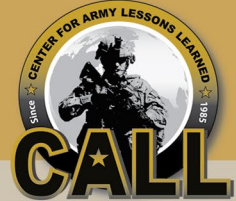




BULLETIN



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Ammunition Transfer Holding Point Observations

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United States Army Ordnance Crucible Ammunition Transfer Holding Point Observations

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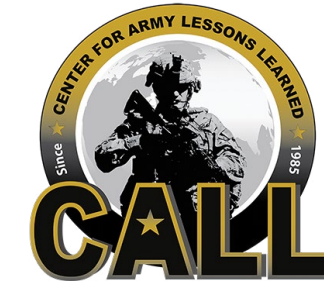
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Foreword

The purpose of this bulletin is to provide the Army's operating force with recommendations gained based on a deliberate collection of tactical and technical observations during the 2017 Ammunition Transfer and Holding Point (ATHP) Team of the Year competition as part of the U.S. Army Ordnance Crucible.

The 2017 U.S. Army Ordnance Crucible consisted of three major competitions, ATHP, Combat Repair Team, and Explosive Ordnance Disposal. The competitions were designed to test Soldier's teamwork and critical thinking skills as they apply technical solutions to real-world problems. The U.S. Army Ordnance Crucible allowed divisions to validate institutional training as well as validate their respective unit's skills.

Participants in each competition were subjected to a decisive action training environment (DATE) that tested knowledge and mastery of tasks within their respective occupational skill sets. Additionally, the competition integrated elements of physical and mental rigor.

With the October 2017 publication of Field Manual (FM) 3-0, "Operations," it is evident the Army must adapt and prepare for *"large-scale combat operations in highly-contested, lethal environments where enemies employ potent long range fires and other capabilities that rival or surpass our own."* Furthermore, FM 3-0 discusses the necessity for building agile and adaptive leaders who can prevail in large-scale combat operations. Winning in this environment *"requires tough, realistic, and repetitive training."* This bulletin consists of dozens of recommendations for our Army's operating force as it prepares for large-scale combat operations. Three training recommendations, arguably, are fundamental to ammunition operations at any level.

- Integrate munitions into collective ATHP home station and employ ATHP sections into competitive training environments. This will stimulate the necessary response to develop adaptive and agile munitions operators and leaders.
- Train 89A and 89B Soldiers routinely. Whether at the ATHP section level or at echelons above brigade ammunition company, preventing ammunition skills from atrophy requires routine ATHP or ammunition supply point sustainment training at home station.

- Integrate technical and tactical proficiency into realistic training events. Field Manual (FM) 7-0, *Train to Win in a Complex World* (October 2016), discusses the Army’s principles of training. The key to success when preparing ammunition Soldiers, sections, and units for large-scale combat operations is to resource and validate competency in basic tasks of “occupy and defend assigned area.” This training should be held concurrently with setting conditions for the establishment and execution of ATHP operations.

This publication highlights the major observations from the Ammunition Transfer Holding Point competition, held 7-11 AUG 2017, at Fort Pickett, VA. The recommendations will facilitate improvements in our institutional, operational, and self-development domains. Furthermore, it advances the Ordnance Corps mission to train, educate, and develop adaptive Ordnance professionals and to be the premier proponent that develops Ordnance professionals, doctrine, and capabilities for the total force in support of Army readiness.



David Wilson
Brigadier General, U.S. Army
40th Chief of Ordnance

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Center for Army Lessons Learned	
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This bulletin identifies numerous issues that are related to home station training and frequently identifies some possible solutions. The Ordnance community should further explore the implications and recommendations described in this publication.



Michael F. Pappal
COL, AR
Director, Center for Army Lessons Learned

The Secretary of the Army has determined that the publication of this periodical is necessary in the transaction of the public business as required by law of the Department.

Unless otherwise stated, whenever the masculine or feminine gender is used, both are intended.

Note: Any publications (other than CALL publications) referenced in this product, such as ARs, ADRPs, ADPs, ATPs, FMs, TMs, etc., must be obtained through your pinpoint distribution system.

Chapter 1

Conducting and Assessing Ammunition Transfer Holding Point Operations

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The U.S. Army Ordnance School executed the first competition of the first-ever U.S. Army Ordnance Crucible 7-11 AUG 2017, at Fort Pickett, VA. The Ammunition Transfer Holding Point (ATHP) Team of the Year competition assessed five teams on ATHP operations and the associated tasks that facilitate the receipts and transfer of ammunition. These tasks included ammunition receipts, issue, holding, and storage, trans-load, and operation of the standard Army ammunition system-modernization (SAAS-MOD) system.

Teams from across the Army participated, to include an ATHP section from a field artillery brigade support battalion, ATHP section from an infantry brigade combat team brigade support battalion, and ammunition sections from modular ammunition companies at the echelons above brigade level.

