



Chief's Corner

The U.S. Army Ordnance School (USAOS) has a twofold mission: to train, educate, and develop Ordnance professionals - *and* - to synchronize Ordnance DOTMLPF solutions across the institutional, operational, and self-development domains.

While the training part of our mission is implied in our name, the Ordnance *School*, the second part of our mission is less apparent to our readers. Since our vision is **to be the first organization units turn to for their DOTMLPF needs**, I think it's important to bring some clarity to this part of our mission.

**Our Vision:
To be the FIRST organization units turn to for their Ordnance DOTMLPF needs**

It's probably not an acronym you see often in operational units, but at the USAOS and across the Sustainment Center of Excellence DOTMLPF is pervasive! It's peppered throughout our documents, briefings, and conversations. DOTMLPF provides a framework for assessing capability gaps and developing solutions that enable our Army to prevail in large-scale combat operations. The USAOS is your proponent for DOTMLPF matters related to maintenance, ammunition, explosives safety, and explosive ordnance disposal (EOD) support to our Army.

We can trace the roots of this acronym to the Joint Capabilities Integration and Development System (JCIDS), which is DoD's process for *considering* solutions to capability gaps across a spectrum of doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF-P). Detailed definitions of the DOTMLPF-P elements are laid out in the JCIDS Manual, [Appendix A](#), but for my purposes, I will drop *policy* and defer to the [Defense Acquisition](#)

[University's](#) simple definitions for the remaining elements.

- ◆ **Doctrine** defines the *way* we fight with emphasis on maneuver warfare and combined air-ground campaigns.
- ◆ **Organization** is how we're *organized* to fight.
- ◆ **Training** is how we *prepare* to fight tactically (basic training, advanced individual training, unit training, exercises, etc.).
- ◆ **Materiel** is the *stuff* necessary to equip our forces (weapons, spares, test sets, etc.).
- ◆ **Leadership** and education are how we develop our professionals to *lead* the fight.
- ◆ **Personnel** is the *availability* of qualified people to conduct peacetime, wartime and contingency operations.
- ◆ **Facilities** include the real property that supports our forces and their mission, including installations and industrial facilities (e.g. government-owned ammunition production facilities).

Now, with a better understanding of the DOTMLPF elements, I'd like to tell you why the USAOS should be the first organization you turn to for your DOTMLPF needs. First, we are your force modernization proponent. If you have an Ordnance DOTMLPF issue or problem, we may already have a solution! Second, we can't champion solutions to problems we don't know about. If your unit is experiencing a challenge, you may not be alone. Timely feedback from operational Army units keeps us informed of emerging problems that require new solutions. It also helps us to synchronize solutions to issues that impact multiple elements across the DOTMLPF spectrum (e.g. changes in doctrine may require modifications to training; fielding new materiel may require changes to organizations, etc.). Third, the USAOS has frequent touchpoints with resident experts and reach back to a multitude of other agencies involved in developing and integrating sustainment capabilities for both the *current* force and the *future* force. Finally, once Ordnance DOTMLPF needs are identified, the Chief of Ordnance serves as an advocate for developing and implementing solutions.

Some of the Ordnance DOTMLPF solutions you will see in the near-term are listed in the table to the



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right. Many of these initiatives were informed or validated in some way by input from operational units like yours. That's why your feedback is *central* to our USAOS *vision* and why we offer multiple forums for you to provide it.

Ask. If you have a question or comment, the simplest thing to do is **Ask the Chief**. This virtual open door is available 24/7/365 on any device with email services. Click the link above or the 'Ask the Chief' button on our [website](#).

Connect. The LIVE **Ordnance Connect** quarterly video-conference informs our sustainment community on the latest topics of interest. This is a protected forum (common access card is required) where you can share observations, issues, and challenges as seen from *your* foxhole. We invite you to reach back to us with recommended topics. Join us for our next session on November 21, 2019. After each meeting, we store **audio logs** of previous Ordnance Connect sessions and they serve as an excellent resource for leader professional development sessions.

