
Munitions Operations

JANUARY 2023

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Contents

	Page
PREFACE	v
INTRODUCTION	vii
Chapter 1	
MUNITIONS OPERATIONS OVERVIEW	1-1
Fundamentals of Military Munitions	1-1
Ammunition Sustainment Architecture	1-1
Munitions Support in the Army Strategic Contexts.....	1-2
Munitions Support to Joint and Multinational Operations.....	1-5
Distribution Management Process	1-5
Chapter 2	
PLANNING FOR MUNITIONS OPERATIONS	2-1
The Planning Process	2-1
The Operations Process.....	2-2
The Distribution Management Process	2-3
Operational Art in Sustainment	2-11
Sustainment Preparation of the Operational Environment.....	2-12
Planning Considerations by Warfighting Function	2-12
Planning Functions for Munitions	2-14
Chapter 3	
MUNITIONS OPERATIONS AT ECHELONS ABOVE BRIGADE	3-1
Section I – Strategic and Joint Partners	3-1
Department of the Army	3-1
United States Army Materiel Command.....	3-3
United States Transportation Command.....	3-6
Section II – Theater and Army-Level Munitions Operations	3-6
Geographic Combatant Commander	3-6
Theater Army.....	3-7
Field Army.....	3-7
Theater Sustainment Command	3-8
Expeditionary Sustainment Command.....	3-13
Sustainment Brigade	3-16
Combat Sustainment Support Battalion	3-17
Section III – Corps and Division-Level Munitions Operations	3-18
Corps-Level Munitions Operations	3-18
Division-Level Munitions Operations	3-19
Division Sustainment Brigade	3-20
Division Sustainment Support Battalion	3-21

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	Section IV – Ordnance Battalion (Ammunition) and Modular Ammunition Company	3-21
	Ordnance Battalion (Ammunition).....	3-21
	Modular Ammunition Company.....	3-22
	Modular Ammunition Platoon.....	3-23
	Ordnance Battalion, Ammunition, Wartime Host-nation Support (WHNS).....	3-27
	Ordnance Company, Ammunition, Wartime Host-Nation Support	3-27
Chapter 4	BRIGADE AND BELOW MUNITIONS OPERATIONS	4-1
	Brigade Combat Team Ammunition Responsibilities.....	4-1
	Security Force Assistance Brigade Ammunition Responsibilities.....	4-3
	Brigade Support Battalion	4-4
	Forward Support Company.....	4-14
Chapter 5	SAFETY, ENVIRONMENTAL STEWARDSHIP, AND PROTECTION IN MUNITIONS OPERATIONS	5-1
	Safety Considerations.....	5-1
	Environmental Stewardship Considerations.....	5-2
	Protection Considerations.....	5-2
Appendix A	MUNITIONS DISTRIBUTION ENABLERS	A-1
Appendix B	CAPTURED ENEMY AMMUNITION	B-1
Appendix C	MUNITIONS INFORMATION SYSTEMS	C-1
	GLOSSARY	Glossary-1
	REFERENCES	References-1
	INDEX	Index-1

Figures

Figure 1-1. Notional battlefield array for ammunition units.....	1-2
Figure 1-2. Distribution management process.....	1-6
Figure 2-1. Military decision-making process	2-2
Figure 2-2. Collaboration between the S-3 or G-3 and support operations.....	2-3
Figure 3-1. Theater sustainment command, distribution management center.....	3-9
Figure 3-2. Expeditionary sustainment command, distribution management center.....	3-14
Figure 3-3. Combat sustainment support battalion.....	3-17
Figure 3-4. Organization of the modular ordnance company	3-22
Figure 3-5. Layout of an ammunition supply point.....	3-25
Figure 4-1. Brigade support battalion	4-4
Figure 4-2. Distribution company general configuration.....	4-6
Figure 4-3. Notional battlefield array of a brigade support battalion.....	4-7
Figure 4-4. Brigade support battalion, distribution company, supply platoon for ammunition transfer holding point operations	4-9
Figure 4-5. Notional layout of an ammunition transfer holding point	4-10
Figure 4-6. Brigade support battalion, distribution company, supply platoon for modular ammunition transfer point operations.....	4-11
Figure 4-7. Alternative layouts for a hasty modular ammunition transfer point.	4-12
Figure 4-8. Forward support company organization.....	4-15

Figure 4-9. Field site of forward support elements in a logistics resupply point 4-16

Figure A-1. Materials handling equipment A-1

Figure C-1. System overview of munitions requisition and management C-2

Figure C-2. Munitions requirement approval process C-2

Figure C-3. Munitions procurement and staging of munitions C-3

Figure C-4. Munitions allocation and authorization process C-4

Figure C-5. Munitions receiving, storing, and distribution C-5

Figure C-6. Munitions draw, use, and turn-in C-9

Tables

Introductory Table 1. New and modified Army termsvii

Table 2-1. Machine gun specifications 2-17

Table 4-1. Key differences between the ATHP and MATP 4-8

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Preface

ATP 4-35 provides doctrine for munitions operations. Munitions operations include accountability, storage, and distribution of munitions. This ATP provides information on the roles and functions of Army units and munitions operations.

The principal audience for ATP 4-35 is all members of the profession of arms. Commanders and staffs of Army headquarters serving as a joint task force or a multinational headquarters should also refer to applicable joint or multinational doctrine concerning the range of military operations as well as joint or multinational forces. Trainers and educators throughout the Army will also use this publication.

Commanders, staffs, and subordinates must ensure that their decisions and actions comply with applicable United States, international, and, in some cases host-nation laws and regulations. Commanders at all levels will ensure that their Soldiers operate in accordance with the law of armed conflict and the rules of engagement. (See FM 6-27/MCTP 11-10C.)

ATP 4-35 uses joint terms where applicable. Selected joint and Army terms and definitions appear in both the glossary and the text. Terms for which ATP 4-35 is the proponent publication (the authority) are italicized in the text and are marked with an asterisk (*) in the glossary. Terms and definitions for which ATP 4-35 is the proponent publication are boldfaced in the text. For other definitions shown in the text, the term is italicized and the number of the proponent publication follows the definition.

ATP 4-35 applies to the Active Army, Army National Guard/Army National Guard of the United States, and United States Army Reserve unless otherwise stated.

The proponent of ATP 4-35 is the United States Army Ordnance School. The preparing agency is the United States Army Combined Arms Support Command, Training and Doctrine Integration Directorate. Send comments and recommendations on a DA Form 2028 (*Recommended Changes to Publications and Blank Forms*) to Commander, United States Army Combined Arms Support Command, ATTN: ATCL-TS (ATP 4-35), 2221 A Ave, Ft. Lee, VA 23801; or submit an electronic DA Form 2028 by e-mail to: usarmy.lee.tradoc.mbx.lee-cascom-doctrine@army.mil.

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Introduction

This Army techniques publication (ATP) focuses on munitions operations and distribution from theater opening through theater closing. Munitions distribution is the operational process of synchronizing all elements and echelons of the munitions complex to deliver the right munitions to the right place at the right time. Munitions operations and munitions distribution are essential components of multidomain operations.

The new ATP 4-35 replaces the 5 September 2014 version. Key updates reflect changes that have occurred in force design, distribution management, and materiel management since the previous edition and re-orient ATP 4-35 to align with FM 3-0 and FM 4-0.

ATP 4-35 contains five chapters and three appendixes:

Chapter 1 describes the fundamentals of military munitions. It provides an overview of the ammunition sustainment architecture and sustainment of joint or multinational operations. It describes the nature of munitions operations in support of the Army strategic contexts. The chapter concludes with an introduction of munitions in the distribution management process and an overview of munitions support in joint and multinational operations.

Chapter 2 describes the munitions planning process. It discusses the distribution management process, operational art in sustainment, as well as planning considerations by warfighting function. The chapter presents munitions planning considerations including munitions control procedures, stockage objectives, and deployment considerations.

Chapter 3 discusses the organizational structure and defined roles and responsibilities of strategic, operational, and tactical-level organizations involved in munitions support operations at echelons above brigade. It identifies strategic partners, theater and Army-level munitions operations, the combat sustainment support battalion, and discusses both corps and division munitions operations. This chapter also discusses the roles and responsibilities of ammunition support activities including the ammunition supply point. The chapter concludes with a discussion of munitions operations at the ordnance battalion (ammunition) and modular ammunition company level.

Chapter 4 describes the organizational structure for brigade and below units performing munitions support operations. Ammunition units discussed include the brigade combat team, brigade support battalion distribution company, and the forward support company. This chapter also discusses the operations and displacement of the ammunition transfer holding point and the modular ammunition transfer point.

Chapter 5 surveys munitions operations considerations for safety, environmental stewardship, and protection, primarily for the commander and staff.

Appendix A discusses munitions distribution enablers and material handling systems, associated container and packaging materials, and automatic identification technology.

Appendix B discusses captured enemy ammunition and the process for handling, storing, and destroying captured enemy ammunition.

Appendix C describes the various ammunition information systems from the strategic to the unit level.

Introductory Table 1. New and modified Army terms

<i>Term</i>	<i>Remarks</i>
ammunition supply point	Modified.
ammunition support activity	ATP 4-35 becomes proponent.
ammunition transfer holding point	Modified.

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Chapter 1

Munitions Operations Overview

Munitions operations are fundamental to the lethality of the Army. Munitions operations span from the industrial base forward to the individual Soldier level, and require uninterrupted supply from the supplier, through the distribution network, to the supported unit. Commanders and staff at the strategic, operational, and tactical levels include munitions operations as a part of sustainment planning and distribution. The purpose of this chapter is to provide an overview of munitions operations, distribution management process, and their part in the Army's strategic roles.

FUNDAMENTALS OF MILITARY MUNITIONS

1-1. A *munition* is a device with explosives; propellants; or chemical, biological, radiological, or nuclear material for use in operations including demolitions (JP 3-42). The term military munitions encompasses all ammunition products and components produced for or used by the armed forces for national defense and security, including ammunition products or components under the control of the Department of Defense (DOD), the Coast Guard, the Department of Energy, and the National Guard. It includes confined gaseous, liquid, and solid propellants; explosives; pyrotechnics; chemical and riot control agents; smokes; and incendiaries including bulk explosives and chemical warfare agents. It also includes chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components. Refer to DA PAM 742-1 for additional information on types of munitions.

1-2. The effective distribution of munitions, using a minimum amount of handling and reconfiguration, expedites munitions supplied to the force. Munitions materiel managers prioritize munitions distribution based on the maneuver commander's support priorities. Munitions operations conducted during multidomain operations require detailed coordination between supported and supporting organizations. Chapter 2 discusses these responsibilities.

AMMUNITION SUSTAINMENT ARCHITECTURE

1-3. The ammunition sustainment architecture (figure 1-1 on page 1-2) is designed to synchronize all elements and echelons to meet the supply mission. Munitions support is accomplished by both sustainment and supported unit headquarters and units at all levels of war. The munitions support system consists of strategic, operational, and tactical headquarters, staffs, and technicians whose end purpose is to sustain munitions operations.