The competition used multiple training and garrison areas at Fort Pickett. Reception and mission command activities were established, enabling a clear connection from participating units to the training area.

After months of planning, the 10 events encompassing the competition were approved by the chief of ordnance and site construction began in July 2017. The 10 events were the Army physical fitness test, occupy and defend ATHP site, ATHP layout, ATHP relief-in-place, SAAS-MOD employment, ATHP operations, munitions sling load, ammunition knowledge exam, 20-kilometer foot march, and munitions identification.

All events were both time and standards based. Additionally, all but ATHP layout, SAAS-MOD employment, and the ammunition knowledge exam events encompassed a degree of physical rigor amplified by technical precision requirements and the demands of time limitations.

Critical to the success of the competition was the assessments process. This consisted of multiple, integrated components. First, the mission command organization executed a daily commander's update brief, which integrated a daily after action review from event commanders and evaluators. This captured the larger observation and focus while also creating shared understanding for the events. The subject matter expert observations and insights created the core of this document. Second, concluding each event's execution was a basic hot wash. This captured the immediate positive and negative observations from the participating teams and their evaluators. Third, each event's scorecard was collected and analyzed, contributing to initial and follow-up trend assessments. This was expanded into skill level, military occupational specialty (MOS), and type of unit. Finally, at the conclusion of the entire competition, event commanders and their subject matter experts assembled each participating team and conducted a written survey. This survey provided both qualitative and quantitative data, which was further used for this document.

Table 1-1. ATHP Competition Layout

Summary	Event Execution
<p>From 7-11 AUG 2017, at Fort Pickett, VA, the U.S. Army Ordnance School executed the first-ever Ammunition Transfer Holding Point (ATHP) Team of the Year competition, which assessed teams on ATHP operations and the associated tasks that facilitate the receipts and transfer of ammunition. These tasks include ammunition receipts, issue, holding and storage, trans-load, and operation of the SAAS-MOD system. Teams from across the Army participated, to include an ATHP section from a field artillery brigade support battalion, ATHP section from an infantry brigade combat team brigade support battalion, and ammunition sections from modular ammunition companies at the echelons above brigade level.</p>	<ul style="list-style-type: none"> • Event 1: PCC/PCI • Event 2: APFT • Event 3: Defend site • Event 4: ATHP layout • Event 5: ATHP relief-in-place • Event 6: SAAS-MOD employment • Event 7: ATHP operations • Event 8: Sling load operations • Event 9: Knowledge exam • Event 10: 12-mile foot march

An invaluable enabler for both the event and the development of this product was integration of the 55th Signal Company (combat camera). Embedded into each of the competitive events, their visual imagery allowed a deeper analysis to tell a clear story of what happened during the competition.

Throughout this document, key lessons, observations, and recommendations will be addressed. A common theme is the following four areas:

- **Net Explosive Weight Calculation Deficiencies:** Ammunition specialists lacked the ability to calculate net explosive weight (NEW) in a fast-paced tactical environment. Four of the five teams received sub-standard scoring on NEW identification and calculation. NEW is calculated first by identifying the amount of ammunition, second, locating the ammunition’s NEW for quantity distance purposes, in pounds, in the joint hazard classification system (JHCS) or “yellow book,” which was provided, and third, multiplying both to determine the overall NEW. The application of all three components of this math problem challenged teams. A lack of home station training, whether in terms of sergeant’s time training or collective field training exercises, was a contributing factor to this shortfall. NEW calculation training proficiency reinforces the cardinal rule for munitions, “To expose the minimum number of people to the minimum amount of explosives for the minimum amount of time.”
- **Standard Army Ammunition System-Modernization Employment:** Employing the SAAS-MOD created significant challenges for two of the five competing teams. Those teams struggled to operate the basic build, receive, issue, and track functionality within the system, resulting in minimal successful progress. Multiple factors contributed to

these shortfalls, including a lack of reinforcing training and application at home station as well as little-to-no SAAS-MOD application during combat training center (CTC) rotations.

- **Skills Atrophy:** Observations during the competition illuminated ammunition skills atrophy in multiple areas. Specifically, teams struggled to accurately validate proficiency in the areas of inventory, ammunition identification, compatibility, and lot number awareness. This observation was reinforced during the employment of SAAS-MOD and its inherent receive and issue requirements. Additionally, teams struggled to correctly use forms such as Department of the Army (DA) Form 3020R (magazine data card) and DA Form 3151 (ammunition stores slip) during receive and issue operations. A contributing factor to these gaps is teams lacked home station proficiency training and reinforcement of critical MOS tasks.
- **Optimizing Ammunition Transfer Holding Point Collective Training Opportunities:** Teams reported through surveys they were not integrated within the tactical aspect of collective training, whether at home station or a CTC rotation. Many served in administrative roles and were not being tactically challenged, while the remaining unit forces engaged in decisive action training environment (DATE) scenarios. The surveyed 89-series Soldiers performed myriad tasks, to include but not limited to mayor cell, housing, white cell, and hazardous materials (HAZMAT) support for training instead of ATHP operations.