Engage. Face-to-face engagements allow for more deliberate and focused discussions. I appreciate the opportunity to hear from senior leaders and their staffs during Reverse Collection and Analysis Team (R-CAAT) visits, Rehearsal of Concept (RoC) drills, and the Sustainment Pre-Command Course.

Follow. We do our best to keep you informed. Follow us on **Facebook** for timely information on upcoming engagement opportunities.

I close this article by recognizing CSM Terry D. Burton for more than two years of outstanding service as the senior enlisted advisor to two Chiefs of Ordnance, the USAOS command team, and the Soldiers of the U.S. Army Ordnance Corps. I will have the extreme privilege of honoring his 30 years of dedicated service on September 27, when he relinquishes his responsibility as the 13th Command Sergeant Major of the Ordnance Corps. He will continue to represent the best of our Army and our Corps as a civilian and Soldier for Life. Upon his departure, CSM Petra Casarez will join us as the 14th Command Sergeant Major of the Ordnance Corps. I look forward to serving with her as we continue to build and preserve Army readiness.

Go Ordnance!

BG Heidi J. Hoyle
41st Chief of Ordnance



DOTMLPF Initiatives

Doctrine

- ◇ Revise Army Techniques Publications (ATP) 4-35 Munitions Operations and Distribution Techniques and ATP 4-31 Recovery and Battle Damage Assessment to reflect force structure updates and align content with FM 3-0 Operations and FM 4-0 Sustainment Operations.
- ✓ Revised **ATP 4-33** Maintenance Operations and revised **FM 4-0** Sustainment Operations were published by the CASCOM doctrine team in July 2019.

Training

- ◇ Incorporate new ADP 4-0 concepts and principles into all Ordnance Courses.
- ◇ Add GCSS-A Middle Managers and Support Operations Courses into Ordnance WOAC and Joint Light Tactical Vehicle to 915A WOBC.
- ◇ Add NGATS training to 948B and 94Y MOSs.
- ◇ Add a common logistics module to the Ordnance 91/94 and 89B Senior Leader Courses.
- ◇ Add non-commissioned officer common core to the Advanced Leaders Course and Senior Leaders Course.
- ◇ Add CSS-VSAT to 94F10 course and Config3+ to 94S10 course.
- ◇ Add Q53 Radar to 94M10 course and M17/M18 Modular Handgun System to 91F10/30 courses.
- ◇ Add Ordnance Field Training Exercise modules and equipment to AIT programs of instruction.

Materiel

- ◇ Field the following in FY20: Fire Suppression Refill System (FSRS) that supports repair and service of fire suppression and nitrogen bottles; the Refrigeration Toolkit (RTK) to support the repair of environmental-controlled equipment; multiple pieces of Test, Measurement, and Diagnostic Equipment (TMDE) including the OS-305 and OS-307 Oscilloscopes and the TS-4548 RF Power Meter; and the next-generation Maintenance Support Device (MSD) V4.
- ◇ Continue fielding the Metal Working Machining Shop Set (MWMSS) and the Armament Repair Shop Set (ARSS) with potential expansion of Advanced Manufacturing LUE.

Personnel

- ◇ Provide Ordnance branch education and interviews to 10,000+ ROTC Cadets from all three COMPOs during ROTC Cadet Summer Training and 4,000+ U.S. Military Academy Cadets at West Point, New York.
- ◇ Review and evaluate 5000+ Senior Cadet files for Ordnance Talent Priorities to advise branching boards meeting in October.
- ◇ DA-PAM 600-3 re-write contributions.

New!

The United States Army Ordnance School welcomes CW5 Danny K. Taylor as the 11th Chief Warrant Officer of the Ordnance Corps!



