficiently track, process, and transport replacements to units on a fluid battlefield directly erodes combat power and hinders our ability to reconstitute formations, potentially leading to operational failure. Furthermore, this flow does not happen in a vacuum. Sustainment and personnel flow are terrain driven. We must understand the routes, choke points, and critical crossings that dictate the speed at

which we can move personnel, just as our logistics counterparts track key alternate supply routes (ASRs) and main supply routes (MSRs).

Beyond these critical vulnerabilities, we face risk in our support to casualty operations. Providing accurate casualty estimations is essential for forecasting sustainment resources and informing the replacement pipeline. Yet, the Department of War's approved solution, the Medical Planners Toolkit, is slow, cumbersome, and ripe for modernization with artificial intelligence-driven assistance to provide commanders with the predictive analysis they need. Furthermore, our inability to conduct basic HR and military pay (MILPAY) transactions at the tactical edge — in a denied, degraded, intermittent, or limited (DDIL) bandwidth environment where systems like Integrated Personnel and Pay System-Army (IPPS-A) are non-operational — is a significant concern. This concern is magnified when we consider that we must also actively protect HR systems and nodes.

These are valuable targets for our adversaries, and their disruption can cripple a commander's visibility and battlefield decision making. The timely processing of duty status changes is what drives critical deployed entitlements. Failure here directly impacts the morale, welfare, and financial stability of our Soldiers in the thick of the fight.

Acknowledging these gaps is the first step in our transformation.

The second, and most critical, is the implementation of a doctrinal solution that recasts our entire professional philosophy. The 2025 publication of FM 4-1 represents this doctrinal revolution. It is far more than a simple update to the legacy FM 1-0, Human Resources Support (now FM 4-1); it is a fundamental realignment of the HR profession with the Army's core mission.

The most significant change is the full integration of HR support within the broader sustainment warfighting function. For too long, HR has been viewed as a separate, supporting function. FM 4-1 definitively breaks down these silos. It establishes that HR professionals are not adjutants to the fight but active and essential participants in it. We are sustainers, first and foremost. This means that HR is a sustainment function, not separate from it.

To be true sustainers, we must understand the language and processes of logistics, including logistics packages, logistics release points (LRPs), ASRs/MSRs, and distribution timelines. The principle that distribution applies to people is key; the flow of personnel must mirror the flow of logistics, from the division support area to the LRP and out to the fighting unit. This doctrinal shift aligns HR with the overarching principles of Army Doctrine Publication 4-0, Sustainment, ensuring our efforts are planned, coordinated, and executed to directly contribute to the commander's objectives and the lethality of the force.

FM 4-1 is tailored to the unique challenges of LSCO, with a renewed emphasis on mobility, survivability, and the ability to operate effectively in contested environments. It clarifies the role of the HR company during LSCO and provides comprehensive battlefield geometry graphics that include the corps sustainment command, division sustainment support battalion, and division supply and services company. FM 4-1 organizes our contributions around two clear, powerful core competencies: Man the Force and Provide HR Services. Man the Force directly addresses our most critical warfighting tasks: personnel accounting and strength reporting, HR support to replacement operations, casualty operations, and personnel readiness management. Provide HR Services encompasses the essential functions that sustain the human element of the force, including essential personnel services, postal operations, Army band operations, and morale, welfare, and recreation. This framework provides clarity and ensures our efforts are focused on what matters most on the battlefield.

Crucially, the new doctrine recognizes the importance of data-driven decision making. It embraces the capabilities of IPPS-A while acknowledging the need for future technological solutions, such as the Next Generation Command and Control-compliant applications being developed to mitigate our DDIL and PAV gaps. It calls for a new level of data literacy and analytical skill within our ranks, transforming us from simple data entry clerks to true data analysts

who can provide commanders with actionable intelligence on their force.

Doctrine, however, is only as effective as the leaders and Soldiers who execute it. The true test of FM 4-1 will be in its application across the force, and this requires a concerted effort from both HR professionals and the wider sustainment community.

For my fellow AG Soldiers and leaders, our mission is clear. In short, HR must think like planners. Our 42A Human Resource Specialists must evolve from technicians into planners who actively participate in the military decision-making process and understand the operational art. HR must understand the fight, not just report strength. We must be able to understand the main effort, supporting efforts, decisive operations, and objectives, and then tie personnel strength directly to combat power, tempo, and risk. This understanding will allow us to support the decisive operation, prioritizing HR support based on the main effort, rather than distributing it evenly and ineffectively across the battlefield.

A key part of this is understanding how commander's critical information requirements matter to HR. By understanding the commander's priority intelligence requirements, friendly force information requirements, and essential elements of friendly information, we can better anticipate decisions and prioritize our support accordingly. We must become masters of our craft not just as HR technicians, but as sustainment warfighters, able to articulate how

personnel readiness, casualty flow, and replacement velocity impact the commander's scheme of maneuver. It means looking beyond the front-end transaction to understand the entire MILPAY process so we can effectively troubleshoot for our Soldiers. It means championing data literacy and leveraging technology to provide predictive, not just reactive, support. We must be able to stand in a tactical operations center and advise the commander with the same confidence and competence as our logistics and medical counterparts.

For the broader sustainment community, the message of FM 4-1 is one of integration. I urge my colleagues in logistics, medicine, and finance to read this new manual. Understand how accurate personnel strength reporting from HR professionals impacts your planning for rations, fuel, and other classes of supply. Coordinate with HR teams to synchronize casualty tracking and reporting, ensuring our Soldiers receive the care they need and their status is accurately recorded. Work with HR to seamlessly plan for the movement of personnel, from individual replacements to consolidated mail. In the crucible of LSCO, no single sustainment function can succeed on its own. Integrated, synchronized sustainment — a team effort where HR is a key player — is the only path to victory.

As we move forward, the AG Proponent Team is committed to supporting this transformation. We are rewriting our techniques publications, starting with Army Techniques Publication 1-0.1, Techniques for

Human Resources Support to Operations, to provide the detailed how-to to supplement the new FM. We are developing new training and working with U.S. Army Combat Capabilities Development Command to acquire automated, real-time applications and material solutions that will close our technological gaps. We are here to help, and our lines of communication are always open.

The path ahead is challenging. It demands a cultural shift, a commitment to continuous learning, and an aggressive pursuit of technological and procedural solutions. But the AG Corps has always been defined by its ability to innovate and adapt. By embracing our role as sustainment warfighters, by mastering our new doctrine, and by working in concert with the entire sustainment enterprise, we will strengthen our profession immeasurably. We will ensure that the Army's greatest asset — its people — remains its most powerful and decisive advantage on the multi-domain battlefields of today and tomorrow.

Defend and Serve.

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Answer

1. What type of withdrawal is this and would you recommend an assisted or unassisted withdrawal? (Review Field Manual [FM] 3-90, 11-78, 11-86)
 - Due to the task force’s heavy sustainment loads and the critical need for rapid displacement, recommend assisted withdrawal to safely break contact and move rearward.
 - To prepare for successive missions, deliberate reconstitution via corps sustainment command and division sustainment brigade support is vital to regenerate the task force’s 67% combat readiness. Furthermore, the 75-kilometer route dictates assisted withdrawal for security, though commanders must account for the heavy coordination, time, and sustainment assets this method demands.
2. How would TF Dagger organize to conduct the withdrawal? (Review FM 3-90, 11-78, 11-86)
 - A doctrinal withdrawal sequences three key forces: a main body that withdraws first (leading with sustainment elements for protection and refuel-on-the-move capabilities), a security force that maintains enemy contact before transitioning to the rear guard, and a reserve that supports the security force and then executes limited delaying operations.
 - In this scenario, the likely element to be designated as the security force will be TF 1-18 Infantry, with a company team in reserve using TF 1-7 Field Artillery fires to obscure, delay, and divert the enemy. The main body withdrawal is led by a vanguard (TF 82nd Brigade Engineer Battalion and 1st Platoon/856th Military Police) clearing routes, followed in sequence by TF 299th Brigade Support Battalion, TF 1-63rd Army Reserve, and F/2-70th Army Reserve.
3. What are the greatest sustainment risks for TF Dagger during the retrograde?
 - Maintaining sustainment mobility and strict command and control (C2) are the primary risks during a retrograde.
 - To facilitate this complex movement, strict C2 must enforce the task force commander’s priority of rearward movement, which enables the clearance of non-essential commodities and equipment from the area of operations (AO).
 - Disciplined C2 of this sequence is essential (FM 4-0, Sustainment Operations).
4. In this scenario, what are the critical classes of supply for this operation? (Review FM 4-0, 5-232 to 5-237)
 - Class III(B) and Class V doctrine explicitly state retrograde movements require more fuel and potentially more ammunition than other defensive operations, leading to an increased need for distribution operations and pre-positioned stocks or caches.
5. During this retrograde operation, how should commanders synchronize casualty evacuation, position maintenance collection points and LRPs, and what criteria should be used when equipment recovery is no longer feasible? (Review FM 4-0, 5-223, 5-224, 5-227, 5-231, 5-232).

- The expansion of the AO during a retrograde maneuver creates significant challenges for medical support, making casualty evacuation exceptionally demanding.
- To handle the surge in requirements over these extended distances, organic medical assets must be augmented with additional ground ambulance capabilities sourced from the division support area. Furthermore, casualties must be rapidly consolidated at the brigade support area to streamline triage and stabilization.
- During a retrograde operation, maintenance collection points and LRPs must be echeloned and displaced early. To prevent the vulnerability and accumulation of supplies, only mission-essential support must remain in the immediate retrograde area.
 - Sustainment nodes must displace as early as tactically feasible, typically executing movement during periods of limited visibility to maximize survivability.
 - Movements must be strictly echeloned to guarantee uninterrupted support to the withdrawing force while maintaining necessary dispersion.
 - Dedicated recovery assets must be pre-positioned at critical choke points and key intersections along the route to immediately clear disabled vehicles and ensure lines of communication remain open.
- The maneuver commander establishes destruction criteria to prevent enemy capture of critical assets when recovery is impossible or when disabled vehicles threaten to block vital routes. To deny the adversary any functional capabilities, units must systematically destroy the same vital components across all identical systems, preventing the enemy from cannibalizing parts to restore other platforms.
 - These criteria are typically structured around operational phase lines and strict time constraints. For example, at Phase Line A, the line closest to the FLOT, recovery and repair efforts may be strictly limited to a two-hour window. If technical personnel assess that recovery will exceed this timeline, the equipment is immediately designated for destruction.
 - Additionally, commanders must prioritize critical equipment within these criteria. To preserve organic time and limited recovery resources, lower-priority systems that require disproportionate effort to salvage must be marked for immediate destruction. This dual focus on time-phased limits and asset prioritization ensures the unit maintains momentum while systematically denying critical technology to the enemy.