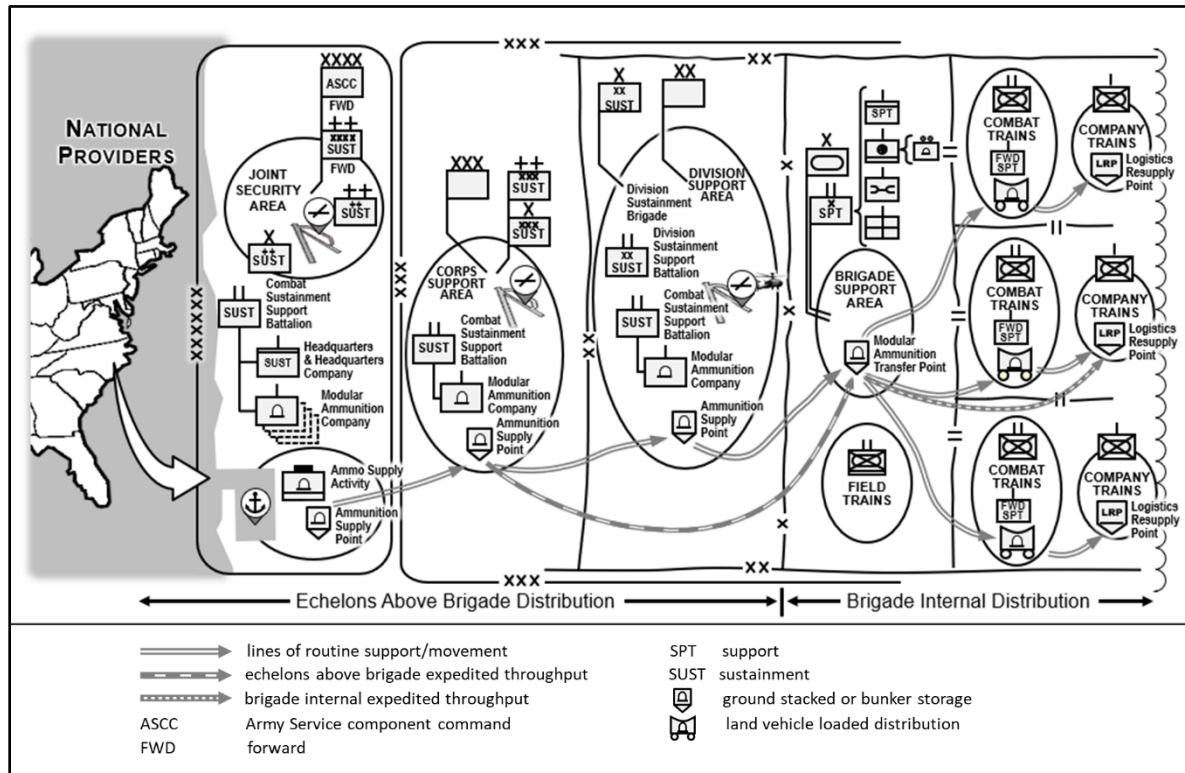


Figure 1-1. Notional battlefield array for ammunition units

1-4. It is critical that logistics leaders and commodity managers understand the strategic partners who play a role in munitions support operations. Each partner, the type of support provided, and coordinating points of contact must be clearly understood and leveraged.

MUNITIONS SUPPORT IN THE ARMY STRATEGIC CONTEXTS

1-5. Army strategic contexts provide Army forces with a useful framework for the range of operations in the land domain. They provide guidance addressing the appropriate planning, preparation, and execution of operations across the levels of competition, crisis, and conflict. They provide a framework that enables appropriate preparation for and execution of operations that contribute to how Army forces attain operational objectives. In every context, the Army consolidates gains to make its achievements more enduring.

1-6. Sustainment commanders and units must adapt to changing operational environments (OEs) to maintain timely and effective munitions support. Understanding how the role of sustainment changes based on Army strategic contexts helps munitions handlers effectively support operations. Army strategic contexts provide Army forces with a useful framework for units below the theater Army level for the range of operations in the land domain. Army strategic contexts provide guidance addressing the appropriate planning, preparation, and execution of operations across the levels of competition, crisis, and conflict. They provide a framework that enables appropriate preparation for and execution of operations that contribute to how Army forces attain operational objectives. In every context, the Army consolidates gains to make its achievements more enduring.

1-7. The ability to apply lethal force is fundamental across the range of the Army strategic contexts and is enabled through effective, synchronized, and safe ammunition and explosives operations. Providing safe ammunition and explosive transportation, storage, and distribution is crucial to the force, whether being used for effective training, for the quick transition from crisis to conflict, or in the application of lethal force during any scale conflict.

MUNITIONS SUPPORT TO OPERATIONS DURING COMPETITION

1-8. The Army conducts operations during competition to obtain geographic, informational, functional, and leadership positions of relative advantage across the land domain at the theater strategic and operational levels of warfare, to assist the joint force in deterring an adversary, and to contribute to alliance, coalition, or partner nation assurance activities. Army competition activities augment joint cooperation and, if required, position the Army to contribute to joint adversarial competition below armed conflict and armed conflict. Army forces consistently compete in an attempt to keep relations with adversaries from escalating into a crisis or conflict. Examples of competition activities include setting the theater, military engagements, security cooperation, combined training and exercises, and sustainment preparation of the OE. Munitions operations during competition focus on promoting organizational readiness and training. Army units present in an area of operations during competition operations will require munitions support, albeit to a lesser degree than in armed conflict.

1-9. Munitions planners identify which types of munitions are required to support all types of units operating within a geographic area. Planners help establish required munitions capabilities to support normal and routine military activities and to set conditions for future theater operations. Munitions planners also provide contingency plans to —

- Support security cooperation.
- Support the forward presence of Soldiers to promote United States (U.S.) interests.
- Support the development of allied and friendly military capabilities for self-defense and multinational operations.

1-10. ***Ammunition support activities are locations that are designated to receive, store, maintain, and provide munitions support to Army forces.*** Ammunition support activities (ASAs) provide a suite of ammunition logistics services operated by one or multiple modular ammunition platoons, U.S. federal or state government employees, contractors, or a combination thereof that are designated to receive, store, maintain, and provide direct or general support to Army and joint forces. Munitions managers plan for pre-positioning of munitions in strategic areas to enable Army forces to respond quickly to contingencies. Contents of the pre-configured package are predetermined and provide optimum distribution velocity, quality, and mix to support a particular weapon system or unit. Planning also includes identifying locations within the area of responsibility (AOR) for a theater ammunition supply point (ASP) and other ASAs to provide redundant and robust storage capability. These sites are in forward locations that can receive munitions directly from the port and distribute laterally between supply points and forward units.

MUNITIONS SUPPORT TO OPERATIONS DURING CRISIS

1-11. The Army conducts operations during crisis for two purposes. The first is to rapidly deploy Army forces to provide deterrence capability or, if necessary, compel an adversary to cease or reduce the actions that threaten U.S. national interests. The second reason the Army conducts crisis operations is to respond to a natural or humanitarian disaster that threatens the homeland or the stability of an ally or partner.

1-12. Munitions planners focus on the requirements and allocation of munitions resources to support initial deployment into a theater and the development of mission-tailored logistics requirements to support the commander's contingency operations. The intent is to deter an adversary from taking undesirable actions through the posturing of friendly capabilities and demonstrating the will to use them. Operations are weighted toward security and preparatory actions to protect friendly forces. Munitions planners include contingency stocks to enable commanders to execute subsequent phases of a planned operation.

1-13. A commander may implement numerous flexible deterrent options or flexible response options requiring munitions support. During crisis operations, these actions may include mobilization, tailoring of forces, and deployment into a theater. Other actions may include establishing friendly alliances, air defense capabilities, developing command and control, intelligence, force protection, and logistics capabilities to support the commander's concept of operations. Many actions during crisis operations build on activities established in competition operations and are conducted as part of security cooperation or stand-alone operations.

1-14. Munitions operations in support of crisis operations emphasize enhanced operational readiness. Munitions planners working on setting the theater must plan for adequate munitions units and supporting equipment to ensure that the combatant commander (CCDR) is able to support a credible force. This requires projecting munitions assets forward and involves integration of transportation capabilities.

1-15. As part of their planning, munitions materiel managers consider the specialized munitions requirements of field artillery and air defense artillery units. Managers perform the following actions:

- Forecast increased consumption of long range and precision munitions for brigade combat teams (BCTs) and corps fires units.
- Anticipate frequent and rapid relocation of fires units and the shift of supporting units accordingly.
- Ensure that quantity and positioning of modular ammunition units at echelons above brigade (EAB) are sufficient to support fires ammunition requirements.
- Ensure that ammunition transportation assets are adequate and properly positioned to support ammunition distribution for fires operations.

MUNITIONS SUPPORT TO OPERATIONS DURING CONFLICT

1-16. During armed conflict, Army forces focus on the defeat and destruction of enemy ground forces as part of the joint team. The most violent and lethal level of conflict is large-scale ground combat operations conducted against enemies with peer capabilities. Lethal force may also occur in lesser forms of conflict such as irregular warfare, unconventional warfare, or counterinsurgency. As described in ADP 3-0, Army forces close with and destroy enemy forces in any terrain, exploit success, and break their opponent's will to resist. Army forces attack, defend, conduct stability tasks, and consolidate gains to attain national objectives. The ability to prevail in ground combat is a decisive factor in breaking an enemy's will to continue a conflict.

1-17. Large-scale combat operations during armed conflict require greater munitions support than other types of operations because of the number of formations, higher operating tempo, greater lethality, and increased consumption of supplies and equipment. Based on the complex and chaotic nature of crisis situations, sustainment commanders and their staffs will need to account for the characteristics of volume, lethality, precision, and tempo during the operations process.

1-18. The supported unit commander determines munitions requirements based on input from subordinate organizations and knowledge of upcoming tactical operations. The unit's munitions requirements are expressed within the required supply rate (RSR). The supporting unit commander manages the allocation and distribution of munitions based upon the supported commander's sustainment priorities. The supporting commander calculates and recommends composition of combat configured loads based upon the type of unit supported, RSR, controlled supply rate (CSR), forecasting, and historical data. The supported commander determines the composition of combat configured loads with input from the supporting commander. A combat configured load is a mixed ammunition package designed to provide for the complete round concept, type of unit, type of vehicle, capacity of transporter, and weapons system. Contents of the package are predetermined and provide optimum quality and mix to support a particular weapon system or unit.

1-19. During conflict, commanders rely on munitions operations to provide both the initial and sustained combat power. Materiel management planners should be prepared to provide munitions at the right time and location. In environments with highly contested airspace, planners need to identify additional security or back up and contingency methods for delivery. The enemy will likely disrupt automated information systems in a contested environment during large-scale combat operations. Munitions planners need to have contingency plans prepared to continue operations without the use of automated information systems.

1-20. Munitions materiel managers at each echelon must work closely with operational planners to synchronize the munitions support that allows commanders to extend their unit's operational reach. During conflict operations, supply lines of communication are likely to be strained even as requirements for munitions support increase.

1-21. Munitions materiel management planners should anticipate increased expenditures of munitions during large-scale combat operations. Munitions supply is critical for maintaining momentum during offensive operations. Depending on the operation, consumption rates may double or triple normal rates. In addition to

accounting for volume, sustainment planners also forecast the various types of ammunition used by the corps and division in the offense.

1-22. When directed, Army forces transition back into competition below armed conflict. They provide sufficient capacity and capabilities to protect civilian populations, execute or support stability operations, and rebuild host-nation security and governance institutions. Army forces establish a transitional military authority and support a transition to civil authority. Over time, Army forces will recalibrate their force posture.

1-23. Munitions support in the late stages of large-scale combat operations is typically characterized by a gradual shift in focus to support stability and security operations. Sustainers should anticipate and plan for munitions activities intended to ease the transition process to peace.

MUNITIONS SUPPORT TO JOINT AND MULTINATIONAL OPERATIONS

1-24. Army ammunition units may support the requirements of other services, other U.S. government agencies, and allied or multinational forces. The various Service munitions materiel managers and agencies involved in joint or multinational operations must coordinate supply planning to ensure adequate personnel, storage requirements, containers, materials handling equipment (MHE), accountability procedures, and safety measures are available and in place. Munitions planning may require common-user logistics munitions support based on operational requirements and availability of munitions items. *Common-user logistics* (also known as CUL) is a materiel or service support shared with or provided by two or more Services, Department of Defense agencies, or multinational partners to another Service, Department of Defense agency, non-Department of Defense agency, and/or multinational partner in an operation (JP 4-09). The CCDR may designate a lead Service or DOD agency to provide selected common-user logistics support. (JP 4-0) Routinely, only small arms munitions and selected pyrotechnic devices are considered appropriate for joint common-user logistics support. In all cases, extreme care must be exercised in cross-referencing requisition data to ensure that the correct munitions are requisitioned.

1-25. During joint operations, a joint munitions office from the geographic combatant commander (GCC) logistics directorate of a joint staff (J-4) may work in conjunction with the Service components, functional components, subordinate commands, service acquisition, and the Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA [ALT]) in order to plan, coordinate, and oversee all phases of ammunition and ordnance support for forces employed or planned for possible employment in the AOR.

1-26. Joint munitions offices typically have a mix of munitions and logistics planners from each Service who ensure proper reporting of readiness status based upon the joint munitions requirement process and the Chairman of the Joint Chiefs of Staff's readiness system. Joint critical munitions with limited inventories are particularly important to munitions readiness reporting. These munitions are essential to prosecuting required targets for which there are no suitable secondary munitions alternatives.