Chapter 2

Occupying and Defending Ammunition Transfer Holding Point Sites in a Decisive Action Training Environment

CPT Joel Serrano, A Co, 832nd Ordnance Battalion
1SG James Carroll, A Co, 832nd Ordnance Battalion

Competitive Event Overview

Task: To execute the assessment of the occupying and defending ammunition transfer holding point (ATHP) sites in a decisive action training environment (DATE) event, the following key tasks were directed:

- Occupy and prepare defensive positions.
- Establish an ATHP.
- Conduct ammunition operations.
- Engage the enemy.
- Displace the ATHP.

Conditions: The event lane created and resourced in a condition characterized by a controlled semi-austere environment, given an M4/M16 pop-up qualification range and equipment to complete ordnance operations, ammunition teams executed establishment of an ATHP. Soldiers were provided with various amounts of 5.56 ball ammunition in each magazine totaling 40 rounds.

Standard: The event standard encompassed completing all tasks within the allotted one-hour time. This included establishing the ATHP, performing ammunition tasks, and defending respective sites prior to displacing the ATHP. Individual range scores added additional evaluation criteria.

Tactical Versus Technical Knowledge

Two teams were unable to correctly establish an ATHP and perform field ammunition operations. Four teams indicated they had never conducted any type of training like this before. Teams that work consistently at home station with Class V (Team 2 and 4) performed the task of classifying ammunition more efficiently than those who did not have the recurring experiences.

Teams surveyed, who have been to combat training center (CTC) rotations, said they were not used in the tactical aspect of the training. They were either not used at all or served in a capacity outside the ammunition mission.

The teams assigned to a brigade support battalion stated in after action reviews and surveys that they relied on civilian or external personnel to conduct ammunition operations. It was also stated that many ammunition handlers perform job functions outside their primary military occupational specialty (MOS) while in garrison.

Table 2-1. Have you had/seen field ammunition operations training like this before?

Feedback	Team 1	Team 2	Team 3	Team 4	Team 5	Percentage
No		X	X	X	X	80
Yes	X					20



Figure 2-1. Soldiers from 1st CAV taking accountability of ammunition while occupying ATHP.

According to scorecards, four of five teams were unable to place a hit on a 300-meter target. Scorecards also indicated that 89-series Soldiers who participated in the competition were not proficient with the fundamentals of marksmanship.

Highest scoring teams worked regularly with Class V storage and management. They exhibited a high level of success performing ATHP operations, which includes identifying and categorizing ammunition for compatibility, properly completing Class V correspondence, constructing holding pads, and identifying discrepancies that otherwise if neglected could cause loss of equipment and or personnel.

Lack of tactical training was observed in all teams. Teams focused more on the technical ammunition aspect versus tactical aspects. Three of five teams were observed neglecting the defensive priorities of work and unfamiliar on how to build defensive engagement area.

The teams indicated they have conducted individual tasks, but never a collective training event encompassing all aspects of “occupy and defend assigned area” while also conducting munitions operations.



Figure 2-2. Soldier calling for fire during the occupy and defend the ATHP event.



Figure 2-3. Soldiers from the 101st Airborne Division inventorying ammunition.



Figure 2-4. Soldier creating a sector sketch on the occupy and defend the ATHP lane.

Priorities of Work

Teams indicated their home station training opportunities did not create conditions for this type of collective event. Factors that contributed to success were home station proficiency in inventory, ammunition identification, and lot number awareness. This was isolated to a single team that actually worked in the installation ammunition supply point (ASP). Another trend was a lack of site defense training at the CTCs, isolated to the echelons above brigade teams. All teams recommended integrating site defense with live fire into home station training and CTC rotations.

Recommendations

Based on the observations, the following recommendations are made to the Army's operating force:

- 89-series Soldiers should be properly used and perform ammunition functions on a regular basis instead of working outside their MOS field.
- Units should schedule 89A and 89B recertification at their home station to ensure Soldiers maintain a high level of proficiency within the ammunition field. Optimizing the co-location of a sustainment brigade or expeditionary sustainment command's subject matter experts will facilitate this recertification.
- Establish measurable Objective-T (OBJ-T) standard for ATHP and resource the ability to evaluate OBJ-T. Several visiting unit company/battalion commanders noted that this lane design provides a great template on how to conduct OBJ-T.

Chapter 3

Ammunition Transfer Holding Point Site Selection and Planning Considerations

CPT Joel Serrano, A Co, 832nd Ordnance Battalion
1SG James Carroll, A Co, 832nd Ordnance Battalion

Competitive Event Overview

Task: To execute the assessment of the ammunition transfer holding point (ATHP) site selection and planning considerations event, teams were given a sand table and a mission brief to construct a proper ATHP to conduct receive, store, and issue ammunition operations.