“ CW5 Taylor is an innovative leader and technical expert with the right mix of critical thinking and problem solving skills we need to continue building a bench of premier land force technical experts. ”

-BG Heidi J. Hoyle

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Ordnance Corps Command Sergeant Major Highlights



Greetings from the home of the Ordnance Corps! It has been an honor and privilege to serve as the 13th Ordnance Corps Command Sergeant Major. The greatest honor of my life has been my association with Soldiers, families, the Ordnance Corps, and the U.S. Army. My journey of more than 30 years from a

private to my current assignment as the Ordnance Corps Command Sergeant Major, has provided me with unforgettable experiences I will forever cherish. As I reflect on your countless contributions to the success of not only the Ordnance Corps but the U.S. Army, I am reminded of how teamwork and selflessness cultivated the succession of the Army Profession. I am thankful for your collective efforts in supporting missions and defending our great nation.

It is our responsibility as Ordnance professionals to continue this charge and remain in line with the Chief of Staff of the Army's priorities. GEN James C. McConville's number one priority of people, lends itself to readiness. During my tenure, the Ordnance Corps has made great strides in preserving Army readiness, refining leader development and increasing our recruiting efforts to support impending large-scale combat operations. The Ordnance Personnel Development Office is responsible for the eight personnel development system life cycle functions: structure, acquisition, distribution, development, deployment, compensation, sustainment, and transition. In essence, we take care of Soldiers from the time they sign the contract, to their transition to the time they enter the civilian sector.

As I reach the end of this cycle, I want to emphasize how the Army continues to develop competent leaders to carry the torch into the future



CSM Burton spoke about leader development at the annual Senior Safety and Occupational Health Summit in Alexandria, Virginia.

and encourage Soldiers to take advantage these developmental opportunities.

Leader Development. The Noncommissioned Officer Corps experienced an overhaul of its leader development system in the past three years. Since January 2016, the Noncommissioned Officer Professional Development System (NCOPDS) requires Soldiers to complete Professional Military Education (PME) before advancing to the next rank. This requirement gives Soldiers the confidence they need to perform at the next grade and assures leaders that their Soldiers are prepared for success. The Distributed Leader Course (DLC), previously known as Self-Structured Development (SSD), is essential to promotion. It provides career-long development for enlisted leaders through distance learning courses, allowing them to advance to a higher level of PME. This development along with the pending rollout of NCO Common Core Competencies, will ensure the NCOPDS lines of effort of development, talent management, and stewardship of the profession are well executed. Leader development is at its best moving forward into Army 2028.

“People ARE the Army. They are our greatest strength, our most important weapon system.”

**- GEN James McConville
Chief of Staff of the Army**



CSM Highlights [Continued from page 4](#)



Continuing Education Degree Program and Credentialing. This program provides a clear path for enlisted Soldiers to obtain an Associate’s degree in their assigned technical field and in leadership. The Army recognizes the disadvantages Soldiers face as they pursue

civilian careers upon their departure, even when they possess the same skill set and education as their civilian counterparts. Furthering education helps develop technical and critical thinking skills and affords Soldiers more opportunities for civilian hire when they transition from the Army. Accredited universities and colleges partner with branches to assess military education taught in each career management field, then provide an articulation agreement for a program that best fits each career path. The ability to convert job experience and education to civilian language is vital for our enlisted corps. Obtaining credentials for certifications will also help

the civilian sector to identify your qualifications. **Army Credentialing Opportunities On-Line** is a valuable resource with information for service members who are transitioning into civilian life or looking for ways to advance within the Army. Soldiers, please take advantage of these programs by contacting the Ordnance Personnel Development Office. A degree and credentials will be beneficial in sustaining a high quality of life for yourself and your family.

As I exit this great institution that taught me the tenets of leadership, the innovations mentioned above give me the confidence that Soldiers will continue to thrive. Our NCOs have the passion, self-assurance, education, and commitment to continue to shape and mold the force to become a lethal fighting team, ready to defend this great Nation. Remember, people first, mission always! I bid you farewell and thank you for your unwavering dedication to our Profession of Arms.