1-27. Ally and partner nations may have an acquisition and cross-servicing agreement with the U.S. government that prescribes which munitions, if any, are permissible for exchange. Among other things, the acquisition and cross-servicing agreement authority waives selected provisions of U.S. contracting law and prescribes ordering and reimbursement procedures that are more flexible than those permitted under other authorities. The types of logistics support, supplies, and services that may be acquired or transferred under the agreement is broadly defined. Multinational munitions support can also be provided through bilateral agreements between the U.S. and other partner nations. Bilateral agreements for support are established before operations begin.

DISTRIBUTION MANAGEMENT PROCESS

1-28. Both supported and supporting organizations perform distribution management actions requiring integrated activity with various actions, tasks, or requirements. Supported headquarters normally lead requirements determination or validation actions, while supporting organizations lead resupply, retrograde of materiel, and distribution actions. EAB sustainment units work within the distribution network to execute operations through the integration and synchronization of materiel and transportation management.

1-29. Figure 1-2 illustrates the components of the distribution management process, including the materiel management, distribution integration, and transportation management functions. The functions are not executed by a single staff section or organization. There is a division of responsibility that varies by organization. Materiel managers control supply support through monitoring and managing receipts, storage, and issue of all supply classes. Transportation managers allocate transportation assets and regulate movements according to command priorities and battlefield conditions. Distribution integration personnel link materiel ready for distribution with available transportation. Distribution integration personnel also collaborate with the assistant chief of staff, operations (G-3) and/or battalion or brigade operations staff officer (S-3) to develop an operations order that tasks transportation units with specific distribution missions.

1-30. While materiel and transportation managers might initially operate independently, they collaborate closely once munitions supply and transportation requirements are determined. The distribution management functions are the combined activities of materiel and transportation managers to integrate and synchronize schedules to align personnel, materiel, and movement to fill the requirements of supported units. Distribution managers integrate the functions of transportation and supply to move cargo from the source of supply to the supported unit. Figure 1-2 shows distribution managers working closely and consistently with supporting and supported operations and logistics staff offices. These functions are discussed in greater detail in chapter 2.

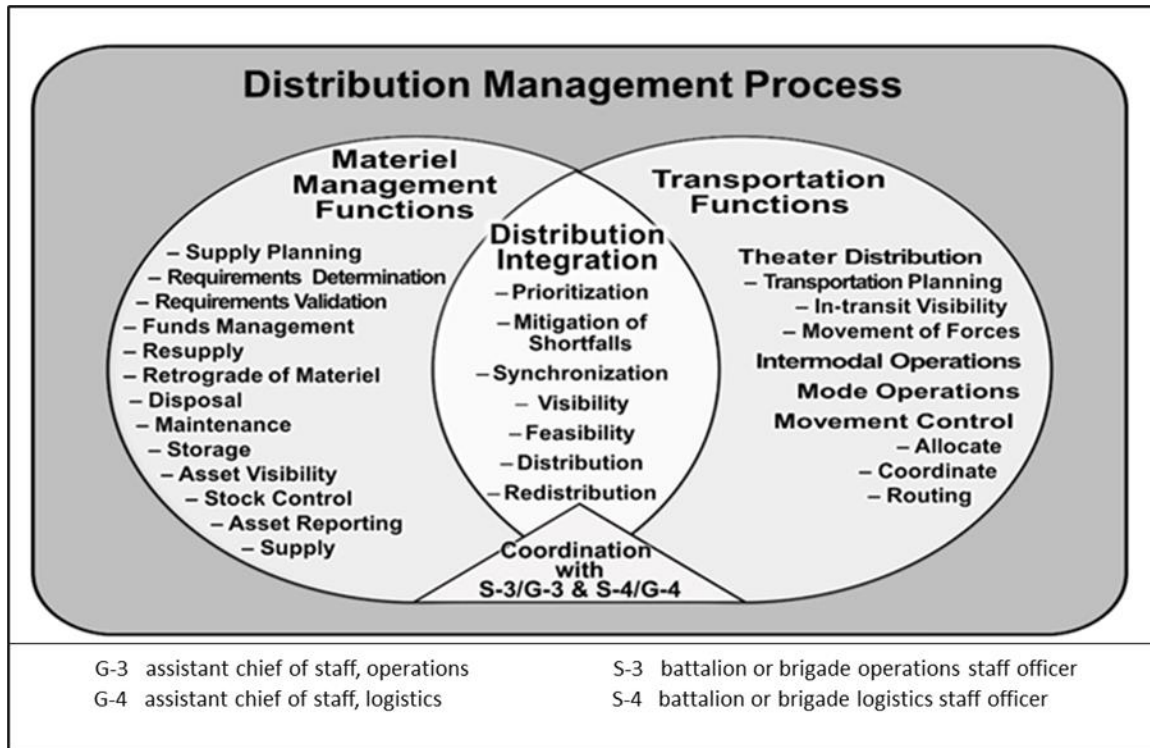


Figure 1-2. Distribution management process

1-31. Ammunition organizations maximize throughput distribution in all operations. Throughput distribution allows delivery as far forward as possible to minimize handling and reconfiguration. All operational variables must be considered when determining the utilization of throughput distribution. Ammunition organizations minimize supply point distribution as much as possible. Supply point distribution is a method of distributing supplies to the receiving unit at a supply point, railhead, or truckhead. The receiving unit then moves the supplies to its own area using its own transportation. For further information, see ATP 4-42.

Chapter 2

Planning for Munitions Operations

In order to extend operational reach and prolong operational endurance, munitions planners must understand the OE and commander's intent, make plans, and direct actions to synchronize munitions operations to achieve unit objectives across the area of operations. This chapter describes munitions operations planning. Munitions planning includes determining ammunition requirements, echeloning capabilities and ammunition units, establishing split-based operations where required, pre-configuring ammunition and resupply, and using civilian, contractor, allied, and host-nation capabilities when required.

THE PLANNING PROCESS

2-1. *Planning* is the art and science of understanding a situation, envisioning a desired future, and determining effective ways to bring that future about (ADP 5-0). Planning helps commanders create and communicate a common vision between commanders, staffs, subordinate commanders, and unified action partners. Planning results in a formal plan and orders that synchronize the action of forces in time, space, and purpose to achieve objectives and accomplish missions.

2-2. Planning is both a continuous and cyclical activity within the operations process. While planning may start as an iteration of the operations process, it does not stop with the production of an order. Planning may be highly structured, involving the commander, staff, subordinate commanders, and others to develop a fully synchronized plan or order. Planning may also be less structured; for example, a platoon leader and squad leaders may need to rapidly determine a scheme of maneuver for a hasty attack.

2-3. Even if units do not execute the plan exactly as envisioned—and few ever do—planning results in an improved understanding of the situation that facilitates future decision making. Planning helps leaders—

- Understand and develop solutions to problems.
- Anticipate events and adapt to changing circumstances.
- Task-organize the force and prioritize efforts.

2-4. The defining challenges to effective planning are uncertainty and time. Planning provides an informed forecast of how future events may unfold. It entails identifying and evaluating potential decisions and actions in advance to include thinking through consequences of certain actions. Planning involves thinking about ways to influence the future as well as how to respond to potential events. Put simply, planning is thinking critically and creatively about what to do and how to do it, while anticipating changes along the way.

2-5. A key aspect of planning is organizing the force for operations. Through task organization, commanders establish command or support relationships and allocate resources to weight the decisive operation or main effort. In addition to task organizing, commanders establish priorities of support. Priorities of movement, fires, sustainment, protection, and information all illustrate priorities of support that commanders use to weight the main effort in phased operations.

2-6. Effective munitions operations require making detailed plans using the military decision-making process (MDMP). Figure 2-1 on page 2-2 provides an overview of MDMP. Munitions logistics planners at all levels should be involved in the operations process to ensure that munitions distribution operations are synchronized with the supported unit concept of operations. Being involved in the operations process also allows munitions planners to maintain situational awareness of the OE and targeting (fires) priorities, identify and mitigate risks, and enhance shared understanding. See FM 5-0 for additional information on MDMP.

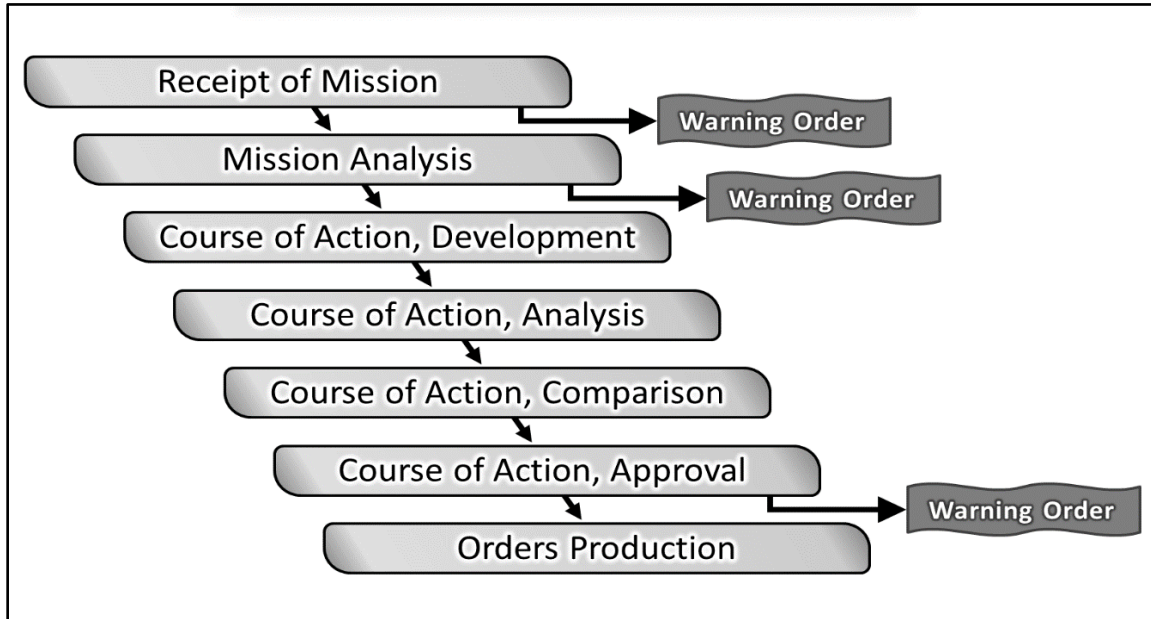


Figure 2-1. Military decision-making process

THE OPERATIONS PROCESS

2-7. Army leaders plan, prepare, execute, and assess operations by analyzing the OE in terms of operational and mission variables. Operational variables consist of political, military, economic, or social factors, information, infrastructure, physical environment, and time. Mission variables consist of mission, enemy, terrain and weather, troops and support available, time available, civil considerations, and informational considerations; these variables are commonly referred to as “METT-TC (I)”. How these variables interact in a specific situation, domain (land, maritime, air, space, or cyberspace), area of operations, or area of interest describes a commander’s OE, but it does not limit it. Commanders, applying understanding of operational variables in relation to the mission variables, must visualize the OE, describe their intent, and direct staff and subordinates through plans and orders development. Upon operation order (OPORD) publication, they lead the organization to execute the mission while assessing the effectiveness of operations.

2-8. The operations process consists of key events in sequential order along a linear array that takes shape in the form of a battle rhythm. Work groups and cells are key events in the critical path that allow commodity managers and distribution planners to prioritize and plan distribution requirements. These events inform discussion points in boards to allow the leadership to make decisions to meet the commander’s intent. Key events in the critical path of the distribution management process include, but are not limited to, the joint munitions board and movement boards.

2-9. Joint munitions boards involve operational and strategic entities that have stake in the munitions distribution process. This board is a recurring event that involves participation from joint Services and strategic and unified action partners to synchronize joint munitions logistics across the Services operating in the joint operations area (JOA). This board enables participants to identify current and projected critical munitions shortfalls, priorities of support, CCDR’s guidance, and coordinate munitions support with the unified combatant command for support to partner nations. Attendees may include representatives from the United States Army Materiel Command (USAMC), United States Transportation Command (USTRANSCOM), Army Service component commands (ASCCs), and sustainment commands.

2-10. Movement boards allow mobility leaders to manage transportation policies, priorities of sustainment, lines of communications status, convoy protection, synchronization, and transportation assets to optimize infrastructure to support theater distribution operations. Entities at each echelon of war may facilitate movement boards.