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AMERICA'S ACHILLES' HEEL

Deploying Forces in a Contested World

■ By LTC Steven Taylor and MAJ Kristen Bell

The strategic environment is in constant motion. The pacing challenge of a peer adversary demands that the joint deployment and distribution enterprise and the U.S. Army Transportation Command (ARTRANS) project combat power at a scale and speed not tested in decades. During Operations Desert Shield and Desert Storm, strategic deployment timelines revealed significant challenges in rapidly

projecting heavy armored formations into theater. Although the U.S. ultimately deployed overwhelming combat power, transportation bottlenecks, port congestion, and limited strategic sealift capacity delayed the arrival and integration of some combat units, complicating operational synchronization and multinational force reception efforts. The benchmark is clear and daunting: can we execute a deployment of this magnitude to win the nation's next war? Compounding this challenge,

future deployments may begin from a contested homeland. Adversaries possess the capability to disrupt mobilization through cyberattacks, information operations, sabotage, and long-range precision strikes against critical transportation infrastructure. The assumption that deployment operations will originate from a secure sanctuary can no longer be taken for granted, requiring commanders to integrate force protection and resilience measures from home station to the port of embarkation.

ARTRANS continues to refine and validate its reception, staging, onward movement, integration, and surface deployment processes through real-world missions such as Operation Turbo Fusion. This effort focused on assessing the capacity of West Coast terminal operations under duress, executing synchronization through Maven Smart System for a unified operational picture, and operating under a contested logistics scenario where supply lines are. The scenario incorporated multi-domain threats including cyber disruptions, degraded communications, unmanned aerial system surveillance, and simulated attacks against transportation nodes, requiring Task Force (TF)-833 to operate with reduced visibility and increased operational risk. The integration of the Deployment Support Command was essential because it tested their mobilization, reception, and ability to rapidly integrate and execute operations in a multi-component TF across geographically dispersed ports operating simultaneously. This includes vital collaboration with commercial industry partners to augment military capabilities, ensuring a resilient and robust logistics network for the joint force. To meet these demands the 596th Transportation Surface Brigade tasked the 833rd Transportation Battalion to provide command and control (C2) at four strategic seaports dispersed across the Pacific Northwest and Alaska. The 833d Transportation Battalion established TF-833 to meet these objectives.

The mission of the 833rd Transportation Battalion was to plan, integrate, and synchronize surface deployment and distribution services and execute port operations from the Pacific Northwest and Alaska strategic seaports in support of munitions and global warfighting requirements.

Operation Turbo Fusion was a combination of real-world deployment and sustainment operations. Think of the exercise as an umbrella for covering deployment and redeployments supporting Korea Rotational Forces 17; Operation Pathways 26-1A and 26-1B; Army preposition stock-3/ Pacific Equipment Set; ammunition sustainment missions (AS66, AS67, AC68); foreign military sales (AF16); and Korea Enduring Equipment Set retrograde, closely replicating the scale and scope of a contingency by providing the rigor of dispersed, simultaneous operations over time in the Pacific Northwest and Alaska. Collectively, these missions involved multiple vessel load-outs, thousands of pieces of rolling stock, containers, and sustainment cargo moving through four strategic seaports over more than 75 consecutive days of operations. In the current strategic environment, active deterrence and force posturing across the globe require large-scale surface movements that aircraft cannot provide. Every equipment move is no longer a routine training event, but a critical stress test of the deployment enterprise.

While TF-833's execution of Operation Turbo Fusion was a tactical success, it also exposed significant friction points that would

become catastrophic fractures under the immense pressure of large-scale combat operations (LSCO). Army deployment planning factors associated with LSCO envision strategic sealift requirements approaching approximately 50 ships loaded within a 60-day period to support rapid force projection into a major theater conflict. While exact requirements vary by operational plan, this benchmark provides a useful illustration of the scale demanded by LSCO. The faster equipment gets to the forward line of troops, the more survivability is improved. To prepare for the 50-ship challenge, we must move beyond passively acknowledging lessons learned and instead act on urgent learning demands. Learning demands are the non-negotiable requirements for building a deployment process that functions at the speed of war.

Demand 1: Data Integrity at Scale

During Operation Turbo Fusion, data discrepancies were a source of constant friction. A single brigade combat team made six significant changes to the unit deployment list at the last minute, making cargo tracking nearly impossible. For perspective, the failure to receive an accurate pull from Global Air Transportation Execution System (GATES) forced the traffic management section of TF-833 to manually create more than 500 records in GATES. This was manageable, though incredibly inefficient in a small-scale operation. The manual creation of more than

Relying on the tactical agility of our Soldiers and civilians to overcome systemic failures to consistently enforce established deployment standards, regulations, and processes is not a strategy for victory against a peer adversary.

500 records represented a substantial portion of the cargo processed during the operation and required personnel to divert attention from planning, synchronization, and execution activities. Additionally, this exposes the data to significant potential for human errors.

Now, imagine that if in LSCO a single operation generated over 500 manually corrected records, scaling similar error rates across a deployment effort involving roughly 50 vessels could produce tens of thousands of discrepancies requiring reconciliation. Manual data entry is not a scalable solution. In LSCO, there is no time to individually verify bumper numbers, chase down missing transportation control numbers, or correct dimensional data because a unit used estimates instead of measurements verified through the installation strategic deployment center. Data inaccuracies at that scale will lead to misloaded ships, broken unit integrity, and a fatal delay in the delivery of combat power. Beyond slowing force projection, data inaccuracies increase vessel dwell time at strategic seaports, creating lucrative targets for adversary intelligence collection, long-range fires, and cyber-enabled disruption efforts.

The learning demand: We must enforce absolute data discipline. Units must conduct recurring deployment data scrub exercises, validate equipment dimensions through installation deployment support teams, and establish commander-certified deployment

data reviews before lock-in dates. Data lock-in timelines must remain sacrosanct, and automated validation tools must identify discrepancies long before cargo arrives at the port.

Demand 2: Synchronized Execution Under Pressure

Operation Turbo Fusion highlighted seams in our inter-unit coordination. Convoys arrived outside scheduled windows, and guidance regarding combat-configured equipment requirements was not consistently communicated early enough to enable efficient stow planning, forcing last-minute adjustments. This was overcome by the adaptability of port personnel. However, in LSCO, the entire deployment enterprise, from the fort to the port, becomes a target. An adversary will not give us the time to adapt to uncoordinated arrivals.

A convoy arriving late to a port during LSCO does not just disrupt a single vessel's schedule; it creates cascading scheduling impacts across ports, railheads, marshaling areas, and vessel loading timelines. Such delays extend exposure times at critical transportation nodes, increasing opportunities for enemy surveillance, targeting, and disruption operations. When we take this to the next level, in a contested environment, we will not have the luxury and convenience of communicating via cellphone. This risk is amplified by our current technical limitations. In a contested environment, secure, redundant communication is not a luxury; it is essential for survival and synchronized execution.

The learning demand: We must institutionalize synchronized reporting procedures across all mobility echelons and resource our forward C2 nodes with the deployable Secret Internet Protocol Router Network capabilities needed for the C2 dispersed operations in a contested environment. Additionally, installation transportation offices and deployment authorities must possess the authority to delay or halt movements that fail to meet deployment standards, preventing deficiencies from compounding at the port.

Demand 3: Flawless Fundamentals and Deployment Discipline

The most frustrating friction points are often the most basic. During Operation Turbo Fusion, not-mission-capable equipment arrived without dead-tow placards, creating confusion and slowing operations. Caging bolts had been removed from equipment, forcing contractors to waste precious time sourcing and reinstalling them before the assets could be safely loaded.

This lack of basic deployment discipline is a peacetime luxury we cannot afford. When loading 50 ships in 60 days, there is zero margin for error. We will not have the time or resources to fix thousands of easily preventable mistakes. Every minute a stevedore spends trying to identify a dead-towed vehicle or searching for a missing part is a minute lost to the operational timeline. Multiplied across the force, these minor lapses create strategic delays.

The learning demand: Unit readiness is not solely measured through maintenance and tactical proficiency. Commands must conduct deployment readiness inspections, enforce command deployment discipline program standards, rehearse deployment tasks during training exercises, and establish deployment metrics that are routinely briefed alongside readiness indicators. Adherence to standards such as placarding, caging bolt accountability, and proper equipment preparation must be treated as critical readiness requirements.

Conclusion: Forging a Weapon of Global Reach

Operation Turbo Fusion was a success, but it was also a warning and an opportunity to see ourselves. The friction we experienced is a gift: a clear indicator of where our deployment enterprise will break under the strain of LSCO. Relying on the tactical agility of our Soldiers and civilians to overcome systemic failures to consistently enforce established deployment standards, regulations, and processes is not a strategy for victory against a peer adversary.

To build an Army that can project combat power to the priority theater at the speed of war, we must treat these findings as demands for immediate, decisive action. Finally, these learning demands must be communicated to units before deployment operations begin and incorporated into deployment evaluations. Establishing measurable

standards and assessing unit performance against those standards will improve accountability, reinforce deployment discipline, and help institutionalize best practices across the force.

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MAJ Kristen Bell serves as the S-3 at the 833rd Transportation Battalion. As the operations officer, she was the lead officer in charge during Operation Turbo Fusion, leading her team of Soldiers and Department of the Army civilians through more than 75 days of operations at four strategic seaports across the Pacific Northwest and Alaska. She previously served in a variety of positions, serving in U.S. Army Alaska, 7th Transportation Brigade (Expeditionary), and the U.S. Army Combined Arms Support Command. She holds a master's degree in supply chain management from Virginia Commonwealth University. She holds a U.S. Coast Guard Third Mate Unlimited Tonnage license.

*Featured Photo
USNS Watkins, a Military Sealift Command vessel, alongside Berth Delta, Terminal 7, loading I Corps equipment in support of Korea Rotational Forces 17 at the Port of Tacoma, Washington, Jan. 11, 2026. (Northwest Seaport Alliance courtesy photo, taken via drone by Joe Barrentine)*

MODERNIZING 92F TRAINING TO ENABLE ARMY-WIDE FARP OPERATIONS



■ By CW3 Damien S. Drake

Future conflict will stress sustainment systems in contested and distributed environments. Aviation units will require rapid refuel and rearm capability across extended distances. The unit that sustains aircraft faster will retain operational tempo and combat power.

Current petroleum support for forward arming and refueling points (FARPs) and for areas for forward arming and refueling (AFARs) remains concentrated within combat aviation brigade (CAB) formations. This structure creates a single point of failure and limits operational reach at the division level. Most Soldiers who are not in CAB formations lack repetitions in cold and hot aircraft refueling and do not train to aviation inspection standards such as the Aviation Resource Management Survey (ARMS) requirements. Cold refueling occurs with aircraft shut down and engines off, while hot refueling occurs with aircraft engines operating and rotors turning.