Conditions: The event lane created and resourced in a condition characterized by operations in a contemporary environment, as a member of a medium lift platoon in an ammunition company supporting a cavalry regiment.

Standard: The event standard encompassed each team having one hour to construct and set-up a proper ATHP in accordance with (IAW) Army Techniques Publication (ATP) 4-35.1 and Department of the Army Pamphlet (DA PAM) 385-64. Team's scores were based on the length of time to complete and construct an ATHP layout on a sand table based on required criteria. Each team was required to brief ATHP placement, physical security (cover and concealment), defense plan, ammunition configuration, and safety.



Figure 3-1. Soldiers emplacing security measures on a ATHP site layout sand table.

Understanding and Application of Doctrine

All teams were still able to achieve a perfect score in this event. They used doctrinal information in the publication provided. Teams understood the basics of site development and security for an ATHP. Teams lacked a knowledge of destruction protocol. ATHP construction and layout procedures are readily taught and practiced in the operational Army.

All units understood the doctrine of ATHP layout IAW ATP 4-35.1. It appears Army doctrine is being properly emphasized and practiced throughout all major divisions and components.

All five teams exhibited effective communication, which resulted in achieving the maximum score available. This means every team member was well-versed in ATHP terminology, along with ammunition tactics and techniques.

Munitions Soldiers are properly indoctrinated on this task only at the Advanced Leader Course (ALC), Warrant Officer Basic Officer Leader Course (WOBC), and the Ordnance Basic Officer Leader Course (OD BOLC). Junior leaders lacking familiarization of this task should receive coaching and teaching from leaders to generate this knowledge.

Due to more complex environment, technology and infrastructure, munitions operations doctrine must continue to evolve and reflect or acknowledge current tactics, techniques, and procedures (TTPs). These must also be adjusted to adequately equip the units to accomplish the mission in an ever-changing environment.

All teams indicated only ALC graduates had been exposed to sand-table construction and layout. Otherwise, limited-to-no training occurs at the unit level based on feedback from four of the five teams. Teams recommended home station training and standard operating procedure (SOP) development.

Recommendations

Based on the observations, the following recommendations are made to the Army's operating force:

- Integrate ATHP layout procedures into unit brigade support area (BSA) establishment planning in field training environments.
- Continue to teach proper safety procedures and correct layout of field ATHPs within 89-series through sergeant's time training. Units can also address this issue by forming an ATHP playbook.
- Continue to teach proper safety procedures and correct layout of field ATHPs within 89-series MOS-related schooling.
- Develop a more in-depth publication covering the ATHP establishment measures and procedures.

Chapter 4

Conducting Ammunition Relief-in-Place Operations

CPT David Young, B Co, 832nd Ordnance Battalion
1SG Arthur Ireland, B Co, 832nd Ordnance Battalion

Competitive Event Overview

Task: To execute the assessment of the conducting ammunition relief-in-place (RIP) event, teams were given a previously established ammunition transfer holding point (ATHP), RIP and occupy the site, identifying and correcting any faults.

Conditions: The event lane created and resourced in a condition characterized by operations in a contemporary environment, directed to conduct an RIP operation on a pre-existing ATHP. The teams occupied, identified, and corrected any faults within the ATHP. These faults included incorrect paperwork, wrong net explosive weight (NEW), mixed explosive types, and insufficient defensive measures.

Standard: The event standard encompassed each team having one hour to complete the RIP and identify the errors.

Deficiency Identification Gaps

Only one team scored above 50 percent in this event. Scorecards showed a direct correlation between the unit who conducted ammunition operations at their home station ammunition supply point (ASP) and the remaining four who did not. Failure to identify safety hazards and ammunition compatibility issues resulted in the majority of lost points.

Three teams indicated in post-event surveys that they did not feel their home station training prepared them for this type of event. The two lowest scoring teams in this event were non-brigade combat team (BCT) munitions units.

RIP operations are not thoroughly trained to junior Soldiers and noncommissioned officers (NCOs). No team from the operating force indicated they had any RIP-specific training at its home station. Currently, RIP training is not incorporated in 89-series military occupational specialty (MOS) training until the Senior Leader Course (SLC) level.

Relief-in-Place Doctrine

Feedback identified that junior Soldiers and lieutenants were unaware of RIP methodologies and were subsequently unable to conduct it to the degree required. The baseline skills to interpret and read the “yellow book” as well as calculate NEW proved invaluable to this event. Operational deployments provided many teams with context to execute this event successfully.

The team currently conducting missions at their home station ASP indicated a solid grasp of managing the supporting documentation for the RIP. Additionally, no unit indicated having any existing RIP SOP to guide the execution of this task. In the decisive action environment, the ATHP sections generally do not execute a RIP, resulting in the high propensity for a lack of SOP.



Figure 4-1. Soldier calculating the net explosive weight for a pallet of ammunition.