2-11. For further information on the operations process, refer to ADP 5-0.

THE DISTRIBUTION MANAGEMENT PROCESS

2-12. Distribution management is a logistics function used to develop an executable plan to distribute supplies from the source of supply throughout a theater of operations. The distribution management process includes materiel management, transportation management, and distribution integration functions. Distribution management must be integrated into all phases of the operations process to be effective. The distribution management process applies to all commodities and at all echelons. Munitions distribution management enables offensive and defensive operations by providing the appropriate mix of munitions for lethal and nonlethal weapons.

2-13. Figure 2-2 represents one way in which the G-3 or S-3 and distribution management center (DMC) or support operations (SPO) function may interact during planning to develop an order. Each of the MDMP steps and each of the distribution management functions contain assumptions, facts, planning considerations, and multiple details that influence mission success. The top lane illustrates the MDMP steps undertaken by commanders and staffs. The three lanes within the support operations lane display the functions that distribution integrators, materiel managers, and transportation managers perform separately and together. Arrows between the functions and the MDMP steps demonstrate the complexity of the coordination between the SPO, the S-3 or G-3, the commander's staff, and the commander as they uncover and evaluate courses of action. The bottom lane presents a very high-level view of how and when supply points for all classes of supply come into the process. Tactical leaders responsible for providing materiel and transportation receive orders then prepare for their role in supporting the commander using troop-leading procedures.

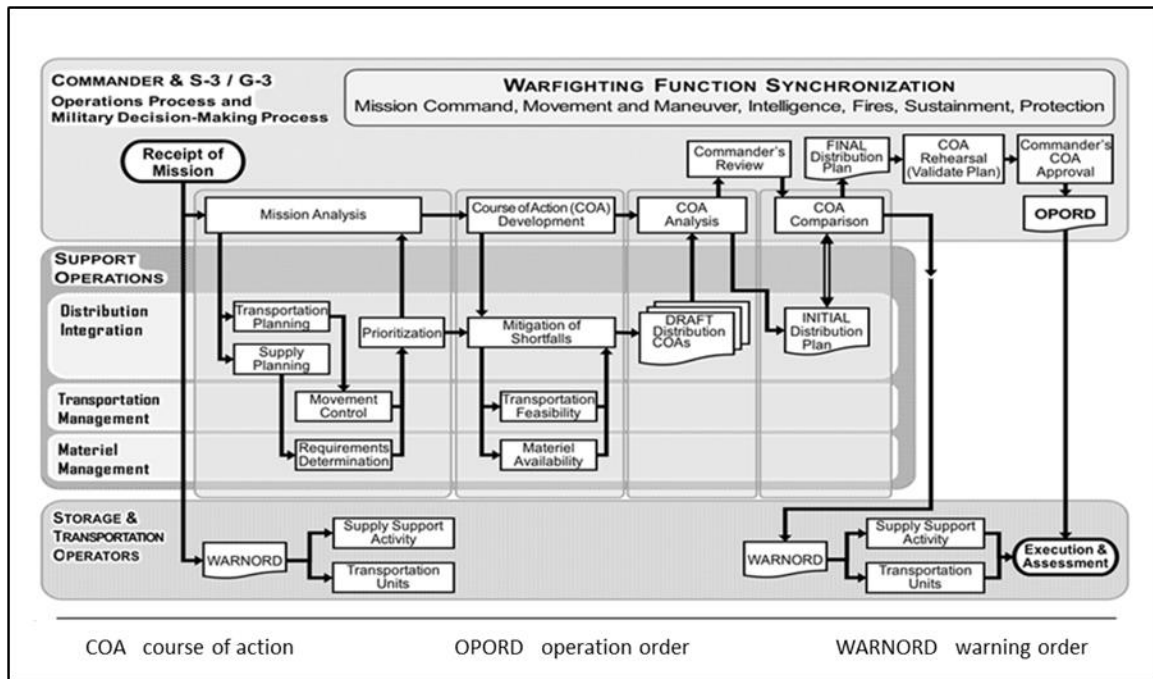


Figure 2-2. Collaboration between the S-3 or G-3 and support operations

MUNITIONS MATERIEL MANAGEMENT FUNCTIONS

2-14. Materiel management is the continuous situational understanding, planning, and execution of supply and maintenance capabilities to anticipate, synchronize, and direct all classes of supply to maximize combat power and enable freedom of action in accordance with the supported commander's priorities. Materiel management is executed during all four Army strategic roles to support the range of military operations.

2-15. Materiel management addresses all internal and external logistical processes, information, and functions necessary to satisfy an operational supply requirement. The primary objective for materiel management is to provide effective and efficient supply support to meet operational requirements. Effective materiel management provides the commander with greater situational awareness thereby informing decision making and enhancing control and flexibility.

2-16. Materiel management is one of the most critical aspects of effective munitions support. Munitions planners, commanders, and Soldiers act as materiel managers in roles that execute materiel management functions.

2-17. Munitions materiel management is anticipatory and flexible to meet unforeseen and unexpected munitions requirements that invariably arise during large-scale combat operations. Munitions materiel managers support all echelons across the competition continuum. The managers focus on equipping the forces by satisfying munitions requirements as quickly and efficiently as possible.

2-18. Munitions materiel managers engage in detailed, deliberate planning, synchronized with supported operations across all warfighting functions. Munitions materiel managers anticipate munitions requirements, points of need, and means of distribution. Failure to achieve synchronization across all warfighting functions may result in an un-executable concept of support.

2-19. Units execute the materiel management component of distribution based on their organizational structure. Theater sustainment commands (TSCs) and expeditionary sustainment commands (ESCs) execute the materiel management component of the distribution process through their DMCs. The sustainment brigade and division sustainment brigade (DSB) execute the materiel management component through their SPO munitions sections. The combat sustainment support battalion (CSSB), division sustainment support battalion (DSSB) and brigade support battalion (BSB) execute the materiel management component through their SPO sections. Munitions materiel management functions may be conducted completely or partly based on operational and mission variables.

Munitions Supply Planning

2-20. Supply planning forecasts and establishes munitions stock levels at each support echelon to meet mission requirements. It is a translation of an operating force's composition into specific supply requirements and positioning. Planning ensures that adequate munitions and transportation assets are available.

2-21. Supply planning is an operational function and a subset of the organization's overall munitions requirement. Weapons system munitions requirements drive the forecasting process. Munitions requirements determination must be accurate, auditable, transparent, defensible, and must comply with AR 5-13.

Munitions Requirements Determination

2-22. Requirements determination consists of all activities necessary to develop, consolidate, coordinate, validate, approve, and prioritize munitions requirements to support an operating force. Requirements determination aids munitions materiel managers in defining priorities of support. Requirements communicated from operating forces and forecasted by munitions organizations supporting these forces make up requirements determination.

2-23. Requirements determination allows a unit or organization to communicate its operational requirements for munitions. Units express ammunition forecasts by Department of Defense identification code (DODIC), quantity, and location. The DODIC is a four-character code assigned to a munition that is different in form, fit, function, or capability from another munition. Distinct DODICs for different capabilities enable the safe, effective management of those capabilities. DODICs are essential to the development of Army munitions requirements and effective prioritization of Army munitions. DODICs provide users the means to identify the specific capability they require (AR 5-13).

2-24. Inaccurate forecasts are a leading cause of incorrect distribution, munitions surplus, and munitions shortage. Munitions materiel managers monitor unit forecasts for accuracy. The Total Ammunition Management Information System (TAMIS) contains tools to assist munitions managers with this task by comparing a unit's forecasts to its authorization.

2-25. Units submit a daily logistics status report indicating quantity received, issued, and on-hand to respective battalion or brigade logistics staff officers (S-4s) to consolidate and forward to the appropriate section.

2-26. Munitions managers determine the quantity of munitions required by subtracting the current amount on-hand munitions from projected operational expenditures over time and applying any rate of operational or environmental resupply constraint or control (including projected increases or decreases to weapon systems quantity and type) to the resulting figure. Units express the quantity of munitions required in rounds per weapon per day. Munitions forecasting is a critical input in all Army planning.

Munitions Requirements Validation

2-27. Requirements validation is the function that validates and prioritizes available munitions stocks against an established or forecasted munitions request. Requirements validation also ensures that stated requirements do not exceed the CSR for different munition types. The G-3/S-3 staff at each echelon validates requirements submitted by the next lower echelon. Munitions managers can review all validated requirements in TAMIS. The SPO staff at each echelon validates requirements submitted by supported organizations. The munitions manager's role is to fully resource all valid requirements. If the staff determines on-hand assets are insufficient to meet the requirement, then it passes a request for munitions support to its higher headquarters.

2-28. Requirements validation is critical to avoid excess materiel and misuse of logistics transportation and maintenance assets. Validation ensures that no requests for munitions support are processed to a higher headquarters until it is determined that on-hand assets are sufficient to meet the requirement. Requirements validation also includes establishing a CSR, if necessary.

2-29. The SPO staff maintains asset visibility of allocations within all maneuver units through logistics status reports; the SPO can modify the allocated or authorized combat load to support the mission. A combat load is the standard quantity and type of munitions that an individual weapon, a crew-served weapon, or a weapons platform and its designated munitions carrier is designed to hold. Combat loads support the initiation of contingency and combat operations and are the basic building blocks of Army war reserve requirements. Bulk munitions are not associated with a weapon or weapons platform. Bulk munitions are the quantity of munitions required to give units capability and flexibility. Munitions materiel managers resupply munitions based on priorities provided by operations planners. The SPO maintains the munitions common operational picture (COP) through total asset visibility and in-transit visibility (ITV) and provides forecasted critical shortages and changes in requirements to all munitions materiel managers. The *common operational picture* is a single identical display of relevant information shared by more than one command that facilitates collaborative planning and assists all echelons to achieve situational awareness (JP 3-0).

Funds Management

2-30. Funds management is the managing of obligations, expenses, and disbursement of funds supporting munitions operations. The maneuver unit assistant chief of staff, logistics (G-4) or S-4 and sustainment unit DMC and SPO office perform the funds management function. Contracting officers, finance officers, and Army leaders at all levels manage funds obligation.

Munitions Storage

2-31. Munitions storage occurs during all phases of the operation. Munitions storage provides safe and efficient long and short-term field storage in all OEs. Most defensive operations require pre-positioned supplies including munitions. Munitions units operate ASAs. Munitions assets in a field storage site are usually stored on an unimproved ground surface or in built-up areas in an existing building. Field storage may be subject to the following factors:

- Security requirements.
- Quantity-distance requirements.
- Rearming, resupply, and relocation timelines.

2-32. The types of ASAs in the theater are the ASP, ammunition transfer holding point (ATHP), and modular ammunition transfer point (MATP). The ASA mission is to receive, store, issue, and maintain conventional

ammunition stocks. The Army does not consider industrial base depots, arsenals, or munitions plants or centers ASAs. An **ammunition supply point is a retail ammunition support activity where ammunition is received, stored, issued, and accounted for**. The ASP provides direct and general support to units assigned to or operating within its area of operations. ASPs have varying degrees of storage capacity, throughput capacity, and munitions maintenance based on the echelon of support (such as brigade, division, corps, or theater).

2-33. ATHPs and MATPs are designated locations coordinated by the brigade ammunition team to provide direct support for the transfer of munitions. ATHPs and MATPs are temporary or frequently moving in nature based on mission variables and the commander's intent but with limited storage capacity and no organic missile and munitions maintenance capability. Ammunition depots in forward locations provide direct and general support for ammunition logistics to units assigned to or operating within their area of operations. They provide greater storage capacity and higher levels of missile and munitions maintenance, but not to the degree of the depots assigned to the industrial base. For more information on stockage objectives, refer to AR 5-13.

Munitions Maintenance

2-34. Munitions maintenance includes all actions necessary for retaining an item in or restoring to a specified condition to support the supply system. This includes cleaning, repacking, and preservation. Maintenance occurs during the distribution and redistribution process.

2-35. Ammunition maintenance operations occur across the range of military operations. Commanders, staffs, Soldiers, and maintainers work together to monitor maintenance status, communicate maintenance needs, and perform maintenance functions to keep the force ready to perform its mission. Ammunition maintenance operations include cleaning, minor packaging, and preservation operations. Ammunition maintenance operations may include those carried out on captured enemy ammunition (CEA). Further information on munitions maintenance is contained in ATP 4-35.1.