The Army must expand FARP/AFAR capability beyond CAB formations. It must build a force where multiple units can establish and operate FARPs/AFARs without reliance on a single formation. This requires a change in how the Army trains 92F Petroleum Supply Specialists and how it integrates expeditionary fuel systems such as the Tactical Air-Ground Refueling System (TAGRS).

Problem

The Army does not employ FARP/AFAR operations as a baseline competency across the force. Most



Expanding FARP/AFAR capability beyond CAB formations increases operational flexibility and reduces reliance on centralized sustainment nodes in contested environments.

sustainment units lack trained personnel to establish and operate FARPs/AFARs without CAB support. This gap limits flexibility during large-scale combat operations (LSCO).

Current FARP/AFAR planning still relies heavily on bulk fuel distribution platforms such as the M978 Heavy Expanded Mobility Tactical Truck tanker to transport fuel forward. Aircraft refueling operations then rely on expeditionary systems such as the Advanced Forward Area Refueling System (AAFARS) and TAGRS to establish rapid capability near maneuver forces. Bulk fuel systems and expeditionary refueling packages require significant lift, time, and access to ground lines of communication (GLOCs). In early-entry operations or restricted terrain, this dependence delays refuel capability and slows aviation tempo.

Army Doctrine Publication 4-0, Sustainment, and Field Manual 4-0, Sustainment Operations, require sustainment forces to extend operational reach and enable endurance. Current petroleum training and equipment integration do not fully support this requirement. When units cannot rapidly establish FARPs/AFARs, aircraft wait for fuel; operations slow; and risk to mission increases.

FARP Readiness Levels (FRL)		
Readiness Level	Items	Event Certified to Conduct
Level 5	#1	SM Completes Approved DIV Fuel Handler's Course
Soldier is now FARP Readiness Level 5 Qualified		
Level 4	#1	FARP Equipment Familiarization (M978, TRMs, HTARs)
Level 4	#2	Aqua-Glo, Gauging, & Sampling Familiarization
Level 4	#3	How to properly complete DA 7899 Petroleum Daily Conciliations and Inventory Management Sheet and DA 3643 Daily Issues of Petroleum Products sheet
Level 4	#4	Safety Class (Fire Safety & Spill Kit Usage, PPE Inspection)
Level 4	#5	Cold Fuel Ops
Level 4	#6	FARP Diagrams
Level 4	#7	FARP Setup w/ Assistance from instructors
Soldier is now FARP Readiness Level 4 Qualified		
Level 3	#1	Soldiers now must show proficiency and all training
Soldier is now FARP Readiness Level 3 Qualified		
Level 2	#1	Establish 2 pt FARP that can facilitate any aircraft
Level 2	#2	Conduct Bulk Transfer of Fuel (TRM & M978)
Level 2	#3	Conduct FARP Safety Inspection
Soldier is now FARP Readiness Level 2 Qualified		
Level 1	#1	Conduct Hot Refuel of Aircraft in Day and Night Conditions
Soldier is now FARP Readiness Level 1 Qualified at the culmination of AASC-FARP, all Students are FRL trained and ready to conduct FARP operations.		

A forward arming and refueling point readiness chart displays the operational status of personnel, equipment, and fuel systems supporting aviation operations, typically organized to provide commanders with a quick assessment of mission capability. (U.S. Army graphic by CW3 Damien Drake)

Solution

The Army must modernize 92F training to produce Soldiers who can execute FARP/AFAR operations across any formation while integrating both bulk and expeditionary fuel systems.

The 101st Airborne Division (Air Assault) implemented a division-level progressive training model designed to increase FARP/AFAR capability across sustainment formations. This approach aligns with Army Transformation in Contact (TiC) initiatives focused on increasing sustainment flexibility, distributed operations, and survivability during LSCO.

The model consists of three stages conducted within the division sustainment brigade (DSB):

- Stage 1: Fuel Handler Certification Course: Soldiers complete a 40-hour program. Soldiers train to aviation standards and demonstrate proficiency in system setup, safety procedures, and refueling operations. Training includes written tests and hands-on execution.
- Stage 2: Air Assault Sustainers Course and FARP/AFAR Team Certification: Soldiers train on sling-load operations, equipment movement, and FARP/AFAR establishment in austere environments. Training includes day and night operations and leader certification for FARP/AFAR team execution. Soldiers conduct live FARP/AFAR operations under realistic conditions and receive certification to operate under mission constraints.
- Stage 3: Hot Refueling Qualification: Soldiers conduct live refueling operations with running aircraft under operational conditions.

In parallel with training, the division integrates expeditionary systems such as the TAGRS into sustainment exercises to enable rapid establishment of small-footprint FARPs/AFARs during early-entry operations. These systems supported rapid emplacement, reduced reliance on bulk fuel platforms, and increased survivability through displacement and distributed operations.

During division training events, TAGRS supported initial refueling capability before establishment of larger

sustainment nodes. Bulk fuel systems such as the M978 and AAFARS expanded refueling capacity as operations matured.

Results

The 101st Division Sustainment Brigade certified over 200 personnel across sustainment formations and enabled multiple battalion-level elements to establish and operate FARPs/AFARs outside of CAB formations.

The division sustainment brigade requires each company to certify a FARP/AFAR team. Leaders track progression through training meetings, quarterly training briefs, and sustainment training assessments. The brigade enforces standards through validation and evaluation at echelon using the eight-step training model.

Units executed multiple large-scale, long-range air assault operations supported by internally generated FARP/AFAR capability. Sustainment elements established refuel sites that supported continuous aviation operations across extended distances.

Integration of TAGRS enabled rapid establishment of FARPs/AFARs during early phases of operations. Units established initial refuel capability with a reduced footprint and expanded to bulk systems as operations matured. This reduced reliance on a single sustainment node and increased operational flexibility.

Implications for the Army

This approach supports Army transformation efforts focused on distributed sustainment operations, survivability, operational reach, and sustainment support during LSCO. Expanding FARP/AFAR capability beyond CAB formations increases operational flexibility and reduces reliance on centralized sustainment nodes in contested environments.

Recommendations for U.S. Army Combined Arms Support Command (CASCOT) and the U.S. Army Quartermaster School:

- Integrate FARP/AFAR operations into 92F institutional and sustainment training to support

distributed operations and LSCO sustainment requirements.

- Establish standardized sustainment — led by FARP/AFAR certification guidance.
- Require division and brigade-level validation of FARP/AFAR capability during LSCO exercises.
- Expand training and requirements beyond CAB organizations.
- Evaluate systems such as the TAGRS for potential integration into sustainment training and operational experimentation.

This approach will build redundancy across the force, reduce operational risk, and increase the Army’s ability to sustain aviation in contested environments.

Conclusion

Sustainment determines tempo. Tempo determines operational outcome.

The Army and divisions conducting LSCO cannot rely on a single formation to execute FARPs/AFARs. The Army must build a force where multiple units establish and operate FARPs/AFARs across all environments and conditions. Modernizing 92F training will create those capabilities. Integration of expeditionary systems such as TAGRS will further enable rapid, small-footprint refuel operations during early-entry phases of combat. This approach will expand operational reach, increase endurance, and enable aviation forces to operate without delay in LSCO.

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Featured Photo
SGT Clayton Odneal, a petroleum supply specialist assigned to 3rd Battalion, 2nd General Support Aviation Battalion, 2nd Combat Aviation Brigade, 2d Infantry Division/ROK-U.S Combined Division, checks fuel for any debris during Ulchi Freedom Shield on Deju Island, South Korea, Aug. 21, 2025. (Photo by SGT Dean John Kd De Dios)



MAINTENANCE AS A COMBAT MULTIPLIER

How Disciplined Maintenance Leadership Strengthens the Sustainment Warfighting Profession

■ By SGM William Frazer

In armored and sustainment-heavy formations, maintenance is not a support activity; it is the mechanism that preserves tempo, extends operational reach, and protects crews. The enemy does not measure readiness on a slide; the enemy measures it when platforms fail to start; systems cannot communicate; or formations cannot mass effects. Leaders who treat maintenance as someone else's lane discover too late that they have separated combat power from the systems that generate it. Maintenance becomes a true combat multiplier only when leaders treat it as a warfighting function.

Strengthening the sustainment warfighting profession begins at the motor pool. The sustainment Soldier who masters fault diagnosis, enforces preventive maintenance checks and services (PMCS) discipline, and manages parts flow with precision is executing a warfighting skill. Maintenance proficiency is a professional standard, not a collateral task. Units that internalize this identity produce readiness consistently; units that treat it as overhead collapse under operational pressure. This article is written for the leaders who own that standard.

A formation can brief green and still be unable to execute a movement-to-contact if a handful of mission-critical faults are hidden, misdiagnosed, or waiting on long-lead repair parts. Maintenance becomes a combat multiplier when leaders reliably convert time, labor, and parts into mission-capable systems at the point of need. This article translates maintenance doctrine into leader behaviors at the company level. It focuses on what commanders, first sergeants, executive officers (XOs), platoon leaders, and senior NCOs can do to build a maintenance system that holds up under operating tempo.

A useful way to think about maintenance as combat power is to define what it multiplies. Maintenance multiplies three things leaders care about in combat: tempo, operational reach, and survivability.

If maintenance is weak, leaders pay for it in lost training time, in increased demand on recovery and sustainment assets, and in degraded mission options. In contrast, strong maintenance expands the commander's choice set: more ready platforms, fewer unplanned constraints, and faster regeneration after contact.

Why Readiness Collapses: The Hidden Failure Chain

At company level, readiness usually collapses through a predictable chain. Leaders can break that chain only if they understand it.

- PMCS are rushed or rubber stamped.
- Faults are written incorrectly or without enough

detail on the Department of the Army (DA) Form 5988-E, Equipment Maintenance and Inspection Worksheet, creating delays in diagnosis and parts identification.

- Work orders are opened late or not updated, which obscures true not-mission-capable (NMC) status and hides trends.
- Class IX repair parts actions are misprioritized or under-resourced, and the unit loses time waiting on parts it should have forecasted or sourced earlier.
- Equipment evacuations are delayed due to unclear priorities, incomplete documentation, or poor coordination between supported units and maintainers.
- Leaders brief readiness, but the maintenance system is not producing outcomes, and readiness becomes a narrative instead of an operating condition.

This chain is why maintenance discipline is inseparable from command discipline. The Army's maintenance policy and procedures exist to prevent these failure patterns, but they only work when leaders enforce them.

Maintenance Is Command Business: People, Processes, Priorities

Maintenance succeeds or fails on three leader-owned variables: people, processes, and priorities. This framework is intentionally simple. It gives leaders a way to diagnose problems without defaulting to technical jargon or blaming external agencies.