Go Ordnance!

CSM Terry D. Burton
13th Ordnance Corps Command Sergeant Major



CSM Burton leads non-commissioned officers in an Ordnance run.



Ordnance Corps Chief Warrant Officer Highlights



Team,
 I am absolutely honored and excited to be serving as the 11th Ordnance Corps Chief Warrant Officer. I stand ready to proudly serve and represent over 3,100 Ordnance warrant officers across nine specialties in the active Army, National Guard, and Army Reserves.

I'd like to start my first address to you with a question. What are you doing to build and sustain readiness within your organization? To have the most impact on organizational readiness, the Ordnance warrant officer must strive to be an expert Soldier, expert technician, and expert leader.

Expert Soldier. Be physically and mentally fit; prepare for the Army Combat Fitness Test; qualify with your assigned weapon; maintain your Medical Protection System (MEDPROS); and ensure you remain deployable. Many of our warrant officer specialties are only one deep within a brigade. The Army and your organization need your expertise to win in the next fight.



Ordnance Soldiers and warrant officers demonstrated marksmanship skills during the U.S. Army Ordnance Crucible, Ammunition Transfer Holding Point Team of the Year competition.

Expert Technician. Continuously sharpen your skill as a technical expert. Deepen your expertise within your craft. Read and be familiar with Army regulations, policy, doctrine, and technical manuals. Understand how the Army operates. Maintain your

Maintenance Support Devices and ensure your maintainers are using them properly to access technical manuals and order repair parts. Enforce the Command Maintenance Discipline Program and the Command Supply Discipline Program. Compete in the Army Award for Maintenance Excellence (AAME) program. Utilize GCSS-Army and other web-based systems, but manage your time wisely so that you are not behind the desk too much when you could be in the shop leading, teaching, coaching, and mentoring Soldiers, non-commissioned officers, and officers on ammunition, allied trades, or field-level maintenance operations.



CW4 Danny Q. Newby, Electronic Systems Maintenance Training Developer, references a technical manual during Next Generation Automatic Test System (NGATS) New Equipment Training at Fort Lee, Virginia.

Expert Leader. There are three domains of leader development – operational, institutional, and self-development. In addition to building a depth of experience within your military occupational specialty, you must continually assess yourself and seek opportunities to develop as a leader. Attend Professional Military Education at the right time as outlined in [DA Pam 600-3](#) and the Army Career Tracker professional development model. Counsel your subordinates, and seek counsel from your superiors. Finally, be a leader of character, presence, and intellect.

Go Ordnance!

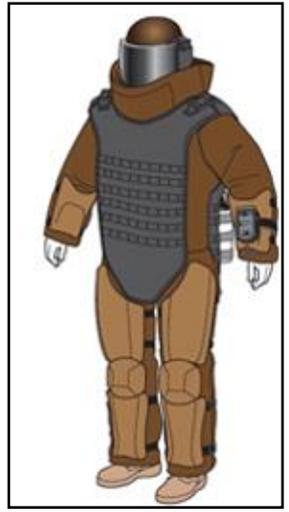
CW5 Danny K. Taylor
 11th Ordnance Corps Chief Warrant Officer



Next Generation Advanced Bomb Suit

In support of the Army's modernization efforts, the Next Generation Advanced Bomb Suit (NGABS) will address the current gap between the Army's 18-year-old legacy equipment and the ever-evolving enemy threats faced by our Explosive Ordnance Disposal (EOD) Soldiers. Unlike the current bomb suit, the design of the NGABS will make it effective for homeland defense as well as combat. The modular, scalable feature will allow EOD Soldiers to don the suit without having to divest already worn personal protective gear. The NGABS will have improved 360-degree blast, frag, thermal, and ballistic protection while reducing weight by at least 10 percent. The helmet will provide a sensor suite for a heads up display, allowing EOD Soldiers to operate effectively in low light conditions.