Munitions Asset Visibility

2-36. Asset visibility provides materiel managers with the capability to determine location, movement, quantity, status, and identity of munitions items and units. Asset visibility enables effective decision making on sources of support and prioritization. The information gathered provides the munitions managers the ability to forecast, locate, and distribute munitions.

Munitions Stock Control

2-37. Stock control is the process of maintaining inventory data on the quantity, location, and condition of supplies. The method of storage depends on the munitions type and storage compatibility because each munitions type must be stored in accordance its own specific requirements. Materiel managers need correct identification and location of stored materiel to ensure that the correct item of supply is issued to meet requirements.

2-38. Stock control includes maintaining proper location and identification of materiel. Materiel managers need correct identification and location of materiel stored in munitions sites to ensure storage personnel issue the proper item of supply to meet requirements. Poor stock control, such as unidentified or improperly cataloged items, results in materiel managers ordering excess items.

Munitions Asset Reporting

2-39. Asset reporting is the vertical and horizontal reporting of asset quantity and munitions type status. Asset reporting is a critical component of asset visibility, requirements determination, and requirements validation. Commanders at all echelons determine the frequency that subordinates report munitions assets.

Ammunition Supply Operations

2-40. Supply provides all munitions necessary to allow mission accomplishment. Supply involves requesting, receiving, storing, issuing, maintaining, and establishing accountability of munitions required to execute a unit's assigned mission.

2-41. The primary intent of munitions supply is to meet maneuver unit ammunition requirements. Munitions operations require integration with other agencies and services from the point of origin to the point of employment. Munitions supply is a complex logistics operation due to its criticality of need, the inherent hazards of material handling (to store, make safe, reconfigure, distribute, and maintain), and the requirement for regulatory security in distribution (to receive, transport, temporarily store, issue) and retrograde (disposal, demilitarization). Munitions supply is limited by constraints that include their specialized design and purpose, the quantities and locations of pre-positioned stocks, and allocation. These constraints may occur at all levels of command and be further restricted by applicable regulations and security considerations.

2-42. Munitions share many of the most challenging aspects of other classes of supply. Munitions require special handling due to storage specifications, compatibility, and hazard class restrictions. Special considerations and factors for munitions operations include the following:

- Munitions storage and supply activity management becomes more complex and hazardous as the type or quantity of stockpiles increase.
- Distribution and retrograde (to include ammunition surveillance and demilitarization procedures) are designed around protecting friendly forces from munitions hazards.
- Select munitions remnants, residue, and inert materials continue to remain sensitive and/or hazardous items after expenditure.
- Military uniqueness, safety considerations, laws, and governing regulations of most munitions preclude host-nation procurement or local purchase.
- Munitions have shelf-life considerations that require meticulous management, especially in pre-positioned stockpiles.
- Munitions, at the user level, are typically accountable items while retaining their sensitive attributes during peacetime operations and in some instances, they may be postponed or waived.

2-43. Resupply is obtaining munitions to meet operational requirements through the requisition process, cross-leveling, and contracting. Ammunition personnel conduct the procurement process within TAMIS. The resupply of munitions can be requested digitally or manually.

Retrograde of Munitions

2-44. Retrograde of materiel is an Army logistics function of returning munitions from the owning or using unit back through the distribution system to the source of supply, directed ship-to location, or point of disposal.

2-45. Munitions retrograde materiel flows through the distribution system from the tactical to strategic levels. Munitions retrograde operations include all facets of munitions disposition. Unexpended and expended munitions, whether serviceable or unserviceable, require disposition throughout the entirety of an operation. The following factors should be considered before actual retrograde operations begin:

- Existing logistics support facilities, transportation assets, road networks, and communications requirements.
- Shipping point from theater.
- Available host-nation support.
- Available contract support (this will be at echelons above corps only).

2-46. The materiel manager will use the two-way flow of resources whenever possible to achieve efficiency in the distribution system. This process describes the simultaneous flow of sustainment materiel and retrograde cargo between the strategic, operational, and tactical levels. This process ensures transportation assets are optimized in the delivery of sustainment while also in support of retrograde and redeployment activities. Maximized transportation assets increase efficiency as well as reduce operational energy

consumption. Using this process, materiel managers monitor the distribution system at one echelon above and below to make adjustments as necessary.

2-47. Materials identified to be disposed or retrograded (including inert or components) are normally expedited to an ASP at EAB but may require some packaging and handling at an ATHP, MATP, or within the unit prior to transporting. When released by the maneuver commander, USAMC assumes responsibility for providing disposition instructions, accounting, and shipment of retrograde materiel from the theater. Proper adherence to retrograde procedures reduces the hazards and inefficiencies of stockpiling.

2-48. Using units normally return munitions identified for retrograde to the ASP, ATHP, or MATP that provided their ammunition support. However, because of the changing requirements of the modern battlefield, commanders may direct units to turn in the identified ammunition and explosives to the nearest ASA. ASAs collect, consolidate, and ship this ammunition as directed.

2-49. If the ammunition turned in is not accounted for in an automated system, the ASP must regain accountability at their level. This is particularly true with controlled and serial-numbered items. Accountability problems increase during war. By successfully managing these tasks, shortages will be easier to identify and correct.

2-50. A quality assurance specialist, ammunition surveillance (QASAS) or other qualified person must make condition code decisions. Inspect munitions to determine their serviceability, and safeguard packing materials as early as possible in the retrograde process. If the munitions are in serviceable condition but have no lot number, munitions managers assign a local lot number. During retrograde operations, munitions units typically destroy unserviceable ammunition. The responsible munitions company must request disposition instructions through their higher headquarters before destroying the munitions.

2-51. Supply points play a fundamental role in the redistribution, retrograde, and disposal of materiel. The turn-in section accepts turn-ins of unit excess and unserviceable materiel from supported units. As units turn in materiel, storage clerks input the item data into the enterprise system, which provides distribution instructions.

Disposal of Munitions

2-52. Disposal of munitions is the systematic removal of economically unrepairable or obsolete munitions. The Army accomplishes disposal by transferring, donating, selling, abandoning, or destroying munitions. Ammunition program managers normally direct disposal operations but commanders may direct disposal if the OE dictates. Unit SPOs ensure that units complete disposal orders directed by higher headquarters.

2-53. An explosive ordnance disposal (EOD) officer is authorized at corps and division levels. The EOD officer is responsible for coordinating the detection, identification, recovery, evaluation, rendering safe, and final disposal of explosive ordnance. The EOD officer monitors the supply status of and expedites requests for special EOD tools, equipment, and demolition materials. The EOD officer will coordinate with the supporting EOD unit to respond to amnesty collection points to ensure armed or unsafe ordnance items are disposed of properly. The EOD officer will also coordinate with the supporting EOD unit for the routine destruction of unserviceable or surplus ammunition upon the request of an accountable agency.

AMMUNITION DISTRIBUTION INTEGRATION

2-54. Distribution integration aligns personnel, equipment, and materiel requiring distribution (in terms of commodity, quantity, and priority) with adequate transportation capabilities to synchronize distribution to support the concept of operations. This information is shared with the G-3/S-3 in order to develop a viable operations order.

2-55. Effective munitions distribution requires execution of numerous distribution management functions at each echelon. This includes prioritization, mitigation of shortfalls, synchronization, visibility, feasibility, distribution, and redistribution. These functions may be executed completely or partly, based on operational and mission variables:

- **Prioritization:** This function ensures munitions for distribution are organized and queued in order of priority as determined by the command. The priorities of support (movement and sustainment) vary by each phase of the operation and can be identified in the mission order or operations plan.

- Mitigation of shortfalls: This function links ammunition materiel management to transportation in terms of commodity, quantity, and priority. It ensures that adequate transportation assets are identified and obtained to bridge any shortfall between requirements and current capabilities.
- Synchronization: This function ensures that distribution is synchronized with transportation operation cycles to ensure that modes with sufficient capacity are available when commodities are positioned for movement. It also synchronizes distribution with operational tasks, phases, and objectives.
- Visibility: This function provides materiel managers with visibility of munitions that are queued, prioritized, have transportation allocated, and during movement.
- Feasibility: This determines if the capability exists to move required quantities of munitions from the point of origin to the final destination within the time required. If transportation is not feasible, the distribution integration branch personnel report this fact to the materiel management branch. There are various forms of transportation modes available in theater: truck, train, vessel, air transport, and aerial delivery.
- Distribution: Integrates the logistics functions of transportation and supply. It depends upon materiel management and movement control. The operational process synchronizes all elements of the logistics system to deliver the required munitions to support the commander.
- Redistribution: Managers may use excess munitions in theater to fill shortages and meet operational requirements. They can reallocate excess munitions to other locations in theater using all transportation assets available.

2-56. Munitions distribution management occurs in all sustainment headquarters from the TSC down to the forward support company (FSC). Each echelon is responsible for understanding munitions support requirements for supported units or formations. Each echelon ensures that adequate munitions stocks and transportation are available to meet requirements.

2-57. Munitions distribution operations enable offensive and defensive operations, and stability or defense support of civil authorities' tasks by providing the appropriate mix of munitions for lethal and nonlethal weapons.

Munitions Distribution

2-58. Upon arrival to theater, munitions are distributed by several means, including unit distribution, supply point distribution, and throughput distribution. Unit distribution is a method of distributing supplies by which the receiving unit is issued supplies in its own area, with transportation furnished by the issuing agency. Supply point distribution is a method of distributing supplies to the receiving unit at a supply point.

2-59. Munitions managers at the theater ASP maintain stocks by obtaining shipments from the continental United States (CONUS) or from other theater locations. An ASP distributes ammunition to other ASPs where it is subject to further reconfiguration, issue, or both. An ASP distributes ammunition to the ammunition section of the BSB distribution company, which operates either an ATHP or MATP based upon the type of brigade it supports. There the ammunition may receive final pallet reconfiguration and issue. The ATHP or MATP issues ammunition to a unit supply section, and then the munitions are issued to the user. For munitions materiel managers, the process begins with requirements determination and ends when ammunition personnel issue munitions to the supported unit. Munitions materiel managers determine and validate munitions requirements (by quantity and priority) for distribution to units or locations and coordinate distribution according to command priorities. At each echelon, personnel assigned to various positions have responsibilities to execute these functions. These personnel may be part of a headquarters staff or in other positions at company level or below.

2-60. The goal of munitions resupply is to deliver as far forward as possible. The Army normally ships ammunition containers no farther forward than the theater ASP. There ammunition is unpacked and configured into ammunition loads. The theater ASP ships ammunition loads to forward ASPs, ATHPs, and MATPs. If the situation warrants, or if transportation assets are unavailable at the tactical level, munitions may be throughput as close to the unit as possible. Throughput distribution is a method of distribution which bypasses one or more intermediate supply echelons in the supply system to avoid multiple handling. Both the CSSB and DSSB conduct throughput distribution when tasked with a theater distribution mission.

Another example of throughput distribution would be when the CSSB or DSSB distributes supplies directly to an FSC, bypassing the BSB's distribution company.

2-61. Distribution managers use the information provided by the munitions materiel managers to coordinate with the transportation component by commodity, quantity, priority, and recommended mode.

2-62. In operations other than large-scale combat (although not excluded), units may receive munitions from their servicing ASAs directly via supply point distribution. This method of distribution may be more common in shaping or stability operations. Units may also receive munitions by way of redistribution. Redistribution occurs when a rebalancing of assets across the battlefield is warranted, and assets cannot be resupplied immediately or in a timely fashion by the supporting units. This method may be accomplished to buy the supporting agency time until assets arrive in theater. Redistribution of critical munitions assets is an operational decision and requires input from the supported maneuver commander. The process may involve a sustainment command as an arbiter.

Aerial Delivery of Munitions

2-63. Aerial delivery of munitions provides an effective means of conducting distribution operations. Aerial delivery includes airdrop, airland, and sling-load operations. In order to use aerial delivery, friendly forces must control airspace throughout the area of operations and neutralize enemy ground-based air defenses. Units may use aerial delivery for routine and urgent resupply to units in various locations where terrain limits ground access. Aerial delivery acts as a combat multiplier because it is an effective means of bypassing enemy activities, and it reduces the need for route clearance of ground lines of communications. It is a vital link in supporting remote or forward locations.