Net Explosive Weight Training

Four of five teams received sub-standard marks on the NEW identification portion of the event. Teams did not efficiently use their on-site resources such as the Hazard Classification of U.S. Military Explosives and Munitions, (yellow book), to assist them in identifying NEW. Teams stated that they were not familiar with calculating NEW in a field environment, and their calculations were usually done by a computer in a garrison environment.

Units stated they were never held to a time standard in determining the NEW calculation. Ammunition specialists lack the ability to calculate NEW in a fast-paced field environment without the use of technology. The time constraint of the competition stressed their ability to calculate the NEW correctly.

Of the three teams who have participated in a brigade-level collective training event, none indicated they were employed in the tactical aspect of training. They were either not used at all, served in a capacity outside the ammunition platform, or strictly operated as a support cell.

Surveys found that units lack the necessary skills to perform ammunition operations in an expeditionary environment. This was primarily linked to units conducting minimal home station training. Only one of five ammunition teams indicated they had habitual training at their installation ASP, generating appropriate levels of sustainment training requisite with their munitions specialty.



Figure 4-2. Evaluation of ATHP relief-in-place event.

Recommendations

- Units should practice on their capabilities of relieving an existing ATHP and setting up operations in a decisive action training environment (DATE).
- Train on NEW calculating capabilities in a field environment without the use of technology.
- Develop a NEW application or smart card that assists with NEW calculations in a field environment.

Chapter 5

Standard Army Ammunition System-Modernization Employment

CPT Danielle Dodge, C Co, 832nd Ordnance Battalion
1SG Juan Mendoza, C Co, 832nd Ordnance Battalion

Competitive Event Overview

Task: To execute the assessment of the Standard Army Ammunition System-Modernization (SAAS-MOD) event, teams were directed to correctly operate SAAS-MOD for the ammunition transfer and holding point (ATHP), which included building, receiving, issuing, and tracking munition exchanges.

Conditions: The event lane created and resourced in a condition characterized by a climate controlled room, a computer with the SAAS-MOD system, a printer, a set of instructions/scenarios and four hours.

Standard: The event standard encompassed each team correctly manipulating the SAAS-MOD system following the instructions to produce the desired products. Teams navigated the SAAS-MOD system to represent the scenarios provided, which would be compared to an answer sheet for scoring.

Core Competency Shortfall

Scorecards showed a direct correlation regarding the employment of SAAS-MOD for any teams without an experienced senior 89A or warrant officer. Teams with warrant officers scored 70 percent higher than teams without. Teams with second lieutenants and junior enlisted personnel (Teams 3 and 5) performed the lowest on this event. Scorecards showed these teams with second lieutenants scored zero points on at least 80 percent of the graded tasks.

SAAS-MOD proved to be an overwhelming challenge for most teams since many of the competitors have never used the system. The team with a chief warrant officer 3 was able to correct an average of 15 more deficiencies within the system than teams with a warrant officer 1.

Team surveys showed only the warrant officers, or their civilian counterparts back at home station, were familiar with the SAAS-MOD system showing a lack of supportability within the ATHP hierarchy.

System Knowledge

Two of five teams consisting of 89As and 890As correctly executed the required SAAS-MOD tasks, exhibiting significantly more technical knowledge on the system. The warrant officers provided a level of guidance and expertise, three of five teams did not.



Figure 5-1. Soldiers using the SAAS-MOD to inventory ammunition.

Task Awareness

Teams lacking the 89A skill level and/or 890A team member struggled with the employment of the SAAS-MOD. Team 5 did not possess an 89A or 890A, therefore was unable to complete any of the required tasks. Team 3 had an 89A skill level 10 density, but did not have the unit level training experience to enable it to complete the tasks proficiently. One surveyed echelon above brigade unit stated their unit training consists of driving forklifts and external taskings instead of military occupational specialty (MOS)-specific training.

Scorecards and surveys indicated a significant need for additional SAAS-MOD training to reach into the 89B population as personnel shortfalls and availability limited 89A capacity in nearly all teams.

Another indicator of a lack of SAAS-MOD proficiency was linked to teams indicating the use of 89A and 89B personnel for non-ammunition management details and missions at their home station. This atrophy contributed to a diminished skill that was already lacking in unit training capacity.

Recommendations

- Integrate SAAS-MOD activity into home station decisive action training environment (DATE) training will increase proficiency and add a level of confidence in the system.
- Do not have units rely heavily on civilian or warrant officer subject matter experts to operate the SAAS-MOD system within their unit.
- Integrate SAAS-MOD training into all home station and combat training center events.
- Develop a training database to facilitate low density MOS training at home station to close this training proficiency gap.
- Develop a self-development capability for SAAS-MOD.

Chapter 6

Ammunition Transfer and Holding Point Operations Core Competencies

SSG Alexandria Jenkins, B Co, 832nd Ordnance Battalion

Competitive Event Overview

Task: To execute the assessment of the ammunition transfer and holding point (ATHP) operations core competencies event, teams were directed to conduct ATHP operations using automated stock records procedures.