People: Readiness Is Built by Humans

Operators and crews are the first mechanics on every

platform. The most effective maintenance programs treat crew-level PMCS as a tactical skill. Crews that identify faults early, describe them accurately, and report them without fear prevent small problems from turning into deadline cascades.

Leaders build this culture through visible actions, especially the following: Train PMCS and identified trends like a battle drill. Validate proficiency. Reward honest reporting. Protect wrench time.

The updated Leader's Guide to Maintenance and Services highlights a consistent trend at combat training centers (CTCs): units that protect maintenance time and execute disciplined programs spend more time training and fighting than sitting in maintenance collection points. This pattern repeats across CTC rotations because it is structural, not incidental. When leaders treat PMCS as a battle drill and hold Soldiers accountable for the quality of their fault reporting, the maintenance system runs before problems escalate. When they do not, the system degrades quietly until the cost appears at the worst possible moment such as during a field problem, a gunnery week, or a deployment notification.

Processes: Readiness Is a System, not a Vibe
Processes are the repeatable routines that move a fault from found to fixed. At the company level, leaders must ensure that the basic system runs every week. That system includes fault discovery (PMCS), fault recording and classification (DA Form 5988-E entries and status accuracy), work order management, parts management, services and inspections, and dispatching/control.

Clearly defined and easily understood processes outlive fatigue, uncertainty, and tenure. When teams are tired, understaffed, or operating under friction, they do not rise to the occasion. A unit with a simple, enforced maintenance process keeps producing readiness even when key leaders rotate, the operational picture shifts, or the pace increases.

Priorities: Readiness Lives Where the Commander Spends Time
Maintenance becomes a priority when leaders spend time on it,

ask the right questions, and make decisions that remove constraints. This does not mean a commander becomes the shop foreman. It means the commander treats maintenance as an operational requirement similar to ranges, gunnery, and collective training.

The root failure is not mechanical; it is a process failure because no one owns the fault-to-fix chain, and no one asks the five questions until it is too late.

If you always push maintenance to when you have time, you will never have time. Strong units schedule maintenance, enforce standards, and align effort against mission-critical systems first.

The Maintenance Ecosystem Leaders Must Understand
Companies do not own the entire maintenance system, but they do own how well they interact with it. Leaders who understand the ecosystem reduce friction and gain time. The Army's continued use of the Global Combat Support System-Army (GCSS-A) has digitized much of the maintenance record keeping that previously lived on paper forms. Good leaders invest time learning how their teams use GCSS-A, how work orders are opened and updated, how parts are requisitioned, and how readiness data are transmitted up the chain to reduce the lag between a fault appearing and a repair part arriving. Units that use the system correctly generate more accurate readiness data, enabling better decisions at battalion and brigade. Maintenance competence now includes data discipline, not just wrench time.

Field maintenance is the company's daily readiness engine. This is where disciplined PMCS, accurate fault reporting, and protected time create momentum. Sustainment maintenance is the capacity that repairs systems beyond the field level. Leaders influence sustainment outcomes through documentation quality, evacuation discipline, and clear priorities. Poor documentation and unclear urgency often add days or weeks to repair timelines.

Readiness often lives or dies with Class IX repair parts. Parts flow is not magic; it is a process that rewards accurate faults, correct priorities, early forecasting, and disciplined tracking. Leaders must understand the difference between NMC supply (NMCS) and NMC maintenance (NMCM), because the fix path is different. NMCM often demands better troubleshooting, tools, protected time, or evacuation. NMCS often demands better requisition discipline, tracking, and forecasting.

Class IX without Mystique: Five Questions Leaders Must Ask
Many leaders feel intimidated by parts-and-supply

discussions, then default to a single question: When will it get here? That question is necessary, but it is not sufficient. Leaders can improve parts outcomes by asking five questions that drive action and accountability:

- Is the fault written well enough to identify the correct part?
- What is the priority, and does it match the mission?
- What is the expected delivery date, and what is our plan if it slips?
- Is there a substitute, controlled exchange option, or local solution (shop stock/bench stock) that maintains ethics and documentation?
- Are we repeatedly consuming the same parts on the same systems?

These questions push the conversation from passive waiting to active management. They also help leaders identify whether the friction is in troubleshooting, requisition accuracy, supply support activity processes, or distribution.

Metrics That Matter: Decision-Grade Indicators, Not Slide Cosmetics
A maintenance system improves when leaders measure what drives outcomes. Too often, units track only a single readiness percentage and miss the story underneath. Consider building or using an already developed commander's dashboard that answers these questions: What is NMC today and why? What has been broken the longest? What will break next if we do not intervene? What decisions do we need this week to restore readiness?

Useful, company-level indicators include the following:

- NMC breakdown by driver: NMCS versus NMCM. This shows whether the constraint is parts flow or maintenance capacity.
- Average days down for the top 10 deadline systems.
- Work order aging: how long open actions sit without progress.
- Parts delinquency: high-priority requisitions past expected delivery date.

- Services compliance: scheduled services due within 14 days versus completed.
- Repeat faults: systems that return NMC shortly after repair.

These measurements drive leader action. They point to whether the unit needs better operator training, stronger troubleshooting, improved parts tracking, better evacuation discipline, or more protected maintenance time.

Five Leader Mistakes That Quietly Destroy Readiness

Most maintenance failures are not dramatic. They are small habits that compound. Leaders can protect readiness by eliminating five common mistakes:

- Treating maintenance time as optional.
- Accepting status optimism. Leaders must ensure that work orders, DA Form 5988-Es, and dispatching reflect reality.
- Letting NMC equipment hide in the corners. Days down must trigger leader action.
- Rewarding speed over quality.
- Delegating priorities without oversight.

For perspective, consider a thought exercise: A company prepares for a rotation with several platforms in almost-ready status, with each deadline on a single component, and each with a vague fault description that has not translated into a correct requisition. The XO briefs the vehicles as repairable. The maintenance officer assumes the parts are on order. No one confirms the corrective action or verifies the requisition against the fault. Three days before the rotation, the company faces a choice between cannibalizing a training float or missing the movement. They cannibalize. The float sits deadline for six weeks. The rotation proceeds at reduced readiness. The root failure is not mechanical; it is a process failure because no one owns the fault-to-fix chain, and no one asks the five questions until it is too late. This is how readiness collapses at company level. It is rarely a single catastrophic event.

Turn the Maintenance Meeting into a Decision Forum

Many units conduct a weekly maintenance meeting

that is really a briefing. That approach wastes time. Leaders must treat the maintenance meeting as a decision forum and an operational rehearsal focused on restoring combat power.

A simple agenda that works at company level:

- Command intent (2 minutes). What matters most this week, and why?
- Readiness truth check (10 minutes). What is the real story?
- Top 10 deadline systems (15 minutes). What are the diagnoses, parts status, required actions, owner, and suspense?
- Services plan (10 minutes). What services are due? What resources are required? How will we protect time?
- Parts friction (10 minutes). What high-priority requisitions are stuck and who will fix the bottleneck?
- Recovery and evacuation plan (5 minutes). What must move to maintain flow?
- Decisions and tasks (10 minutes). Confirm who does what by when.

This meeting must end with two products: a short commander's maintenance priorities list and a clear set of actions that will change readiness before the next meeting.

Integrate Maintenance into Operations, Not Around Operations

Units that integrate maintenance into planning and rehearsals reduce risk and increase tempo. Leaders integrate maintenance by including maintenance priorities in training meetings and training schedules. Services and recovery are training events because they determine whether the unit can train tomorrow.

Leaders must plan recovery and repair as part of every operation. If the plan assumes all platforms stay operational, it is not a plan. Leaders must rehearse combat repair concepts (battle damage repair and fabrication, advanced manufacturing, controlled exchange decisions, and evacuation triggers) and synchronize logistics and maintenance reporting so

the commander knows what will keep the unit from executing in the next 72 hours.

A Practical 30-60-90-Day Playbook for Building a Stronger System

When a new commander or senior NCO takes formation, the maintenance system is often the fastest path to measurable improvement. The key is to stabilize the fundamentals before chasing advanced solutions.

Days 0-30: Establish Truth

- Reconcile reported readiness with physical reality.
- Standardize fault-writing expectations and enforce PMCS training lanes.
- Use a verified dashboard: NMC drivers, top 10 days-down, and parts delinquency.

Days 31-60: Build Flow

- Identify where time dies.
- Implement a 72-hour stuck equipment trigger.
- Protect maintenance time on the training calendar and enforce it as a standard.

Days 61-90: Lock in Endurance

- Integrate maintenance into operations and rehearsals.
- Use trend data to shape training.
- Audit services execution and quality control to reduce repeat faults.

This playbook does not require new tools. It requires leaders' attention, disciplined routines, and consistent follow-through.

Conclusion

Maintenance becomes a combat multiplier when it produces outcomes commanders can use. That result comes from leaders who build disciplined people, repeatable processes, and priorities that protect maintenance as an operational requirement.

Units that can maintain at pace do not just look good on reports. They win time, preserve options, and hold the

initiative longer. In the modern operational environment, this is a decisive advantage. The sustainment warfighting profession is strengthened one leader at a time in the motor pool, at the maintenance meeting, and on the training schedule. That is where readiness is built, and that is where the profession is defined.

SGM William Frazer serves as the G-4 maintenance sergeant major for the 1st Armored Division, advising on sustainment, maintenance readiness, and fleet management to strengthen combat power. He previously served as a first sergeant and in several maintenance roles in sustainment brigades and armored formations. His military education includes NCO professional development levels, Strategic Studies, Demonstrated Master Logistician, Logistics Functional Area Services, Global Combat Support System-Army, RT-240 Rough Terrain Container Handler Maintainer, and M88A2 Hercules Maintainer courses. He holds a Bachelor of Arts degree in organizational management from the University of Arizona Global Campus.

Featured Photo

Top: Soldiers with the 4-70th Armored Regiment and 16th Engineer Battalion conduct M2A3 Bradley zeroing operations at Konotop Right Range, March 30-31, 2026. (Photo by SGT Martin Villalobos)

Middle: Two M1A2 Abrams tanks with B Co. 1st Battalion, 37th Armored Regiment, 2nd Armored Brigade Combat Team, 1st Armored Division, maneuver across the Dona Ana, New Mexico, training range, Oct. 16, as part of a week-long training event. (Photo by SPC Isaiah Laster)

Bottom: SGT Caelib Gustafson and SFC Levi Smith, mechanics from 4th Battalion, 6th Infantry Regiment, inspect the engine of an M1A2 Abrams tank at the Townsville Field Training Area, Townsville, Australia, Aug. 9, 2023. (Photo by PFC Samarion Hicks)

LEVERAGING LESSONS FROM THE RUSSIA-UKRAINE WAR

Enhancing Tactical Sustained Operations in the European Theater

■ By COL Christopher M. Richardson

Russia's full-scale invasion of Ukraine has provided the joint force and NATO allies with an unprecedented window into the operational demands of large-scale combat operations (LSCO) across a dispersed, multi-domain battlespace. For sustainment formations, the conflict underscores several enduring truths: survivability hinges on dispersion; operational tempo is sustained through decentralized execution; and sustainment organizations must be agile, multifunctional, and capable of rapid maneuver under threat.