2-64. Emergency aerial resupply requests should be for immediate consumption to continue the fight or for a mission exceeding the normal operational tempo. They are processed through supply channels in the same manner as routine supply requests. Pre-rigged loads of standard munitions packages may reduce response time for emergency aerial resupply. Units should not use emergency resupply requests as a means to circumvent normal supply procedures. There are two means of requesting an emergency aerial resupply. One method uses the division or brigade organic lift capability and the other uses corps lift assets. The requesting units should attempt to cross-level ammunition prior to submitting an emergency request. In many cases, units can accomplish cross-leveling sooner than the approval and movement of ammunition to the unit could occur by aerial resupply. Normally, an emergency ammunition request exceeds the RSR or CSR, which triggers the requirement for ASCC approval through the TSC or ESC.

2-65. Munitions planners must be aware of the tolerance of certain ammunition for different types of aerial resupply methods. Certain critical munitions such as Army Tactical Missile System and Hellfire missiles require inboard movement. These munitions have a zero-drop tolerance and cannot be sling-loaded. In all operations, a vetted primary, alternate, contingency, and emergency plan for resupply must be in place before beginning. Aviation units cannot distribute some munitions by free drop, and other munitions may have a low tolerance level for sling-load or parachute airdrop delivery. For more information on aerial resupply, see ATP 4-48.

TRANSPORTATION OPERATIONS

2-66. Army transportation units play a key role in facilitating endurance. Transportation units move munitions from ports to points of employment and retrograde ammunition as required. The tenets of transportation operations include centralized control and decentralized execution, forward support, fluid and flexible movements, effective use of assets and carrying capacity, ITV, regulated movements, and interoperability.

2-67. Transportation managers coordinate distribution and routing for munitions through allocation of specific modes for munitions and other commodities, and by quantity and priority, to meet command priorities. Transportation managers work with other staff sections to de-conflict and validate push requirements.

2-68. Units plan and execute the transportation component of the distribution process according to their organization. The DMC transportation operations branch plans transportation for the distribution process in the TSC and ESC. In the CSSB, DSSB, and BSB, the SPO section plans transportation.

2-69. Transportation management is planning, prioritizing, directing, and executing associated functions to transport materiel and personnel by air, ground, and water assets based on operational requirements and resources in accordance with commander's priorities. Army formations execute transportation functions as outlined in ADP 4-0. Formations may implement these functions in part based on operational and mission variables to include the following:

- Transportation planning is a logistics function that includes movement control and associated activities to incorporate military, commercial, and multinational motor, rail, and water mode assets in the movement of units, personnel, equipment, and munitions in support of the concept of operations.
- ITV provides the distribution manager the ability to assess how well the distribution process is responding to supported force needs. *In-transit visibility* is the ability to track the identity, status, and location of Department of Defense units, and non-unit cargo (excluding bulk petroleum, oils, and lubricants) and passengers, patients, and personal property from origin to consignee or destination across the range of military operations (JP 3-36). Distribution managers gain and maintain visibility of munitions supplies, units, transition hubs, and transport modes at the earliest practical point in the management process. This allows managers to operate with timely information to effectively assess the status of resources, adapt, and rapidly respond to immediate distribution requirements.
- Movement of forces contributes to the building of combat power for the maneuver commander and enables the ability to shift forces across the area of operations efficiently.
- Intermodal operations include the process of using multiple capabilities (air, highway, rail, sea) and conveyances (truck, barge, containers, pallets) to move troops, supplies and equipment through expeditionary entry points and the network of specialized transportation nodes to sustain land forces.
- Mode operations consist of the execution of movements using various conveyances (truck, lighterage, railcar, and aircraft) to transport cargo.
- Movement control is the dual process of committing allocated transportation assets and regulating movements according to command priorities to synchronize distribution flow over lines of communications to sustain land forces. Munitions materiel managers determine and plan for items requiring shipping. Munitions materiel managers coordinate with movement control personnel to ship munitions. The movement control personnel track and monitor the shipments.
- Allocation is the distribution of limited forces and resources for employment among competing requirements.
- Coordination interfaces with organizations that participate directly or indirectly with the movement of personnel munitions and forces supporting deployment, redeployment, and distribution operations. Coordination extends to joint and multinational forces, host nation, contractors, and nongovernmental agencies.
- Routing is the process of scheduling and directing movements on the lines-of-communication to prevent conflict and congestion.

OPERATIONAL ART IN SUSTAINMENT

2-70. Army commanders use operational art to develop a vision of how to establish conditions that accomplish munitions support. Operational art is what allows commanders to translate their operational approach into a clear and concise concept of operations disseminated in an OPORD. Through operational art, commanders and staff combine art and science to develop plans and orders that describe how (ways) the force employs its capabilities (means) to achieve the desired end-state (ends) while considering risk. Commanders and staff use individual knowledge, skills, experience, judgement, and creativity to develop a plan to execute munitions distribution.

2-71. Maneuver and sustainment commanders use the elements of operational art to understand the OE and to develop a concept of operations. These elements are considered selectively in any operation as required and not all apply at all levels of warfare. The elements are—

- End state and conditions.
- Center of gravity.
- Decisive points
- Lines of operation and lines of effort.
- Tempo.
- Phasing and transitions.
- Culmination.
- Operational reach.
- Basing.
- Risk.

SUSTAINMENT PREPARATION OF THE OPERATIONAL ENVIRONMENT

2-72. *Sustainment preparation of the operational environment* is the analysis to determine infrastructure, physical environment, and resources in the operational environment that will optimize or adversely impact friendly forces means for supporting and sustaining the commander’s operations plan (ADP 4-0).

2-73. Sustainment preparation of the OE assists the planning staffs to refine the sustainment estimate or concept of support. It identifies friendly resources (host-nation support, contractible or accessible assets) or environmental factors (endemic diseases, climate) that impact sustainment. Some (not all) of the factors considered are as follows:

- **Geography.** Information on climate, terrain, and endemic diseases in the area of operations to determine when there is potential impact on munitions personnel, ammunition, and explosives.
- **Supplies and services.** Information on the availability of supplies and services readily available in the area of operations. Supplies such as subsistence items, bulk petroleum, and barrier materials are the most common. These supplies are necessary for munitions handlers to build and sustain ASAs. Common services include bath and laundry, sanitation services, and water purification.
- **Facilities.** Information on the availability of warehousing, cold-storage facilities, production and manufacturing plants, reservoirs, administrative facilities, hospitals, sanitation capabilities, and hotels. Examples may include abandoned earth-covered magazines or hangars suitable for storage of munitions.
- **Transportation.** Information on road and rail networks, inland waterways, airfields, truck availability, bridges, ports, cargo handlers, petroleum pipelines, MHE, traffic flow, choke points, and control problems. The location of aerial and seaports of debarkation may allow or prohibit the passage or presence of munitions. The size of airfields and seaports may also dictate the volume of munitions throughput.
- **Maintenance.** To maintain transportation assets for munitions distribution. Availability of host-nation maintenance capabilities.
- **General skills.** Information on the general skills available within the host nation such as translators and skilled and unskilled laborers. These individuals can assist in building ammunition storage areas, load and unload vehicles, and transport ammunition explosives.

PLANNING CONSIDERATIONS BY WARFIGHTING FUNCTION

2-74. Throughout operations, Army leaders face various problems, often requiring unique, creative solutions. Planning provides an informed forecast of how future events may unfold. It entails identifying and evaluating potential decisions and actions in advance to include thinking through consequences of certain actions. Planning considerations listed below are an example of what sustainment planners may take into account during operations. This list is not all-inclusive. Considerations will vary for individual operations.

- Command and Control.
 - Assess munitions task organization frequently to ensure it is adequate and positioned properly to support the mission. Plan for replacement of ammunition that is lost due to enemy action.
 - Clearly define command and support relationships of supporting organizations during the planning process.
- Movement and Maneuver.
 - Expect demand for munitions to surge during offensive operations.
 - Coordinate with movement control units for road usage or de-confliction during retrograde operations. Commanders must identify main and alternate movement routes.
 - Identify the main and supporting efforts in each phase of the operation to establish or determine priorities of support and resources among subordinate units.
 - Consider establishing logistics bases, opening and maintaining lines of communications, establishing intermediate logistics bases to support new phases, defining priorities for services and support, and securing sustainment nodes.
 - Understand or anticipate how terrain, enemy action, fire support coordination measures, and movement restrictions will affect the methods used for munitions resupply. These factors must be considered in all distribution management and movement control plans.
- Intelligence.
 - Understand enemy capabilities and enemy most likely courses of action. This aids in planning unit protection operations. Understand how enemy threat may influence sustainment or munitions distribution operations.
 - Understand the OE through analysis of all operational variables. Understand how each variable may influence munitions operations.
 - When appropriate, conduct technical intelligence exploitation of all CEA in collaboration with EOD. Refer to appendix B for further information on CEA.
 - In concert with the sustainment warfighting function, identify and evaluate threat and host-nation logistics capabilities and identify potential supply routes and resupply points.
- Fires.
 - Forecast increased consumption of long-range and precision munitions for division and corps fires units.
 - Anticipate frequent and rapid relocation of fires units.
 - Plan for specialized munitions such as hellfire, 30 mm, and 2.75 inch rockets to support attack helicopter operations at the BCT level. This includes planning for munitions and placement of forward arming and refueling points.
 - Ensure quantity and positioning of modular ammunition units at EAB are sufficient to support fires ammunition requirements.
 - Ensure that munitions transportation assets are adequate and properly positioned to support munitions distribution for fires operations. The TSC must coordinate with the GCC J-4 and strategic providers to ensure required munitions are being distributed to the theater.
 - Field artillery preparatory ammunition is delivered as close to the batteries as possible to prevent the artillery ammunition carriers from having to up-load after the preparatory fire is executed.
 - If supporting air and missile defense units, consider including air and missile defense munitions in planning. Include air defense measure munitions in logistics status. Consider special handling and storage of air defense measure munitions.
- Sustainment.
 - Plan for all munitions functions required to build combat power. Preposition munitions as far forward as the tactical situation permits. Consider the use of mission-configured loads. Balance forward positioning of resupply and rapid mobility.
 - Plan for heavy equipment transportation assets to support retrograde of materiel.

- Coordinate with the supporting CSSB to provide support to BCT units when the BSB is in retrograde movement.
- Expect high demand for munitions to support the offensive and defense preparation effort.
- Ensure adequate transportation assets are available to move the required tonnage.
- Protection.
 - Plan for adequate convoy security during transportation of U.S. munitions. This may be from internal sources or from coordinated external sources.
 - Ensure that adequate security is provided for the ASA during site planning, design, and layout.
 - Ensure ammunition and explosives are stored safely. Refer to ATP 4-35.1 for more information.

PLANNING FUNCTIONS FOR MUNITIONS

2-75. Throughout munitions operations and planning there are some key components to consider include the following:

- Current tactical situation.
- Mission and operational variables.
- The capacity of ammunition units to receive, store, and issue munitions stocks.
- The capacity of the distribution network in short tons over time-distance factors. A short ton is the equivalent of 2,000 pounds (0.907 metric ton) of weight.

2-76. The two essential functions of munitions planning are the forecasting of requirements and the distribution of required munitions. These planning activities occur in each phase of operations and are fundamental for effective Army operations.

2-77. Munitions planning and operations must be versatile. They must complement combat plans and operations and improve the ability of the supported unit to accomplish its mission. The supported commander's concept of operations, priorities, and munitions requirements dictate the actions of the ammunition planner. Munitions planning includes determining ammunition requirements and echeloning capabilities and ammunition units. This will establish split-based operations where required, pre-configuring ammunition and resupply, and use civilian, contractor, allied, and host-nation capabilities at the appropriate echelon when required.

2-78. Munitions planning and distribution uses MDMP throughout all phases of an operation. Munitions planning follows the basic guideline of determining the munitions requirements and distribution capabilities, and then mitigating any shortfalls.

2-79. Munitions operations planning is also an important factor in MDMP for any operation involving munitions, especially during mission analysis. The results of a thorough mission analysis for all operations factor in projected ammunition consumption, RSRs, and applicable CSRs.