Currently, an Army prototype of the NGABS is going through blast testing with assistance from Walter Reed Army Medical Center and Johns Hopkins University. The results of the test will set a base-line standard against which vendor proposals will be measured. The NGABS program is on track for contract award by October 2019. The current schedule for fielding is from FY23 through FY25.



A notional rendering of the NGABS.

Mr. Richard L. Gesell
Capability Developer



Getting More for Military Training and Experience

In 2017, the U.S. Army Ordnance School began pursuing matriculation agreements with academic partners to provide Soldiers a clear pathway to complete an Associate's Degree in their assigned discipline. Regional Training Site—Maintenance (RTS-M) Salina, Kansas established a memorandum of understanding with Salina Area Technical College regarding Allied Trades Specialist (91E) courses. Soldiers who attend either the military occupational specialty qualification or Advanced Leader Course (ALC) have the opportunity to participate in what is called the Synchronous Training for Academic Credit (STAC) program. This program offers a

pathway to earning an Associates of Applied Science in Technical Studies degree. To date, 17 Soldiers have enrolled in the program.

On May 11, 2019, the first graduate of the STAC program received an Associate's Degree from Salina Area Technical College, validating the partnership between Salina Tech and the Kansas National Guard. SSG Tracy Marble, an instructor at the Kansas RTS-M in Salina, volunteered to join the program and serve as both troubleshooter and liaison during the initial stages. Working hand in hand with Salina Tech's staff, SSG Marble developed procedures and standards that satisfied both military and civilian academic criteria. After completing the Allied Trades Specialist (91E) ALC and submitting his military and civilian transcripts, the college awarded SSG Marble a significant number of credits toward his degree. SSG Marble enrolled in online classes to finish the remaining credits required in his discipline. After approximately one year, SSG Marble earned an Associate's Degree in Applied Technical Studies, graduated Magna Cum Laude, and was inducted into the National Technical Honors Society. Through an agreement with Fort Hays State University, SSG Marble intends to transfer his credits and pursue a Bachelor's Degree in Technical Studies and Leadership.



SSG Tracy Marble (right) receives his Associate's Degree in Applied Technical Studies from Salina Area Technical College.

CW4 Brent W. Campbell
Senior Instructor



Ammo 28 Course for Army Electrical Explosives Safety Certification

The Ammo-28 course teaches the latest techniques in protecting our assets from the adverse effects of lightning strikes, static dissipation, electrical services in hazardous environments, and induced Radio Frequency (RF) energy.

This 4-day course provides a comprehensive review of Army guidance and National Fire Protection Association (NFPA) standards governing electrical explosives safety, as well as technical training in the application of explosives safety concepts pertaining to zones of protection, grounding, bonding, static electricity, electrical equipment in hazardous (classified) locations, Hazards of Electromagnetic Radiation to Ordnance (HERO), Fuel (HERF), and Personnel (HERP), and lightning protection system (LPS) inspection and testing standards and criteria. The Army Electrical Explosives Safety Certification is awarded upon successful completion of the course.

The importance of lightning protection at our explosives facilities was first realized in 1926, when an **electrical storm** caused fires and explosions at the Naval Ammunition Depot in Lake Denmark, New Jersey. This act of nature resulted in 19 fatalities and destroyed several million pounds of explosives. In response to this tragedy, Congress established the Department of Defense Explosives Safety Board (DDESB) with a mandate to prevent similar recurrences.

Since that time, technology has evolved, and so have the systems, procedures, and criteria we use to prevent potentially catastrophic effects of lightning strikes. The Ammo-28 course equips military and civilian personnel to properly test and inspect the systems associated with DA explosives facilities in accordance with DDESB requirements. Proper installation and maintenance of these systems protects our vital assets, mitigates risks to our personnel and facilities, and supports operational readiness.