The 16th Sustainment Brigade is in a unique position to observe these lessons within a real-world learning lab. As the only forward-stationed sustainment brigade in Europe, we are responsible for executing theater opening, theater distribution, and theater sustainment operations simultaneously. Furthermore, we serve as the national

support element for all critical materiel transferred to Ukraine under the Presidential Drawdown Authority.

Within the 16th Sustainment Brigade, these lessons have directly informed our approach to transforming sustainment operations in the European theater, ensuring that U.S. forces remain ready to enable maneuver and maintain tempo in contested environments.

Decentralized, Multifunctional Sustainment Task Forces

A central insight from the Russia-Ukraine War is the necessity for sustainers to operate in smaller, modular, and independently capable teams. The 16th Sustainment Brigade has incorporated this lesson through the development and refinement of the multifunctional logistical task force (MLTF) — a flexible, decentralized sustainment element designed to maneuver alongside

supported formations while maintaining continuity of support.

The MLTF provides an integrated, scalable solution for sustainment operations, combining distribution, maintenance, medical, protection, and mission command into a single maneuverable package. By design, these task forces are modular, allowing commanders to tailor capabilities to the operational requirements of armored brigade combat teams, Stryker brigade combat teams, and infantry brigade combat teams. This flexibility mirrors operational realities observed in the Russia-Ukraine War.

Validation and Training

Through multiple Joint Multinational Readiness Center rotations, the 16th Sustainment Brigade has tested and validated the MLTF across multiple brigade types. These rotations have provided opportunities to stress-test decentralized sustainment concepts, refine mission command structures, and evaluate sustainment forecasting processes under realistic LSCO scenarios.

Smaller, agile task forces are less likely to be targeted by enemy long-range fires and unmanned aircraft systems (UASs). Modular design allows for efficient resource allocation, ensuring that distribution and maintenance capabilities are proportionate to supported formations. And each MLTF can operate semi-autonomously, reducing reliance on higher-echelon sustainment nodes and enabling rapid response to emerging maneuver requirements.

By adopting these practices, the 16th Sustainment Brigade has created a force that is not only agile and survivable but also capable of enabling decentralized maneuver across multiple echelons. This additional capacity must be sustained, maintained, and reconstituted as far forward as possible. The MLTF provides the structure for limited support of emerging technologies with reach-back capability, as needed, such as leveraging tele-maintenance (as demonstrated in the current Russia-Ukraine War), deployable contract teams within MLTF, and reach-back capacity from either the joint support areas or adjacent MLTF, advanced manufacturing, battlefield assessment, repairs, and fabrication, etc.

Allied Integration and Interoperability

A clear and critical lesson from the Russia-Ukraine War is the necessity of interoperability, not only in fires and maneuver but also in sustainment and protection operations. The 16th Sustainment Brigade has deliberately pursued integration with allied partners, particularly the United Kingdom, testing combined sustainment and protection operations during recent exercises.

This effort enhances our ability to communicate across diverse systems, ensuring common operating pictures and synchronized operations across U.S. and allied platforms; coordinate coalition sustainment operations, integrating planning, distribution, and resupply with partner forces; and validate force protection integration, harmonizing crew-served weapons, convoy protection, and base defense measures with allied units.

Allied integration reinforces a fundamental principle: no nation sustains LSCO alone. Early and deliberate collaboration ensures that, if required, coalition forces can operate as a unified sustainment network.

Further, 16th Sustainment Brigade has developed a robust leader professional development program that is executed every 90 days in which all command teams assemble with a discreet focus. The second iteration is NATO/coalition focused, when we invite our partner nations to share best practices and lessons learned, review training plans, and identify future training opportunities. These training opportunities are largely focused on theater opening, theater distribution, and theater sustainment operations. We routinely execute reception, staging, and onward movement operations in support of Operation Atlantic Resolve with several NATO exercises.

C2 and Protection: The Primary Challenges

While MLTFs provide significant operational advantages, they introduce challenges that must be deliberately managed.

- Increased Command and Control (C2) Requirements: Decentralized sustainment operations demand robust,

redundant mission command structures. MLTF commanders and support operations (SPO) liaisons must maintain situational awareness and make rapid decisions across dispersed elements.

- Enhanced Protection Requirements: Agile sustainment formations face threats from UAS, long-range fires, and electronic warfare (EW)-enabled targeting. Protecting personnel and materiel in a fluid battlefield environment requires organic crew-served weapons, integrated counter (C)-UAS capabilities, and coordination with maneuver units for overwatch and security.

These challenges underscore the importance of training, mission command rigor, and disciplined execution. They also mirror the conditions faced by Ukrainian sustainment forces, highlighting the operational realities any U.S. sustainment formation must anticipate in the European theater.

Addressing the Training Deficit

The adoption of the MLTF concept and lessons learned from the Russia-Ukraine War has revealed a critical training gap in our force structure: junior officers and mid-grade NCOs often lack the experience and confidence to execute decentralized sustainment operations under threat. This deficit is particularly acute in areas such as the following:

- Mission command at the MLTF level.
- Survivability and signature management.
- Convoy and movement operations under threat.
- Integrated protection and crew-served weapons employment.
- Cross-functional sustainment planning and forecasting.

To address this gap, the 16th Sustainment Brigade has implemented targeted leader development initiatives, including the following:

- Junior Leader Certification Programs: Officers and NCOs complete recurring MLTF command and staff exercises designed to replicate LSCO scenarios.
- Garrison-Based LSCO Training: Regular home-

station training cycles simulate operational tempo, convoy operations under threat, and sustainment decision making.

- Joint and Allied Integration Exercises: Incorporating coalition sustainment and protection platforms into MLTF operations to develop interoperability skills.
- Mentorship and Feedback Loops: Commanders actively coach junior leaders, emphasizing the exercise of initiative, disciplined decision-making, and accountability.
- Leveraging Data to Gain Decision Dominance: We are implementing efforts to streamline the common-user land transportation allocation process and movement request process and using artificial intelligence to catch missed suspenses and flag potential issues for leader engagement. This is a U.S. system, whereas we also leverage Logistics Functional Area Services, the system of record for NATO, which offers similar capability. We are exploring the option of connecting the systems.

By systematically investing in leader development, the 16th Sustainment Brigade ensures that junior officers and NCOs possess the competence and confidence to operate independently, maintain sustainment tempo, and exploit operational opportunities.

Applying the Principles of Sustainment

All MLTF operations are grounded in the Army’s principles of sustainment, which inform planning, training, and execution.

- Integration: MLTFs are embedded in the maneuver plan and operate in direct support of brigade and division-level objectives.
- Anticipation: Forecasting and SPO synchronization ensure resources are available at the right place and time.
- Responsiveness: Agile, tailorable MLTFs meet the immediate sustainment needs of maneuver units.
- Simplicity: Standardized procedures reduce friction and enhance decision-making under stress.
- Economy: Task forces are sized according to operational requirements, conserving personnel and materiel.

- Survivability: Dispersal, camouflage, and protection measures reduce the likelihood of attrition.
- Continuity: Redundant C2 and logistics networks ensure uninterrupted sustainment.
- Improvisation: MLTFs adapt to terrain, emerging threats, and partner capabilities.

Grounding training and operations in these principles ensures that sustainment is predictable, reliable, and resilient, even in the most contested environments.

Threat-Driven Tactics, Techniques, and Procedures (TTPs)

The Russia-Ukraine War underscores the variety of threats sustainment formations may face.

- UAS Threats: Frequent displacement, signature reduction, and organic C-UAS integration mitigate the risk of reconnaissance and targeting.
- Long-Range Fires: Dispersed resupply nodes, minimized dwell time, and camouflage/deception measures protect personnel and materiel.
- EW: High frequency and frequency modulation redundancy, analog mapping, and strict communications discipline preserve C2 in degraded environments.
- Integrated Protection: Convoy and base defense drills, crew-served weapons proficiency, and coordination with maneuver forces enhance survivability.

Adopting these TTPs allows MLTFs to operate safely and effectively in a contested battlespace.

Replicating the MLTF Model Across the Force

The 16th Sustainment Brigade’s experience provides a replicable model for other brigades preparing for LSCO.

- Establish MLTFs in Garrison: Develop modular, mobile sustainment teams before deployment.
- Train Junior Leaders Rigorously: Certify officers and NCOs in decentralized sustainment operations.
- Invest in SPO Capability: Sustainment forecasting, synchronization, and battle tracking are decisive enablers.
- Integrate Allies Early: Coalition sustainment

and protection enhance interoperability and effectiveness.

- Prioritize Survivability: Dispersed operations, protection, and signature management reduce targeting risk.
- Enforce Reporting and Forecasting Discipline: Accurate information is critical to sustainment tempo and operational success.

This approach offers sustainment brigades a way to maintain operational reach, enable decentralized maneuver, and sustain tempo in complex LSCO scenarios.

Conclusion

The Russia-Ukraine War reaffirms a fundamental truth: sustainment remains the pacing factor in LSCO. By embracing decentralized, multifunctional sustainment formations, integrating allies, strengthening C2 and protection capabilities, and aggressively developing junior leaders, the 16th Sustainment Brigade is adapting to meet the demands of the European theater.

As the Army’s forward sustainment brigade in Europe, we continue to apply these lessons to ensure readiness, relevance, and lethality. Through disciplined training, modular task forces, and rigorous leader development, we will enable maneuver, maintain tempo, and sustain victory across the full spectrum of conflict.

COL Christopher M. Richardson serves as the commander for 16th Sustainment Brigade, forward stationed in Baumholder, Germany. He previously served as the chief of staff for 21st Theater Support Command, G-4 for 1st Infantry Division, and commanded the Regimental Support Squadron, 2nd Cavalry Regiment. He was commissioned as an Ordnance officer from Officer Candidate School as a second lieutenant. He earned a certificate in Supply Chain Management Analytics from the Massachusetts Institute of Technology (MIT) and holds a Master of Arts degree in management and leadership and a Master of Business Administration degree. He graduated Senior Service College as a fellow at MIT’s Center for Transportation & Logistics.