Conditions: The event lane created and resourced in a condition characterized by an established ammunition support capability in a deployed environment. Ammunition present at ATHP was inventoried during relief-in-place (RIP) and loaded in standard Army ammunition system-modernization (SAAS-MOD) in previous events. Personnel and equipment are available to receive ammunition. Organic customer will be coming to the ATHP to pick up ammunition.

Standard: The event standard encompassed each team correctly receiving, storing, and issuing ammunition in accordance with (IAW) Army Techniques Publication (ATP) 4-35.1 and the sustainment annex to the brigade and battalion operation orders (OPORDs). Multiple events occur during each iteration to include ammunition draw with Department of the Army (DA) Form 581-1, turn-in with DA Form 581-1, turn-in of captured enemy munitions, and shipment of munitions from port.

Repetition at an Ammunition Supply Point Matters

Surveyed teams that regularly worked in an ammunition supply point (ASP) were able to perform the lane better than others. Teams who conducted the receipt and issue of ammunition on a regular basis were able to capitalize on their experience as the procedures remain the same in tactical and garrison environments.

Units that were unfamiliar with the correct way of conducting expeditionary operations failed to use the proper procedures. Two teams stated the tactical aspect of the event caused an initial confusion during the execution. All teams stated that many ammunition handlers are overlooked for training opportunities and are primarily focused on garrison based operations.

All surveyed teams expressed that ammunition specialists are too often performing job functions outside their military occupational specialty (MOS) and not being used correctly, nor given an adequate amount of field ammunition training.



Figure 6-1.

**Calculation of earth-covered magazines.
Tension between Speed and Safety**

Teams with warrant officer or senior NCO leadership were able to conduct the operation correctly without taking shortcuts. Units who were unfamiliar with conducting expeditionary operations used speed and unsafe practices over the correct way of conducting ammunition distribution operations. The event created an opportunity to exploit the lane and choose speed over safety and correctness. During the after action review (AAR), teams stated they wanted a greater focus on safety procedures of ammunition stacking and load distribution.

Observation of competitors showed that safety procedures are not properly being followed in field environments.

Unit Collective Training

Core tasks of receive, store, and issue ammunition were optimized by only one team. Their existing standard operating procedures (SOPs) contributed significantly to preparation for the event and they were able to organize effectively.

Scorecards indicated that teams were unfamiliar with and unable to identify corrections that needed to be made on DA Forms 3020R and 3151 in the ATHP RIP. Teams created new DA Form 3020Rs for each stack, rather than updating the storage cards that were already in place. There were no DA Form 3151s in the ATHP RIP, however, in the operations portion; they used them correctly for “receiving” but incorrectly for “issue.” Teams did not receive proper signatures as they would in real life operations on the DA Form 3151, which would have actually voided their paperwork.

Inexperience with Skill Level 10 tasks exposed gaps and shortfalls with moving ammunition progressively in a count, move, count, record methodology. For example, all teams lost points due to poor ammunition accountability, as they did not inventory stacks of ammunition from which they were pulling from or adding to.

Scoring indicated teams would have a stack of ammunition and would not verify that they actually had what the paperwork said they had. Then, they would move it to its destination and add it to what was already present, but would not count the stack that they were adding it to before they added it. This is how shortages occur.



Figure 6-2.

Soldiers accounting for ammunition.



Figure 6-3. Soldiers annotating condition codes for a pallet of ammunition.



Figure 6-4. Soldiers inspecting the accuracy of condition codes for an ammunition load.

Recommendations

- Units must conduct ammunition operations in a decisive action training environment (DATE) environment to generate training momentum for the basic receive, store, and issue tasks.
- Units should integrate 89A/B personnel into home station ASP operations to optimize muscle memory of perishable skills.
- ATHP sections and modular ammunition companies should provide regular support to Installation Management Command (IMCOM) ASPs.
- Develop a “sustainment gunnery table” requiring validation for ATHP sections every 24 months.
- Incorporate MOS-specific training into existing safety training.

Chapter 7

Preparing Munitions for Rotary Wing Distribution

SSG Randolph Clark, D Co, 832nd Ordnance Battalion

Competitive Event Overview

Task: To execute the assessment of the preparing munitions for rotary wing distribution event, teams were directed to validate inspection procedures and fill out inspection forms. Furthermore, they conducted rigging procedures for sling loads, such as A22 bag, M3 container roll in/out platform (CROP), and 5K Net. Additionally, they identified hazards, and determined and identified safety equipment and procedures.

Conditions: The event lane created and resourced in a condition characterized by a requirement to transport packaged ammunitions products via A22 bags, M3 CROPs, and a 5K Net by air. Teams were provided material safety data sheets (MSDS), personal protective equipment (PPE) such as goggles, gloves, and hearing protection; package products, spill contingency equipment, fabricated static electricity discharge probe, clevis assembly, slings, tape, A22 cargo bag, multiple leg sling, an M3 CROP, 5K Net, and full access to all reference materials.