MUNITIONS PLANNING APPLICATION

2-80. Proper munitions planning is critical for mission success. Any operation involving munitions must have a clearly defined mission statement with equally clear objectives. Considerations for munitions planning include the following:

- Commander's friendly forces information requirements will always include the status of ammunition stocks and is an expected critical information requirement for all military operations:
 - Availability of ammunition may immediately determine the feasibility of, or significantly affect, the development of a course of action.
 - Proper calculation, allocation, and application of supply rates may necessitate planning an operational pause or determining a culmination point.
- Differing rates of ammunition supply and consumption may require planning operational branches.

- Improper adherence to or lack of a CSR may result in zero-balance conditions in combat forcing the operations to culminate prior to achieving the objective.
- Improper forecasting may lead to overstocking (stockpiling). This is detrimental to munitions operations because it decreases ASA mobility and the overall availability of munitions to the force. This amplifies risks associated with net explosive weight and excess handling, increasing demand on the available workforce, and resulting in greater risk of enemy targeting.

2-81. As principally storage and distribution activities, ammunition units and munitions staff should consider closely all available means to reduce both manpower requirements and reliance on MHE when establishing ASAs and conducting munitions operations throughout all phases of operations.

RUNNING ESTIMATES

2-82. Running estimates cover essential facts and assumptions, including a summary of the current situation. Running estimates always include recommendations for anticipated decisions. Running estimates assist commanders and staffs with understanding situations, assessing progress, and making decisions throughout an operation. Effective plans and successful execution hinge on current and accurate running estimates. Munitions staff and operational planners keep and update running estimates for munitions planning and management. Running estimates provide information for the logistics report. At a minimum, running estimates for munitions operations should include—

- Ammunition unit task organization (with receipt, storage, and issue capability) by phase.
- Supported unit task organization by phase, including known or anticipated area support obligations (for example, special operations forces support requirements).
- Known or emerging constraints or limitations to ammunition availability.
- Stockage objectives and ASA on-hand balance.

2-83. Running estimates should also take the following into account:

- Currently available and planned primary, alternate, contingency, and emergency distribution means and form of munitions load.
- Theater array by phase to establish lines of communication (distance between units, major nodes, and planned support locations).
- Current ammunition requirements, combat loads, and unit on-hand balances.
- Current supply rates and unit historical estimation tool consumption data.

2-84. For more information on running estimates, refer to ADP 5-0.

MUNITIONS CONTROL PROCEDURES

2-85. Munitions control procedures balance finite amounts of available munitions across projected operational requirements. These procedures include those used in determining rates of supply and in calculating consumption to determine necessary stockage objectives. The expressions developed through munitions control procedures are essential to all steps of MDMP and fundamental to mission analysis.

Munitions Supply Rates

2-86. The allocation of ammunition within an area of operations is determined by using two ammunition supply rates. The two rates of supply used in munitions control procedures are the RSR and the CSR. *Required supply rate* is the amount of ammunition expressed in terms of rounds per weapon per day for ammunition items fired by weapons, in terms of other units of measure per day for bulk allotment, and other items estimated to be required to sustain operations of any designated force without restriction for a specified period (ATP 3-09.23). *Controlled supply rate* is the rate of ammunition consumption that can be supported, considering availability, facilities, and transportation. It is expressed in rounds per unit, individual, or vehicle per day (ATP 3-09.23).

2-87. Planners must consider the ammunition requirements of other services and coalition members when computing the RSR and CSR.

Determining the Required Supply Rate

2-88. The RSR is an estimated amount of ammunition needed to sustain tactical operations without ammunition expenditure restrictions over a specified period. Units starting at the lowest level determine their munitions requirements and submit a RSR report to the next higher headquarters. The G-3 or S-3, assisted by the G-4 or S-4, develop the RSRs. The RSRs, if approved by commanders, are submitted to the next higher headquarters. Headquarters at each level review, adjust, and consolidate RSR information and forward it through command channels. As RSRs progressively rise through command levels, individual system quantity requirements are consolidated and expressed in short tons required per unit of time (per day, per phase, per formations or per operation). High-value, low-density munitions will continue to be expressed in terms of individual rounds. The RSR report is expressed as rounds per weapon per day, and as a bulk allotment per day or based on mission requirement.

2-89. Unit G-3s or S-3s, with participating master gunners, perform RSR computations and routing. RSRs are computed using manual or automated procedures, historical experience, and estimation tools. Planners must apply judgment to any automated estimates. Weapon density and mission are essential to determining the RSR.

2-90. RSR estimates are conducted by asking the following questions:

- How many enemy targets will present themselves for engagement by unit weapons on an average day of combat?
- How many weapons, with how many rounds, and with what types of rounds will engage these targets?
- What is the prioritization of engagement for identified targets?
- When will the RSR significantly increase or decrease?

2-91. Table 2-1 lists machine gun specifications. For additional information, refer to ATP 3-21.8. Similar factors are applied to the main battle tank, infantry or cavalry fighting vehicle, artillery, and air defense systems.

Table 2-1. Machine gun specifications

	<i>M249</i>	<i>M240</i>	<i>M2</i>	<i>MK19</i>
<i>Sustained Rate of Fire/Rounds Per Minute (RPM)</i>	50 RPM	100 RPM	40 RPM	40 RPM
<i>Rounds/Burst interval</i>	6-9 rounds, 4-5 seconds	6-9 rounds, 4-5 seconds	6-9 rounds, 10-15 seconds	
<i>Minutes to Barrel Change</i>	10 minutes	10 minutes	Change barrel at end of day or if damaged rounds.	
<i>Rapid Rate of Fire</i>	100 RPM	200 RPM	40 RPM	60 RPM
<i>Rounds/Burst Interval</i>	6-9 rounds 2-3 seconds	10-13 rounds 2-3 seconds	6-9 rounds 5-10 seconds	
<i>Minutes to Barrel Change</i>	2 minutes	2 minutes	Change barrel at end of day or if damaged.	
<i>Cyclic Rate of Fire</i>	850 RPM in continuous burst. Barrel change every 1 minute.	650-950 RPM in continuous burst Barrel change every 1 minute	450-550 RPM in continuous burst	325-375 RPM in continuous burst
<i>Maximum Effective Range (in meters [m])</i>	Bipod/point 600 m Bipod/area 800 m Tripod/area 1000 m Grazing 600 m	Bipod/point 600 m Tripod/point 800 m Bipod/area 800 m Tripod/area 1,100 m Suppression 1,800 m Grazing 600 m	Point 1,500 m (single shot) Area 1,830 m Grazing 700 m	Point 1,500 m Area 2,212 m
<i>Maximum Range</i>	3,600 meters	3,725 meters	6,764 meters	2,212 meters

Determining the Controlled Supply Rate

2-92. The CSR is the rate of ammunition consumption the theater can support considering availability, storage facilities, manpower, and transportation. A CSR is established when the RSR exceeds the capability of the munitions support system. Several factors (such as stockage or lift capabilities) limit the amount of ammunition available for an operation. Other considerations for emplacing CSRs are the priority weighting of main and supporting efforts, the economizing of limited resources, and the reduction of the hazards of stockpiling. CSRs control ammunition issue. The ASCC G-3, with input from the TSC, establishes the CSRs by comparing the total unrestricted ammunition requirements against the total ammunition assets on-hand or due-in. When a munitions item is in short supply, the ASCC G-3 lowers the CSR. The commander determines who receives the ammunition based on mission priorities. CSRs are normally expressed in rounds per weapon system per day.

2-93. The ASCC gives subordinate commanders the CSR for each ammunition item. The CSRs may vary from unit to unit based on the mission objectives, priorities, projected threat, and ammunition availability.

Each maneuver commander gives the CSR to each subordinate maneuver commander. Commanders at all levels can establish a CSR as long as it doesn't exceed a CSR from a higher headquarters. Commanders making CSR allocations to subordinate units should retain a portion of the CSR to meet unforeseen contingencies.

2-94. The ASCC G-3 disseminates the CSR to units through the operations order in paragraph 4, or in the service support annex (Annex F) of the operations order for both Army and joint operations. Commanders may place CSR information in the fire support and engineer annexes, D and G, respectively, of the OPORD.

2-95. A unit may not draw ammunition in excess of its CSR without authority from its next higher headquarters. Early establishment of a CSR may be required prior to calculating an RSR. This occurs when the availability of a munition is already a known constraint or limitation, or leaders expect a munition to be in high demand.

Calculating Ammunition Consumption

2-96. Ammunition consumption is determined by computing ammunition requirements versus capabilities. The goal of ammunition consumption calculation is to determine a viable stockage objective for tactical ASAs, thereby avoiding stockpiling in forward locations while efficiently rearming the force.

2-97. Planning factors required for determining ammunition consumption include the ammunition combat load, the daily estimated expenditure rate or RSR, and the resupply capability or CSR within the context of the proposed or ongoing operation and operational timeframe. These figures will generally include the packaging weight of material in the total weight and cube when determining transportation requirements.

2-98. The estimated daily expenditure rate for the operation RSR is subtracted from the projected resupply capability expressed as a CSR. The on-hand balance is added to the result to determine the projected balance. This calculation is used to determine if the CSR can meet the RSR. Any delta to this result that cannot be met will require resolution prior to start of operations.

$$\text{Balance} + (\text{Resupply [CSR]} - \text{Expenditure [RSR]}) = \text{Projected balance.}$$

STOCKAGE OBJECTIVE

2-99. A stockage objective is the quantity of munitions required to ensure that all training and operations in a theater can be conducted until resupply occurs. Properly calculating and adhering to stockage objectives enables freedom of action, reduces the hazards of stockpiling, and economizes limited resources. General information on how ammunition consumption data informs stockage objectives is found earlier in this chapter. When determining a stockage objective, units take logistics factors such as storage space and transportation capabilities into account. For more information on stockage objectives, refer to AR 5-13.

Operation Plan Requirement

2-100. The operation plan requirement is the total quantity of munitions required to execute an ASCC's most demanding major combat operation in support of joint staff-directed theater operations or contingency plan. This consists of operations from D-day to the point at which operations and contingency plans project a transition to stability-type operations will begin. Operation plan requirements include the following:

- Combat load aggregate in accordance with the time phased force deployment data (commonly referred to as TPFDD).
- Sustainment load – the remainder of the operation plan requirement. Break out of the requirement for the first 30 days of supply of the ASCC's most demanding joint staff-directed operation or contingency plan.

Strategic Munitions Planning

2-101. The Army develops munitions requirements biennially. The munitions requirement process is a deliberate planning process used by the Army staff to develop the total Army munitions requirement. The munitions requirement process supports long-range planning and investment.

2-102. Inputs to the munitions requirement process include strategic planning guidance, combatant command operation plans, Defense Intelligence Agency threat reports, projected force structure, approved and projected munitions, munitions caps, approved combat loads, and munitions system performance data. This process combines war reserve requirements with projected training and testing requirements to produce the total Army munitions requirement. The Army munitions requirements and resourcing board addresses immediate operational needs via emergent operational needs statements. Refer to AR 5-13 for more information on stockage objectives.

DEPLOYMENT PLANNING

2-103. Initial munitions support is required when a unit deploys with the prescribed combat-ready amount and type of munitions necessary to ensure successful decisive action. Units deploy with the amount of ammunition determined during operational planning. To be able to conduct effective combat operations upon arrival in the JOA, the unit should deploy with a full ammunition combat load.

2-104. The ability to deliver ammunition may be constrained early in an operational deployment and during the theater opening phase. Prioritization of ammunition by type and quantity for distribution during early phases of a deployment is essential.

2-105. The nature of a dynamic environment may warrant forcible entry into a JOA, creating a requirement to expedite munitions from the port of debarkation (POD) to the point of employment. **An *ammunition transfer holding point* is a designated site operated by a BSB distribution company, where ammunition is received, temporarily stored, or transferred to support units within a functional or multifunctional brigade.** The MATP section supports Stryker, armored, and infantry BCTs and is designed to provide the BCT commander the ability to scale, tailor, and surge munitions capability and capacity required to sustain combat power during high operations tempo decisive engagements across widely dispersed areas of operations.

2-106. Roll-off combat capability requires the unit to deploy with an uploaded combat load of munitions. While an uploaded deployment provides capability for immediate mobility and lethality, it requires an assessment to determine the impact on the working maximum on the ground capacity at the aerial POD. The working maximum on the ground is the number and types of aircraft that can be turned (operated) simultaneously on an airfield at one time. Additional weight of uploaded combat vehicles and increased safety risks may negatively affect airflow and ultimately influence the deployment timeframe. Pre-plan for international clearances and waivers for uploaded deployment.