SUSTAINMENT

THROUGH A JOINT LENS

An Army Captain's Experience at Marine Corps AXLOC

■ By CPT Joelle L. Henry

As the Army looks toward sustaining forces during large-scale combat operations, it would be foolish to assume we can do so independently. Logisticians must understand how our sister Services conduct sustainment operations to integrate effectively in contested environments. A common theme across all Services is that logistics and maneuver will increasingly overlap, because contested logistics now begin in the U.S. at the assembly line and extend through the tactical edge.

This overlap demands a deliberate relationship between supported and supporting elements, built well before deployment. That relationship is forged at home station during training, exercises, and rotations, not once forces are already committed forward.

Setting the Context: AXLOC at Twentynine Palms

The Marine Corps Advanced Expeditionary Logistics Operations Course (AXLOC) is a rigorous four-week course conducted at the Marine Corps Air-Ground Combat Center, Twentynine Palms, California, located adjacent to the National Training Center. AXLOC is designed to train Marines at the staff level to serve as logistics instructors at their home stations. Graduates are expected to integrate into operational planning teams in support of training exercises, mission-essential task list assessments, and deployment preparations.

AXLOC provides students with a comprehensive understanding of the Marine Corps Planning Process (MCPPE) at the brigade level, with emphasis on sustaining distributed littoral operations. The course begins with approximately 80 hours of distance learning focused on setting the theater, logistics concepts, support relationships, acquisition and cross-servicing agreements (ACSA), and MCPPE fundamentals.

After completing the distance learning phase, approximately 50 students reported to Twentynine Palms for 25 days of resident

instruction. I was fortunate to be part of the most joint AXLOC class to date under the Marine Corps Logistics Operations Group, which included one Navy officer, one Army officer, three Air Force officers, one Australian officer, one New Zealand officer, and one Defense Logistics Agency (DLA) civilian. The diversity of perspectives from joint logistics enterprise (JLEnt) partners significantly enriched the learning experience.

Course instruction included case studies, classroom instruction, small-group discussions, and secure video teleconferences with key JLEnt stakeholders. Briefings were provided by U.S. Transportation Command, Blount Island Command, DLA, and several organizations supporting U.S. Indo-Pacific Command (USINDOPACOM). These engagements provided the strategic context, the why, as students planned concepts for closing and sustaining naval expeditionary forces.

Intelligence Shapes Logistics Operations

AXLOC also integrates the Logistics Intelligence Planners Course (LIPC), bringing intelligence professionals into the learning environment alongside logisticians. The deliberate integration of these courses reinforces a critical reality: that logistics and intelligence must be synchronized to enable operational success.

Throughout the course, LIPC students challenged logisticians to consider how intelligence directly informs sustainment planning in complex and dynamic operating environments. They emphasized the importance of network analysis, linking intelligence about the operational environment to available logistics capabilities, infrastructure, and resources. For sustainers, this linkage is essential to understanding risk, enabling flexibility, and maintaining operational reach in contested theaters.

Why AXLOC Matters

The course is structured around four progressive phases: (1) set the theater, (2) plan a deployment, (3) logistics planning in a contested environment, and (4) a culminating staff exercise (STAFFEX). Each phase builds on the previous one, concluding with the execution of an operation using a course of action developed through MCPP earlier in the course.

During the culminating STAFFEX, the course directly reinforced how sustainment decisions enable lethality in contested environments. One scenario involved the delivery of contaminated fuel, deliberately compromised by the adversary. Through prior research and an understanding of where and how to source sustainment externally, we identified and procured an alternate fuel source from a neighboring country. This reinforced that we as logisticians must be prepared to source solutions when supplies cannot be produced organically or brought forward. It also highlighted that sustainment nodes, particularly in rear areas, are no longer sanctuaries. Upon entering the theater, displacement and survivability must be immediate considerations.

Another STAFFEX challenge involved severely degraded communications with both subordinate units and higher headquarters. Without real-time consumption reports from downtrace units, we were forced to make assumptions based on planning factors and push resupply packages while trusting that all elements were executing the commander's intent. This underscored the importance of disciplined planning, shared understanding, and trust when communications are denied or disrupted.

The course also emphasized the value of decision support matrices in assisting commanders with understanding second- and third-order effects. As logisticians, we must translate sustainment realities into operational decisions, clearly articulating how those decisions affect tempo, risk, and lethality. In one scenario, increased threat levels prevented preplanned aerial resupply. Within minutes, we were required to develop an alternate delivery method to prevent disruption of maneuver operations. Because we had preplanned available assets within the area of operations, we were able to adapt quickly and execute resupply through alternate means. When logisticians demonstrate adaptability, maneuver elements gain confidence to seize the initiative and exploit opportunities.

Observing Marines conduct expeditionary basing and rapid displacement reinforced lessons applicable to the Army. Operating in contested environments requires moving away from persistent supply lines and predictable demand forecasting. AXLOC increased my effectiveness

as a logistician by forcing me to operate in chaos and think like a warfighter. Being embedded with Marine planners required an understanding of the scheme of maneuver, reinforcing that logistics cannot simply follow maneuver but must coexist with it. Timing, positioning, and survivability of prepositioned cache sites proved critical; when maneuver forces failed to reach caches in time, days' worth of supplies were lost, resulting in degraded combat power. These lessons directly reinforced how sustainment can either enable or limit lethality on the battlefield.

Through planning and wargaming, reliance on the JLEnt was not optional; it was decisive. Students leverage DLA, ACSA, operational contract support, and support from sister Services to overcome shortfalls in resources, time, and access. In every scenario, success depended on joint and interagency integration. This reality applies equally across all Services, so that no single Service or agency can win or sustain a conflict alone.

As a force, we must fully leverage the JLEnt. In many regions, access to certain classes of supply may be limited or nonexistent; movement into theater may be restricted to specific modes; and host-nation support may be uncertain or unavailable. Additionally, the adversary always has a vote. Sustainment plans must incorporate flexibility, dispersion, and redundancy to mitigate disruption and preserve freedom of action. Forces must remain dispersed enough to reduce vulnerability while remaining postured to rapidly support operations when required.

An Army Officer in a Marine Corps Classroom

Attending Marine Corps professional military education as an Army officer presented unique challenges, challenges that closely mirror those encountered in joint and interagency environments. Sustainment is inherently joint, and AXLOC reinforced the necessity of interoperability and shared understanding across Services and agencies.

The course reinforced the need for logisticians to remain adaptable as sustainment concepts continue to evolve. Fortunately, the Army and Marine Corps share foundational sustainment principles, including push-and-pull logistics, distribution methods, and acquisition

of supplies and services. These commonalities provide a strong baseline for joint integration while highlighting the importance of understanding Service-specific processes.

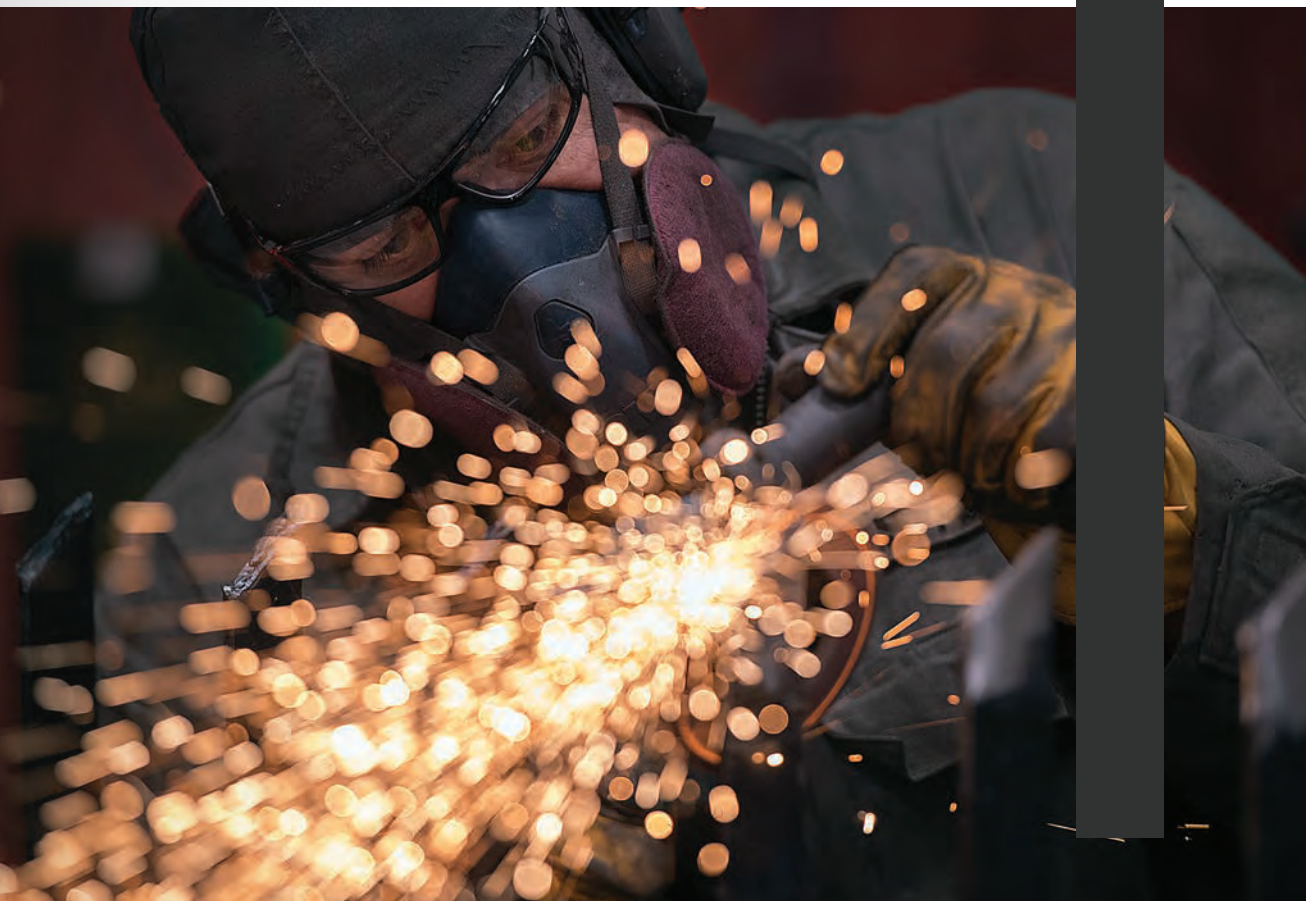
Conclusion: The Way Forward

AXLOC reinforced the growing requirement for joint logistics leaders at both the tactical and operational levels. For those preparing for joint task force assignments or joint billets, AXLOC, when paired with the Joint Logistics Course, provides critical foundational knowledge. The course is also highly applicable to units such as expeditionary transportation brigades, theater sustainment commands, expeditionary sustainment commands, and sustainment brigades operating in USINDOPACOM, where littoral operations are increasingly likely.