Visit the Army Training Requirements and Resources System (**ATRRS**) [website](#) for more information about this course. (Common Access Card is required). Click on the course catalog button to access the search engine. Enter the course number 4E-F32/645-F16 (MC) to view schedules for the instructor led course or 4R-F32/645-F17 (DL) for the online course. The next instructor-led course begins on September 24 at the Defense Ammunition Center (DAC) in McAlester, Oklahoma.

Additional course information is available on the **DAC website**. Contact your local training or ATRRS representative to enroll in the course.

Mr. Robert "Gene" Byrd
Course Manager



Students test lightning protection and grounding systems during the Ammo-28 course at McAlester, Oklahoma.



Ordnance Field Training Exercise Completes AIT Soldierization

The 832nd Ordnance Battalion prepares Advanced Individual Training (AIT) students for their first assignment as *Soldiers* in the operational force. As part of this preparation, the battalion conducts a three-day Ordnance Field Training Exercise (ODX) as a culminating event before graduation. During the ODX, drill sergeants and instructors conduct warrior tasks and battle drill training and validate performance of military occupational specialty (MOS) tasks in an austere environment.

The 832nd Ordnance Battalion is comprised of students training in 13 unique MOSs from Tactical Power Generation Specialist (91D), to Small Arms/Towed Artillery Repairer (91F), and low-density MOSs like the Short Range Air Defense System Repairer (94T) for systems like the Avenger. The variety of MOSs represented during each ODX provides students a greater understanding of the maintenance footprint in a deployed environment.

The ODX begins with a foot march to the tactical assembly area (TAA) where students establish perimeter security and immediately begin executing priorities of work. Students then conduct patrolling operations around the TAA in response to tactical and logistics based scenarios. Once the area is secure, students perform the maintenance requirements associated with their specialty within and around the TAA. The requirements vary from performing maintenance operations on an assortment of equipment, generators, vehicles, and weapons systems to repairing equipment using welding techniques.



The rigor and realism of the ODX builds confidence through hands-on experience in a field environment. This completes the Soldierization process and ensures Ordnance Soldiers arrive at their operational units ready to contribute to the mission.

MAJ Natalie S. Upward
Battalion Executive Officer



Students perform maintenance tasks on an M777A2 Howitzer (top), an Avenger weapon system (left), and a 350 gallon-per-minute water pump (right) during the Ordnance Training Exercise at Fort Lee, Virginia.



Effective Management of ASIs for Army Readiness

In support of Army readiness, it is imperative for all commands to manage personnel not only by military occupational specialty (MOS), but by additional skill identifier (ASI) as well. ASIs are unique skills possessed by Soldiers who completed institutional training for a specific skill set necessary to accomplish the mission both in garrison and combat. These special skills are typically mismanaged if leaders do not assess incoming Soldiers, verify both MOS and ASI, and slot them accordingly. Although they already have Soldiers with the required ASI in their formations, some units continually request ASI trained personnel. This is because those Soldiers are serving in positions other than the requisitioned slot. Having an understanding of the manning process will help leaders to better manage Soldiers with ASIs.

Initially, requirements are identified based on unit strength versus authorizations. The Active Component Manning Guidance provides prescriptive manning distribution based on the priority of the unit and category. Additional guidance may be given by senior leaders as an exception due to mission. Requisitions are built if the inventory exists as the priority dictates. Soldiers are identified by rank required, location of assignment, report date, and most importantly, skills required. Units must realize that requisitions identify Soldiers with specific skill sets authorized for their formations. Soldiers are distributed to locations matching requirements, availability, required development, and Soldier preference. Upon arrival to an assignment, Soldiers are placed in positions based on unit priorities, ability of the Soldier, developmental needs, and the Soldier's desire. At this juncture, management of personnel with ASIs matters. Due to the shortage of



H8 students rig a recovery vehicle at Regional Training Site-Maintenance, Camp Roberts, California.

Soldiers with ASI qualifications, units cannot afford to jeopardize readiness because of mismanagement.