Standard: The event required teams to correctly assemble sling load packaged ammunition products via an M3 CROP, A22 bag, and 5K Net for external airlift without error, while ensuring the aircraft carrying capacity was not exceeded.



Figure 7-1. Soldiers preparing ammunition for sling load.

Sling Load Training and Qualification

Three teams had Sling Load Inspection Course (SLIC)-qualified personnel increasing their ability to conduct sling load operations. Specifically, the ability to certify and validate the load correctly was the determining factor between top achievers and those who scored lower on the grading rubric.

Scores indicated a greater emphasis on sling load training and operations at their home station and combat training centers.

Home Station Training and Building Ammunition Loads

Two teams indicated zero experience with sling load operations and all five teams indicated a need to develop and conduct home station sling load training to maintain proficiency.

One team validated the Army's self-development capability through an independent team study the night prior to the event. Using the open source aerial delivery technical manuals, the team developed enough knowledge to successfully inspect and rig loads for the competition. While not a replacement for physical training, the team illustrated a need for formalized self-development training capacity.

Recommendations

- Increase opportunities for ammunition specialists by sending them to SLIC at every opportunity.
- Use SLIC-certified personnel to teach basic and refresher sling load courses to junior Soldiers through the integration of sergeant's time training at home station
- Units should cross train with divisional air assets to practice their sling load capabilities.
- Integrate sling load operations into decisive action training environment (DATE) scenarios.

Chapter 8

Ammunition Knowledge

**CPT David Young, B Co, 832nd Ordnance Battalion
1SG Arthur Ireland, B Co, 832nd Ordnance Battalion**

Competitive Event Overview

Task: To execute the assessment of the ammunition knowledge event, teams were directed to complete a 100-question, multiple-choice examination.

Conditions: The event lane created and resourced in a condition characterized by providing a writing utensil, examination booklet, yellow book, and an answer sheet, complete a 100-question, multiple-choice exam.

Standard: The event standard encompassed each team correctly answering as many questions as possible within the time allowed.

Ammunition Knowledge Levels

Questions were derived from institutional lessons, Senior Leader Course (SLC) and Warrant Officer Basic Course (WOBC) subject matter experts. Scoring showed that participants correctly answered questions at their appropriate skill level and military education. Skill level 20 and 30 Soldiers varied in correctly answered questions, creating a large gap in the scores.

The high performing outliers are the private first class who scored 61 and the staff sergeant who scored 80 points. Both worked in a garrison [Army Materiel Command (AMC) Logistics Readiness Center (LRC)-managed] ammunition supply point (ASP) and conducted daily munitions operations while their peers did not.

Aside from two outliers, the test showed that the remaining 23 competitors possessed the appropriate amount of knowledge for their skill level.

Recommendations

89A and 89B Soldiers must be used in a routine ammunition management operation in garrison to retain their perishable knowledge.

Table 8-1. Knowledge Exam Scores

Rank	#	Scores	Average Score
PFC/SPC/CPL	12	32, 42, 46, 48, 49, 51, 51, 51, 53, 54, 57, 61	50.5
SGT	4	50, 59, 61, 63	58.25
SSG	4	47, 61, 64, 80	63
WO1	2	64, 80	72
CW3	1	82	82
2LT	2	53, 62	57.5

Chapter 9

Overall Recommendations

LTC David L. Thompson, 832nd Ordnance Battalion

CSM Dejarious Jones, 832nd Ordnance Battalion

Units taken away from their primary military occupational specialty (MOS) roles to conduct external missions and taskings face a risk of losing the knowledge base necessary to sustain readiness. Without the correct frequency of training, units will not be able to maintain training proficiency requirements.

In accordance with (IAW) Field Manual 7-0, *Train to Win in a Complex World* (October 2016), commanders must ensure that any institutional obstacle is overcome by understanding the latest operational pace, which is constantly evolving in today's world (Pg. 1-5. Para 1-20). It is imperative that operational commitments become a high level of importance and reflect with the interconnectedness of the Department of Defense (DoD) financial resources (Pg. 1-5. Para 1-20). This ensures service members acquire a more profound knowledge based on the latest technological advances that will be superior to that of other countries to ensure that our nation continues to be the best in the world. To do this, our Army leaders must ensure our service members receive the best training based on the operational environment (Pg. 1-6. Para 1-30).

Senior leaders must ensure proper and effective resources include the latest Army doctrine based on the ever-changing operational and strategic environments.

Units unable to conduct standard Army ammunition system-modernization (SAAS-MOD) operations due to a lack of stock management requirement must be afforded the training aids necessary to refresh and build on basic 89A and 890A skills.