Our Services must be prepared to embrace joint solutions. Logisticians will not always be able to set the theater as planned, and sustainment requirements will continue to evolve throughout operations. Logistics does not end with planning; it persists through execution. Leaders at every level, including those in the middle, can influence outcomes by bringing forward ideas, initiatives, and informed recommendations. Joint success depends on it.

CPT Joelle L. Henry serves as the detachment commander of the 510th Transportation Training Detachment at Joint Base Langley-Eustis. She received a commission as a Transportation officer through ROTC in 2019. Her first assignment was to the 1st Cavalry Division Sustainment Brigade, 1st Cavalry Division, Fort Hood, Texas. While there, she served in a variety of leadership positions in the 553rd Division Sustainment Support Battalion including the 664th Ordnance Company platoon leader and executive officer, Bravo Company (Support Maintenance Company) executive officer, and as the battalion S-4 officer in charge. Her military education includes the Transportation Basic Officer Leader Course, Unit Movement Officer Course, Air Load Planner Course, Transportation Coordinators-Automated Information for Movements System II Operator Course, Logistics Captains Career Course, and the Advanced Expeditionary Logistics Operations Course. She holds a Bachelor of Science degree in economics from the University of Mary Washington.

Featured Photo
A Marine attending Advanced Expeditionary Logistics Operations Course 1-26, takes notes while MajGen Mark H. Clingan, commanding general of Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center, delivers opening remarks to the students at MCAGCC Twentynine Palms, California, Jan. 12, 2026. (U.S. Marine Corps photo by LCpl Cody Fitzgerald)



The Army Failed

ITS MATH TEST, SO LET'S FIX IT!

By CW5 Kent Shepherd

In November 2011, I was a chief warrant officer 3 and took over as the battalion maintenance technician for a field artillery unit at Fort Bragg. The moment I stepped into the maintenance bays, the warning signs flashed red. Trash cans overflowed; safety violations were visible in every corner; and, most disturbingly, the bays were silent. There was not a single mechanic under a hood.

When I met the motor sergeant, he immediately vented: the mechanics were not working on equipment because they were constantly pulled for external taskings. To quantify this gut feeling, we devised a daily manpower tracker. It was a simple color-coded spreadsheet designed to account for every Soldier's time: leave, medical appointments, temporary duty, schooling, staff duty, gate guard, and ranges.

After 30 days, the data was staggering. Based on our assigned personnel, the battalion should have generated approximately 2,900 man-hours of maintenance production. Instead, we averaged less than 600. We were operating at roughly 20% capacity while being expected to maintain a full fleet of combat-ready equipment.

The Brewing Storm

Simultaneously, I conducted a deep dive into our scheduled services. The results were even more grim: the unit had not completed a single scheduled service in the nine months prior to my arrival. The reason for the large gap in services was due to redeployment and receipt of equipment from left-behind equipment (LBE) upon return. The civilian contractors managing LBE had performed services a month prior to the unit's return, but our clerks had made a catastrophic administrative error: they scheduled the annual services for every piece of equipment in the battalion within the same two-month window. To make matters worse nobody caught this problem prior to my arrival.

I had inherited a service spike of massive proportions. Usually, services are staggered throughout the year to level the workload. Yet when I examined my schedule, I knew the entire battalion's fleet would be administratively deadlined within 90 days. I immediately took this data to the forward support company commander, pleading for an exemption from taskings. He told me his hands were tied. I went to the battalion executive officer; he gave me the same answer. Finally, I sat with the battalion commander. I offered creative solutions: working during physical training (PT) hours, shortening lunch breaks, or staying past 1700. To every request, the answer was no. The only advice he offered me was to do the best I could.

I was left with a mission that was mathematically impossible to achieve under the current constraints.

The Turning Point

By February, the storm had made landfall. We had accumulated over 200 delinquent services. One Wednesday afternoon, the phone rang. It was the battalion S-4: "The brigade commander needs to see you in the conference room."

I knew this was the moment of reckoning. I did not go to that meeting with excuses; I went armed with hard



data. I printed the manpower spreadsheets, the get-well plan, and a series of pie charts and bar graphs that visualized our man-hour deficit. I walked into that room fully expecting to be relieved of my duties.

When the brigade commander asked, “What is wrong with your maintenance program?” I did not stammer. I replied, “Sir, maintenance is a math problem.”

I laid out the data. I showed him that it was physically impossible to complete the required work when 80% of my labor force was pulling every possible detail and tasking on Fort Bragg. As he looked at the charts, his frustration shifted to impressed silence. He turned to my battalion commander and said, “Not a single tasking goes to that motor pool.” The next day, the floodgates opened. Every mechanic returned to the bays, and we began the long climb back to readiness.

Why Maintenance Fails: Understanding the Math

I have shared this story with nearly every Ordnance Warrant Officer Basic Course class at Fort Lee. I do this to coach them on how to protect their careers and communicate with commanders. However, the problem is not just about taskings; it is about a fundamental misunderstanding of how the Army calculates its need for maintainers and how we should put them to work.

There is a persistent rumor that logging more man-hours in the system automatically increases a unit’s personnel authorizations. While accurate reporting is vital, the reality is maintainer authorizations are governed by two complex metrics: the annual military occupational specialty (MOS) availability factors (AMAF) and the manpower requirements criteria (MARC).

1. AMAF

The AMAF determines how much time a Soldier is expected to perform MOS-specific duties during wartime. For a maintainer in a brigade support battalion supporting an armored brigade combat team, the Army forecasts a workday of 8.8 hours. Over a year, this accounts for roughly 3,200 hours of production.

Interestingly, units farther from the front lines often have higher AMAF factors. A mechanic in a military intelligence brigade may be forecasted to work a 12-hour day (over 4,300 hours per year) because they have fewer tactical requirements (like providing security or digging fighting positions) than their peers in a maneuver unit. These hours are the baseline used to justify how many mechanics a unit is authorized on its modified table of organization and equipment (MTOE).

2. MARC

If you are not familiar with MARC, these calculations can be found within the Force Management System Website under the Army Maintenance MARC Database. The first step in the process is to calculate the annual maintenance man-hours for all unit equipment. These hours are the sum of direct production hours plus 40% indirect production time. The Army adds up the total man-hours required for every piece of equipment and divides it by the man-years provided by the AMAF. The result of this equation determines how many authorizations for mechanics end up on the MTOE.

The Peacetime Paradox

The glaring issue with this calculation is that it is based on wartime missions. In a garrison environment, we are lucky to achieve 50% of the wartime MARC factor. Between mandatory training, medical readiness, leave, and the standard Army day, the maintenance program is behind the power curve before the first wrench is even turned.

If we are authorized personnel based on a 12-hour wartime workday and a seven-day work week, but our garrison schedule only allows for five or six hours of actual wrench-turning time Monday through Friday, we operate well below a 50% deficit. This is why maintenance leaders must become masters of time management and organizational efficiency.

Rethinking the Duty Day: Eliminating the Waste

If we take an honest look at the traditional Army duty day, it is incredibly inefficient for technical production. In this model, the Soldier is at work for nearly 11 hours, but the unit only receives six hours of production. The

rest is consumed by transitions, commutes, and waiting. We have all have seen mechanics reclined in their cars after PT or during the 90-minute lunch break, simply killing time until the motor pool reopens.

We must consider restructuring the duty day to maximize direct labor.

Consider a shift in perspective to reclaim the duty day. By moving PT to the end of the day, we would increase direct labor from six hours to eight hours — a 25% increase in productivity without staying late. This would also provide predictability. PT would act as a hard stop, ensuring Soldiers would get home to their families on time, which in turn would boost morale and retention.

The hours we need are already there; they are simply buried under administrative waste. The proposed solution using a flipped schedule is just one example, and there are many other options to rearrange the duty day for efficiency. I ask every maintenance leader and commander in the Army to consider modifying their duty day to protect maintainers’ time and increase readiness.

We made some big changes to our duty week when the service spike hit us. As planned, it took my team six months to climb out of that hole and return the fleet to peak readiness. It was the ultimate proof of concept: the math was sound; the plan worked; and, most important, it showed that leadership will listen when the truth is presented through the lens of data.

The Human Cost of Mismanagement

Beyond the math, there is a human element that has far-reaching implications. When we task mechanics to work outside their MOS, we are failing them as leaders. The journey from private to sergeant is extremely short. If a young mechanic spends their first three years working outside their MOS instead of repairing equipment, they will eventually pin on NCO stripes without the technical competence required to lead.

In future large-scale combat operations and multi-domain operations, our forces will be dispersed. A

sergeant may be the senior maintainer at a remote site without a warrant officer nearby to solve complex problems. If they have not had the sets and reps in the motor pool during peacetime, they will not be able to keep the fleet moving during wartime. This is a risk we must not accept because lives may be lost and the mission may fail.

Conclusion

Running an Army maintenance program is a challenge of finite resources: time, people, and money. As Ordnance leaders, we cannot always control the money, and we cannot always control the number of people assigned to us. However, we do control the data and the schedule.

We must stop treating maintenance as a chore and start treating it as a production system. By using MARC and AMAF data to communicate with commanders and by messaging the necessity to restructure inefficient duty days, we protect our Soldiers, ensure technical proficiency, and — most importantly — maintain the readiness required to fight and win.

Go Ordnance!

CW5 Kent Shepherd currently serves as the 13th chief warrant officer of the Ordnance Corps. He oversees the accession, career development, and education of all Ordnance warrant officers in the Army. His most recent assignments were in U.S. Army Southern European Task Force G-4, 101st Airborne Division (Air Assault) G-4, and the U.S. Army Combat Readiness Center. His civilian education includes a Master of Arts degree in theology and church history from the Rawlings School of Divinity at Liberty University.

Featured Photos
Left: SGT John Gil welds new metal onto a forklift cage that was damaged. SGT Gil’s initial repairs led to a total reconstruction of the forklift cage. (Photo by Thomas Alvarez)

Right: SGT Cullen Hebert, a wheeled vehicle mechanic with the 1st Armored Division Combat Aviation Brigade, uses a multimeter to measure electrical resistance and voltage during an advanced vehicle diagnosis course at Fort Bliss, Texas, Feb. 11, 2026. (Photo by SSG Felix Mena)

THE CITIZEN-SOLDIER LEADER



Applying Modern Leadership Theory to National Guard Sustainment

■ By CPT Jakob P. Hutter

The defining challenge of leading in the Army National Guard (ARNG) is the friction of a Soldier's two lives. That challenge hit me when I received a phone call while I was spending the evening with my family. It was a promising first lieutenant in my operations section telling me that

his civilian employer had created a direct conflict with our upcoming drill, and that his presence would be crucial to meeting their project deadline.