While assessing newly arrived Soldiers, unit leaders with the assistance of the G1/S1, should verify ASIs prior to placing Soldiers outside the requirement identified. Units are responsible for precisely manning their available ASI inventory based on missions and requirements, while considering potential risks where shortages exist. Maximizing Soldiers' skills, attributes, and behaviors by placing them in positions where they will best serve the mission supports the Chief of Staff of the Army's priorities of taking care of people and building cohesive teams who are ready to win on any battlefield.

SGM Kimberly N. Thompson
Chief Career Management NCO

ORDNANCE ADDITIONAL SKILL IDENTIFIERS



C9 - Mast and Electrical Power Plant Maintenance

D8 - Joint Assault Bridge/Assault Breacher Vehicle Maintainer

F1 - Biological Integrated Detection System/Joint Biological Point Detection System Repairer

F6 - Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Repairer

H8 - Recovery Operations (Converts to Wheeled Vehicle Recovery Operations in 2020)

R1 - Rough Terrain Container Handler



ON THE HORIZON

H9 - Tracked Vehicle Recovery (Effective October 2020)



DODAAC Portability

GCSS-Army is delivering a new capability that allows commanders to conduct split operations by moving material (repair parts and supplies) between Department of Defense Activity Address Codes (DODAAC) while keeping requisitions open. As an expeditionary Army, we need the freedom to task and organize forces based on the needs of the senior combatant commander. Previously, freedom of movement was hindered by legacy systems that required users to cancel all open requests aligned to their current DODAAC and reorder the same parts against the new DODAAC. This resulted in a delay of parts receipt, a change in the line of accounting, and reduced readiness.

On December 7, 2019, the added capability to maintain your original document number throughout the maintenance process will become a combat multiplier for the sustainment warfighter. DODAAC portability will unburden the GCSS-Army users in the motor pool and unit supply by eliminating the redundancy of reordering parts when a unit moves equipment to a new DODAAC. This paradigm shift maximizes SAP technology and allows a unit to move from garrison to a training site, into the battle, and return to home-station with increased efficiency.

The Combined Arms Support Command (CASCOM) has a focused strategic communications plan to inform the force of this new business process



and change behavior at the unit level. Over the next few months, CASCOM will work with leaders in deployment locations to update their deploy/redeploy checklists to ensure units maintain their open class IX orders. Senior sustainment leaders will deliver this message via multiple forums to prepare users to leverage this new capability.

Mr. Percy Alexander
Chief, Logistics Enterprise System Division



EOD Phase I Prepares Soldiers for Success at Naval School EOD

The U. S. Army Ordnance School Munitions and Explosive Ordnance Disposal (EOD) Training Department conducts EOD Phase I training at Fort Lee, Virginia. The training prepares EOD students for the rigors they will encounter while attending Naval School EOD (NAVSCOLEOD) at Eglin Air Force Base, Florida. EOD Phase I classes are comprised of a mixture of officers, in-service recruits, and initial entry trainees.

This preparatory course instructs and evaluates students on EOD terminology, EOD safety, ordnance identification, demolition procedures, and reconnaissance. In addition to a solid foundation of EOD knowledge, students also gain an appreciation for the high standards expected by the NAVSCOLEOD.

Frequent coordination between the two schools ensures the EOD Phase I and NAVSCOLEOD training remain synchronized. Soldiers who graduate EOD Phase 1 have a much higher success rate at

NAVSCOLEOD. This allows them to move on to fill critical positions in operational Army units.

Mr. John N. Clem
Chief, EOD Training Division



A student conducts a reconnaissance on a projectile during EOD Phase I training at Fort Lee, Virginia.



M3 Tank, Medium (Lee)

The U.S. Army tank traces its roots back to the WWI French Renault FT17. As WWI ended, the Ordnance Department focused on upgrading and improving the efficiency of the FT17, but they soon shifted their focus to developing a tank with advanced technologies.