During decisive action training environment (DATE) training, ensure units are conducting ammunition logistics by establishing ammunition transfer holding points (ATHPs) according to ammunition regulations. Ensure adequate training prior to an exercise is conducted and that ammunition specialists are encouraged to collect dunnage from their ammunition supply points (ASPs) and conduct ATHP training in an expeditionary environment whenever possible. This can help mitigate training gaps for ammunition Soldiers.

It is imperative units retain institutional learning and go back through it on a regular basis to hold their baseline of knowledge. Units are responsible to apply what they have learned in their institutional training into their operational unit, provided the unit has the ability to promote application. Units must reinforce the self-development domain among junior and mid-grade leaders.

IAW Army Regulation (AR) 350-1 (August 2014), institutional training provides proper training, information, and materials needed for self-development (Pg. 3. (a)). The regulation states that Soldiers are responsible for putting into practice what institutional training is teaching them based on the lessons learned from the operational domain (Pg. 3.(a)).

It is imperative units create a culture of maintaining the highest standards based on the guidance given by Army doctrine. Doing so will not only ensure they are in compliance with the Army guidance, but will also ensure they are following the directives based on the latest DoD doctrinal surveys. Senior leaders who assist in creating a battle rhythm can be emulated by subordinate leaders to ensure similarity of execution of doctrine becomes horizontal across the body/corps of the Army. Understanding that senior leaders have specific and major responsibilities inherited to their position, subordinate leaders must ensure the dynamics of the essential tasks continue to be understood across all levels.

The more cognizant the subordinates are in their responsibilities of self development, the better they will perform when accomplishing any mission and/or training which may be interconnected with operational training (AR 350-1, 2014) (Pg. 3.(a)). The tasks, conditions, and standards that were given to the competitors were completely based on our Army doctrine. The tactics, techniques, and procedures (TTPs) executed on their behalf can tell their unique stories, whether individually and/or collectively. It demonstrated their actions representing the fortes and possible “need improvements” of their specific and respective units.

Chapter 10

Changes in the Institutional Domain that Supports the Operational Force

MAJ Izar Moore, 832nd Ordnance Battalion
CPT Jesse Clack, 832nd Ordnance Battalion

The Ordnance Crucible Ammunition Transfer and Holding Point (ATHP) Team of the Year Competition revealed shortfalls in multiple development domains. The Ordnance School has identified institutional changes, which will improve the knowledge and capability of Soldiers and leaders as they return to the force.

Occupying and Defending ATHP Sites in a Decisive Action Environment

- Expand already existing brigade support area (BSA) defense doctrine to include a more in-depth explanation of defense of an ATHP site.
- Introduce technical skills requirements in an expeditionary environment during the ordnance exercise, increase requirement to perform tactical and technical simultaneously.
- Integrate the battlefield framework ammunition supply point (ASP) at echelon within the advanced individual training (AIT) ordnance exercise.

Ammunition Transfer and Holding Point Site Selection and Planning Considerations

- Continue to teach proper safety procedures and correct layout of field ATHPs within 89-series MOS-related schooling.
- Develop a more in-depth publication covering the ATHP establishment measures and procedures.
- Teach destruction procedures to AIT and SLC as there is a gap in the collective training that needs to be explored.

Conducting Ammunition Relief-in-Place Operations

- Implement version of relief-in-place (RIP) training earlier in the 89-series MOS PME.
- Add ammunition inspector course to 89B professional military education (PME).
- Increase field training exercise hours in program of instruction (POI) (AIT/PME) to infuse tactical and technical proficiencies in an expeditionary/decisive action training environment (DATE).
- Develop training guidance for RIP of an ATHP in combined arms training strategy (CATS) and other training publications produced by the Army.
- Implement understanding/calculation of net explosive weight (NEW) into the curriculum in ALC for ammunition specialists.

Standard Army Ammunition System-Modernization Employment

Increase 89B training and exposure to 89A related systems.

Ammunition Transfer and Holding Point Operation Core Competencies

- Increase field training exercise hours in POI (AIT/PME) to infuse tactical and technical proficiencies in an expeditionary/DATE.
- Sustain the MOS-specific physical testing in initial entry training (IET) to ensure ammunition handlers are physically capable of conducting ammunition operations in the field when the ammunition cans/containers are full and contain heavier weight.

Preparing Munitions for Sling Load Operations

- Sling Load Inspection Course (SLIC) should be placed into the career progression and broadening path for all 89B Soldiers.
- AIT Soldiers receive more time performing hands-on sling load training.
- AIT should spend more than one day with hands-on sling load training. ALC, SLC, and Basic Officer Leaders Course (BOLC) should also incorporate sling load operations into their POI.

Ammunition Knowledge

- More doctrine-based learning in noncommissioned officer (NCO) service schools is needed.
- Integrate quality assurance specialist ammunition surveillance (QASAS) qualification into PME for ammunition NCOs and warrant officers.

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