What followed was the critical leadership work that happens far from the drill floor. I discussed his options, then

worked with the headquarters and headquarters company commander to navigate the administrative process for a split-unit training assembly. Finally, I sat down with my operations sergeant during drill to personally craft a meaningful training plan for him to complete. A single Soldier's conflict created a real workload, a reminder that our most important acts of leadership happen long before the first formation on Saturday morning.

This situation highlights a key challenge for leaders in the ARNG. That challenge is managing the often-strenuous balance between a Soldier's military duty and their civilian career. This constant friction creates leadership challenges. Army leadership doctrine, with its focus on daily interaction, does not fully account for the intermittent authority and dual-career dynamics that define ARNG service, leaving leaders to fill the void on their own.

To strengthen the profession and make the most of a limited training year, ARNG leaders must augment military doctrine with principles from modern organizational leadership. Leaders can build more resilient and effective formations by understanding and mastering three core paradoxes of part-time service: forging readiness in the gaps, leveraging hidden talents as strategic assets, and forging cohesion on a compressed timeline.

First Paradox: Forging Readiness in the Gaps

The ARNG typically trains for a minimum of 39 days per year, yet its leaders still own 100% of the responsibility for their formations. This is the paradox of leading with, at best, 10% of the time for direct influence. Leading effectively simply cannot be confined to the drill weekend if the ARNG is maintaining readiness. It

must occur in the gaps between drills, often at the cost of a leader's own time balancing their civilian employment and social life. Forging readiness in these gaps requires a framework built on three pillars: trust, serve, adapt.

This framework was critical when my company supported an eXportable Combat Training Capability exercise in California. The foundation began months earlier, building trust with my key NCOs. The reciprocal, high-quality relationships we built during drills meant our calls in between drills were collaborative, not intrusive. I had to trust them to execute complex coordination, and they trusted my intent.

With that trust established, my role shifted to service. I identified a critical flaw in the plan. My maintenance platoon would be sidelined with no mission or area to conduct field maintenance, damaging morale and wasting a training opportunity. I felt a duty to remove that barrier by coordinating a plan with battalion staff

Leading in the ARNG is a unique endeavor, defined by the paradoxes of forging readiness in the gaps, leveraging hidden talents as strategic assets, and building cohesion on a compressed timeline.

and securing a partnership with the training facility. Driven by trust and care for my Soldiers, this created a valuable opportunity that my platoon leadership could then plan and seize.

Finally, this service was adapted to the individual. With my platoon leadership, I used a delegating style, giving them my intent and trusting them to build their plans. However, for a less experienced platoon leader responsible for ensuring our forward arming and refueling point, I adopted a coaching style. I helped him think through the challenges of distribution and supply by asking guiding questions instead of providing answers. This ability to flex from delegating to coaching helped make the unit perform more effectively. This combination of trust, service, and adaptation is how readiness is actively forged in the gaps, ensuring units arrive at collective training prepared for success.

Second Paradox: From Hidden Talents to Strategic Assets

Every ARNG formation is a dormant network of civilian professionals, yet the Army's structure often obscures this talent. Units that fail to look beyond rank and military occupational specialty (MOS) are often overlooking their single greatest asymmetric advantage. This missed opportunity is not due to the lack of talent, but a lack of a system to manage it. Guard leaders can seize this opportunity by becoming deliberate talent managers, using a simple, three-step framework that any leader can implement.

The first step is to conduct a talent inventory. This goes beyond the Soldier record brief. At the company or platoon level, leaders must identify their Soldiers' civilian occupations and skills during in-processing or annually. This inventory must include certifications, technical skills, and even hidden talents like photography or graphic design, all documented to highlight the unit's true capabilities.

Second, leaders can look to build cross-functional teams. With a clear picture of the organization's skill sets, these data can then be used when challenges arise to build functional teams based on civilian expertise,

not just rank or position. This empowers junior Soldiers who may not be typically tasked with special projects and brings diverse perspectives to bear on complex problems.

The final step is to empower, execute, and recognize. Once a team is given a clear task, a purpose, and the authority to act, the leader's role shifts from being the primary problem solver to one who empowers the right problem solvers. Crucially, when the team succeeds, the leader must publicly recognize their contribution. This reinforces the value of the expertise Guardsmen bring from their civilian professions and fosters a culture where Soldiers are motivated to bring their complete selves to the unit.

In action, this framework allows a leader to understand the problem and implement the team from the start of drill, saving precious time and effort. It is also scalable, allowing a squad leader to identify someone good at math, or a battalion commander to build a special project team. Ultimately, this shifts the leader's mindset from what the Army gives them to how they can best use what they have.

Third Paradox: Forging Cohesion on a Compressed Timeline

Army Doctrine Publication 6-22, Army Leadership and the Profession, states that trust and cohesion directly impact organizational climate, and leaders must integrate new members quickly to build teamwork. While cohesion in the active component is a byproduct of shared time, in the ARNG it must be manufactured. Much like an engineer using a blueprint, ARNG leaders must serve as architects of their unit's culture. The goal is to aggressively accelerate the team through Tuckman's stages of group development, which include forming, storming, norming, performing, and adjourning. This is not to turn 39 days into 365 days, but to make every moment of shared time count.

The forming stage begins the moment a new Soldier arrives. At home station, this initial orientation is owned by full-time Active ARNG and Reserve staff. They are the cultural glue, providing continuity, initial

counseling, and a sense of purpose that prevent the team from having to reform from scratch every drill.

In the storming stage, roles and processes are challenged and must be compressed. My deployed experience as an operations officer demonstrated the power of a shared challenge. The elevated tempo forced us to rapidly develop and refine our processes, moving through conflict to clarity out of sheer necessity. The lesson for home station is that leaders must create challenging, team-based training events that force these issues to the surface to be resolved quickly.

To accelerate the norming stage, a leader must make the team's values tangible. As a forward support company commander, I personally funded a company coin to serve as a symbol of excellence. The ritual of publicly presenting this coin for hard work was not just recognition but a powerful tool for establishing group norms. It clearly and visibly defined what right looks like and created a shared standard to which everyone could aspire.

The result of accelerating these stages is a team that reaches the performing stage faster. A unit in this stage executes its mission with a high degree of autonomy and shared understanding. Instead of fighting processes, they solve problems, allowing them to focus their limited time on effective mission accomplishment.

Finally, the adjourning stage is a constant reality in the ARNG. Unique to this component, the team experiences a micro-adjourning at the end of every drill weekend as Soldiers disperse and return to their civilian lives. A cohesive, high-performing team does not truly dissolve during this phase. Instead, the team persists because the shared identity and purpose created by its leaders persist. The goal is to build a team strong enough that adjourning is merely a pause, not an end, ensuring the forming next drill is nearly instantaneous.

The Deliberate Leader

Leading in the ARNG is a unique endeavor, defined by the paradoxes of forging readiness in the gaps, leveraging hidden talents as strategic assets, and building

cohesion on a compressed timeline. Mastering these challenges requires leaders to augment standard Army doctrine with a deliberate, adaptive, and human-centric approach. This means knowing our Soldiers beyond their rank and MOS, leading with a philosophy of trust, serve, and adapt, and acting as architects of unit culture.

The challenge, therefore, for all ARNG leaders is to look beyond doctrine and incorporate these organizational leadership principles into practice. Strengthening our profession begins with the understanding that the ARNG's greatest asset is its people. The ARNG's critical dual-mission role, at home and abroad, demands leaders who understand the unique human terrain of the citizen Soldier.

CPT Jakob Hutter currently serves as a battle captain while deployed with Task Force Thunder, 130th Field Artillery Brigade. In addition to this role, he also fulfills duties as the knowledge management officer and future operations plans officer. He has completed several military training courses, including the Quartermaster Basic Officer Leader Course, Logistics Career Course, Knowledge Management Qualification Course, Support Operations Course, and Unit Movement Officer Course. He is also an active member of the Military Writers Guild, contributing to the professional development of military writing and thought leadership. He holds a Master of Science degree in organizational leadership with a specialization in strategic innovation and change management from Colorado State University-Global Campus.

Featured Photo
Soldiers with 2nd Battalion, 146th Field Artillery Regiment, 81st Mobile Brigade Combat Team, Washington National Guard, conduct pre-fire mission checks during exercise Operation Courage Lethality at Yakima Training Center, Washington, April 19, 2026. (Photo by SGT Matthew Sprowl)

Rules for Meetings

By LTC George C. Wallace

[Editor's Note: This Blast from the Past article was initially published in Army Logician (the former title of Army Sustainment) in the JAN-FEB 1976 issue. COL George Calvin Wallace (Ret.) started his military career with the National Guard, rising to the rank of sergeant while enlisted. He then joined the Army, proudly serving during the Vietnam War before retiring in 1979 as a colonel. After retiring from the Army, he had a successful career in real estate. This article provides timeless wisdom on how we can better operate meetings.]

Everyone knows the value of his own time, and everyone hates to have that precious time wasted. One of the most frustrating time wasters is a poorly planned and conducted meeting or an unnecessary meeting. Lieutenant Colonel George C. Wallace recently told Army Logician magazine that, "During the past five years, I estimate that half of the time I spent in meetings has been wasted. This was confirmed by a detailed account of the meetings I attended during a recent 30-day period. The average was three hours of meetings per week, or 156 hours a year."

Some rules offered by Lieutenant Colonel Wallace should be helpful to those who conduct meetings and to those who attend. When appropriately applied, these rules will undoubtedly save a great deal of that valuable commodity time. In his postscript, Lieutenant Colonel Wallace reveals, "this list was outlined while attending a two-hour meeting that should have lasted not more than 30 minutes."

- Don't have a meeting unless it is necessary. Perhaps the information can be exchanged through phone calls or memoranda.
- Determine the purpose of the meeting. Will it produce a decision or provide information?

- Prepare a specific agenda of key issues and distribute it in advance.
- Invite only those individuals necessary to accomplish the purpose of the meeting.
- Determine who will chair the meeting. One person cannot control the meeting and actively participate at the same time.
- Never schedule a meeting for the last hour of the working day unless absolutely necessary.
- Make administrative arrangements. Should it be a sit-down or stand-up meeting? (Standup meetings save a lot of time!) Should it be a roundtable discussion or classroom lecture? Have handouts and guidelines available, if necessary.
- Start on time. Latecomers will get the message!
- Conduct the meeting in a firm, businesslike manner. Maintain control, summarize frequently, and cut off long-winded speakers when they have made their points.
- At the end, sum up the conclusions, decisions, and follow-up actions, and circulate copies of the minutes, if available.

LTC George C. Wallace was a staff officer, Office of the Deputy Chief of Staff for Personnel, Department of the Army. He commanded six field artillery and air defense artillery batteries between 1957 and 1962.

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