Several models were designed during the '20s and '30s featuring increased armor and fire power; however, it was the German "Blitzkrieg" in 1940 that signaled U.S. leaders that America's fighting force needed both reorganization and better equipment. In response, tank operations which previously belonged to the Cavalry and Infantry were reorganized under a newly formed Armored Force. At that time, the M2A1 Tank, Medium was a key component of the Ordnance development program, but it was already obsolete due to its light armor and outdated weapon configuration. By June 1940, design improvements were under development. Because most of Britain's tanks were lost at Dunkirk, it was imperative that U.S. industry manufacture and supply British and American units as quickly as possible. The Lend-Lease Act of 1941 permitted this support.

July 1940 saw the initial development of the M3 Tank, Light (Stuart). The M3 Stuart was first used in combat by British forces in North Africa beginning November 1941. The British had issues with the tank because it was under-gunned and the turret compartment's floor did not rotate with the turret. However, they praised its mechanical reliability with



the following description: "It was old-fashioned and uncomfortable, the sputterings of its engine filled the hearer with apprehension, but the little tank hardly ever broke down and later performed miracles of endurance."

American forces first used the M3 Stuart in the Philippines in December 1941. Reports of the tank's performance in combat led to improvements which were implemented in the M3 Tank, Medium (Lee) (U.S. version) or the M3 Tank, Medium (Grant) (British version). Improvements provided turret power traverse and a compartment floor that rotated with the

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Top: The M3 Lee prototype at Aberdeen Proving Ground, Maryland. Above: An M3 Lee from the 1st Armored Division near Kasserine Pass, Tunisia, 1943. On the next page: Women war workers test drive the M3 Lee.



M3A1 Tank, Medium (Lee) [Continued from page 12](#)

turret, the first U.S. tank with this capability. Production started in May 1942, and by November 1942, American forces were using both the M3 Stuart and M3 Lee in North Africa. These tanks performed well against French tanks, but were no match for the German tanks which were better armored and had more powerful armaments. Combat experience in the desert revealed that the M3 Stuart and M3 Lee were better suited as infantry support vehicles than for tank on tank conflict.

It's important to note that the M3 Lee was developed as a stop-gap measure to put tanks on the battlefield quickly. Continuous improvements to the M3 Lee resulted in the manufacture of several variants which incorporated armor (rivet/cast/welded hull) and

a 75mm gun mounted in a sponson on the side in addition to the 37mm gun mounted in the turret. The number of .30 caliber machine guns varied; most had five. There was also a variation between gasoline and diesel engines.

The M3 Stuart and the M3 Lee had short lifespans as frontline weapons, becoming obsolete in July 1943. They did serve their immediate purpose of keeping the Allied forces supplied with tanks that could defeat French and Italian tanks and provide infantry support until a better tank could be produced. That tank would be the M4 Tank, Medium (Sherman).

Mr. James H. Blankenship
Director, Ordnance Training Support Facility





Announcing The Maintenance Readiness Playbook...



The Maintenance Readiness Playbook (MRPB) is a virtual, interactive, eLearning experience that demonstrates doctrinal methods and field-level maintenance processes to a target audience of combat arms and non-logisticians. The MRPB is a valuable tool for developing standardized maintenance operations across all formations in support of Army readiness.

...with supporting applications!

These applications are available for download on [Google Play](#) and the [Apple Store](#).



Two Level Maintenance

View maintenance organizations as they are positioned on the linear battlefield and understand the roles of each organization from the Brigade Combat Team to the industrial base.



Maintenance Terrain Walk

Go through the four phases of a Maintenance Terrain Walk; planning, preparing, execution, and out brief. Learn the importance of the MTW and the key leaders involved in the process.



Motorpool Familiarization

View the typical layout of a standard motorpool while reviewing the policy that governs each section and the leaders within.



PMCS

Visit a formation where a command team emphasizes the importance of command maintenance. Join as a new Soldier learns how to read a 5988-E and PMCS his vehicle properly.