2-107. Capacity of PODs must be determined prior to deployment. These ports may have net explosive weight restrictions and restrictions on handling capacity. Arrival of ammunition ships increase the likelihood of temporary port closure in order to reduce risk.

2-108. Resupply will occur at the unit location in accordance with the unit's operation plan. In addition to distribution by the ammunition resupply section, units and crews will conduct cross-leveling of ammunition to create full loads when operationally permissible. These actions can occur before or simultaneously with the ammunition resupply operations.

Protection Munitions Planning

2-109. Commanders and staffs must plan for ammunition designated for routine and ongoing protection in preparation for deployment. This ammunition is in addition to forecasted amounts for combat missions and tactical situations throughout deployment operations. Deployment planners must address the ammunition gap between what is available and what is required for initial operations. Planners consider munitions not approved to accompany troops and munitions not authorized to be prepositioned. See later portions of this chapter for ammunition combat load information and chapter 5 for more information on protection ammunition.

Unit Deployment Munitions Planning

2-110. The warning order for deployment normally includes the general location of the area where the unit will conduct its operations, the movement date, and a list of special requirements or instructions. When

notified of an impending deployment, the unit commander alerts unit personnel and initiates planning. The deployment is coordinated with the supporting element and transportation activity. The commander determines the type of movement to be made (unless specified), requests additional transportation as necessary, takes steps to phase out current operations, and schedules a reconnaissance of the deployment area.

2-111. Planners base many deployment decisions on answers to critical questions. Munitions units and planners form more specific questions for a mature theater as opposed to an immature one. Questions that must be addressed prior to deployment include the following:

- What is the location or theater of deployment?
- What is the theater situation? Is it forced or permissive entry?
- Will the deployment be as a unit, and will advance, main, and rear parties be required?
- Is the unit falling in on prepositioned stocks? If so, is the unit trained and licensed on the equipment they are acquiring?
- Will the deployment be in phases? What are the known dates and times?
- What organization will act as the point of contact in the theater? What is their support structure?
- What is the supported organization? A brigade, corps, or division-size force?

2-112. The transition from a peacetime mission to a wartime mission and the move from an installation, post, camp, or activity are major steps for ammunition units. Commanders must ensure that officers and noncommissioned officers (NCOs) understand the transition process and give priority to unit training. This understanding and training prepares the unit to deploy to its assigned area and perform its mission effectively and efficiently. Deployed units must continue to execute contingency plans and tactical operations. When a deployment is to be made, consider the following:

- Equipment and personnel requirements.
- Transportation requirements.
- Reconnaissance and site selection.
- Area preparation and layout.
- Defense, security, and area damage control.

2-113. Rapid, efficient deployments are subject to detailed contingency planning and preparation of a simplified tactical standard operating procedure (SOP). To ensure a successful move under stressful conditions, unit training must employ these contingency plans and SOPs, adjusting as necessary, until all unit personnel understand procedures thoroughly. There will probably be a continuing need to forecast and manage all types of ammunition effectively.

2-114. The unit commander must identify the task organization in which the unit will operate. Units establish this type of contingency planning during peacetime so the unit can develop detailed SOPs and plans. At a minimum, the following factors must be considered during planning:

- Local points of contact for unit support such as computer, engineer, signal, security, defense, transportation, petroleum, oils, and lubricants.
- Status charts for unit personnel, equipment, and ammunition including combat load.
- Replacements for equipment, personnel, authorized stockage list, and prescribed load list.
- Equipment staging location and procedures.
- Organization of march units.
- Organization of duties for advance and rear parties and the reconnaissance element.
- Densities and speeds for different types of moves.
- Army command and control systems and logistics information systems methods and procedures.
- Actions to take for contingencies such as troops in contact (event battle drills).
- Accident and maintenance procedures.
- Messing and refueling procedures.
- Load plans for personnel, equipment, and ammunition-related materials.
- Low-light operations.

- Continuity of operations plan.
- Directional signs, fire symbols, and stack signs sufficient for three storage locations.
- Retrograde operations.
- Identification of QASAS source organization and the method of acquiring support.

Current Operations

2-115. Current and anticipated tactical operations drive sustainment munitions requirements. During current operations, reporting and requisition activities occur simultaneously throughout both supported and sustainment organizations. These activities occur all along the munitions support structure.

2-116. Current munitions operations begin at the point of employment with ammunition expenditure awareness of the Soldier. Unit supply specialists consolidate all ammunition expenditure reports and forward them to the battalion S-4. The S-4 shares ammunition consumption reports with the battalion S-3 and special staff (for example, battalion fires officer or battalion master gunner) as appropriate. The battalion S-4 requisitions ammunition replenishment using available munitions requisition and information systems according to SOP. Concurrently, the G-3 or S-3 and other staff process munitions stock status reports throughout their established support structure in order to maintain a COP. Sustainment staff process both munitions stock status and requisition reports throughout their established support structure, maintaining a COP as well as executing the munitions requisition and distribution operation through the OPORD process. Sustainment organizations share munitions stock status, requisition, and distribution status with interested organization counterparts (for example, battalion S-4 and FSC commander, operational brigade S-4 and BSB SPO, division G-4 and division sustainment brigade SPO).

2-117. Requirements are determined in coordination with the BSB SPO and the SPO ammunition officer. The S-4 of each battalion requests munitions based on consolidated user requirements needed to support tactical operations. Based on requests submitted by battalions and munitions allocations to users (based on CSRs), the SPO ammunition officer determines types and numbers of combat load supply packages and submits them to EAB support activities.

2-118. The ATHP and MATP have very limited configuration capability based on available MHE and personnel. Munitions are typically configured as required, documented, loaded, and organized on ready-to-deploy platforms. The containerized roll-on and roll-off platforms, flat racks, and 463L pallets used can be moved forward quickly to the designated POD via strategic or intra-theater transportation. Procedures for transportation, handling, and accountability of follow-on munitions once they arrive at the POD and ATHP and MATP are essentially the same as for the receipt of initial munitions. ASAs build combat configured loads combining pre-packaged loads received from designated distributors. Combat configured loads continue to flow unless changed in type or quantity. All loads are throughput as far forward as possible.

2-119. The maneuver battalion S-4 determines ammunition resupply requirements based on information provided in the unit's logistics status and guidance received from the battalion commander and SPO. The S-4 consolidates the entire maneuver battalion ammunition requirements and submits the battalion roll-up ammunition resupply request to the brigade S-4. The brigade S-4 consolidates the ammunition requests and passes the consolidated request to the BSB SPO. The SPO ammunition officer directs distribution according to the maneuver battalion concept of support or to where required based on the logistics COP.

2-120. The SPO ammunition officer validates the brigade ammunition requests by comparing the amount of ammunition requested against the CSR and the available on-hand stock in the BSB's distribution company's ammunition section. The SPO ammunition officer considers current and future mission posture along with operational guidance. After analyzing all these factors, the SPO ammunition officer either validates the request or adjusts it to meet the demands of the operation in coordination with the brigade S-4 and supported unit. Based on current mission, tactical situation, and transportation availability, the SPO ammunition officer determines whether the ammunition resupply will be throughput to the appropriate ammunition holding point or to a forward logistics release point.

2-121. The distribution company's ammunition section maintains a record of the ammunition issued using wartime ammunition procedures outlined in AR 700-28. Ammunition unit leaders and munitions staff continue refining operations as they occur. Munitions personnel should be aware of historical friction points

in munitions operations. Periodic review of SOPs is essential to ensure continued relevancy and that Soldiers are adhering to correct practices.

2-122. Munitions leaders must ensure that proper measures of effectiveness and measures of performance are in place to assess operations effectively. Questions to consider during operations include—

- Are the issuing ASA and using units maintaining adequate liaison?
- Are ASAs within reasonable distance of the using units?
- Are ASAs receiving excessive amounts of forecasted ammunition requests?
- Are ASAs turning away using units when issues are scheduled? If so, how often and what are the causes?
- Is downtime excessive (elapsed time between the arrival and the departure of trucks)?

2-123. Transportation planners collect information on road and rail networks, truck availability, bridges, airfields, ports, cargo handlers, and MHE. Planners also examine traffic flow to identify potential choke points, control problems, and host-nation administrative requirements for handling and transport of hazardous material.

Irregular Warfare

2-124. Planners supporting munitions operations during irregular warfare must consider support provided to dispersed and geographically separated units. These units are often located far from support bases. Units may operate in austere environments where developing situations including enemy action, civil protests, and weather changes can affect routine resupply. Basic planning factors for irregular warfare include the following:

- Units may draw supplementary or modified equipment to include lethal and nonlethal weapon systems.
- Some irregular warfare operations can consume uncharacteristically high quantities of munitions due to combined defensive and offensive actions.
- Consideration of munitions storage procedures in constrained and austere environments.
- Routine intra-theater aerial resupply is likely to be required.
- Munitions units may be required to provide support to forming host-nation security forces including training and arming.

REDEPLOYMENT PLANNING

2-125. *Redeployment* is the transfer of forces and materiel to home and/or demobilization stations for reintegration and/or out-processing (ATP 3-35). Redeployment is one of the major missions of ammunition support units. Planners should provide the same amount of detail to transitioning to redeployment operations, including the return of munitions materials and components following the completion of operations, as for deployment operations.

2-126. Before redeployment begins and while combat operations are ongoing, logistics planners monitor the levels of munitions in the theater and estimate the packing materials needed to return remaining munitions to a CONUS depot. During retrograde of munitions operations, munitions units continue to provide munitions to security forces while relocating the excess to a theater ASP.

2-127. Before the completion of operations, leaders must develop plans outlining redeployment procedures. Plans must identify tasks required to return ammunition to its original packing configuration as required. Upon termination of a conflict, munitions units properly identify, prepare, repackage, collect, load, and ship all issuing munitions. These tasks constitute the redeployment process and coincide with the munitions retrograde program within the ammunition supply system.

2-128. The same precautions and procedures used for munitions during the theater build-up phase and during continuous retrograde operations are followed when transporting or storing ammunition and explosives for redeployment.

2-129. Other considerations include the following:

- Units must plan for rotational follow-on units. The unit must properly account for and transfer the ammunition combat load designated to accompany troops and those not designated to accompany troops.
- Commanders and staffs must plan for adequate protection ammunition to be available to the force throughout the duration of a redeployment.
- Amnesty point operations may become prevalent during redeployment. Forward operating bases with elements using military munitions will establish an ammunition and explosives amnesty program. For more information on establishing ammunition amnesty point operations, see DA PAM 385-64.

MUNITIONS RETROGRADE PLANNING

2-130. Munitions retrograde planning incorporates a vast array of critical issues and concerns. One of the key issues planners must address during the initial phase is how to recover and retrograde ammunition remaining after an operation ends. Ensuring that sufficient personnel, time, equipment, and materials are available becomes more important when the main effort is directed at returning personnel and equipment to CONUS or other theaters as quickly as possible.

2-131. Apart from ammunition itself, the ASA operating equipment and materiel must be considered in retrograde planning and can be placed into the following categories:

- Organizational property on the property book and brought to theater.
- Theater-provided equipment left by redeploying units for follow-on rotational units including MHE, containers, packing materials, and communications systems.
- Contractor-acquired or government-owned equipment comprised mostly of materials for establishing and operating ASAs, including containerized housing units, air conditioning units, and generators.
- Contractor-owned equipment left behind.

2-132. All such materiel and equipment should be sorted into disposition subcategories of retain (return, remain, or redistribute) or divest (sell, transfer, or dispose). At a minimum, planners should consider the following:

- Begin planning before the last battle.
- Develop a system for retrograde of materiel consolidating materiel at various stages (for example, at unit level for return to an ATHP or MATP).
- Assign condition codes as far forward as possible. Also, make decisions about which ASP should get certain items for further consolidation or reconditioning.

2-133. For planning purposes, assume the following about the condition of munitions in the unit's or Soldier's possession:

- Units have removed munitions from original packaging.
- Packing materials were not retained by the user.
- Munitions will require a serviceability or classification inspection.

2-134. Plans must incorporate retrograde operations at all levels. Plans should include—

- Identifying specified and implied retrograde responsibilities.
- Obtaining or providing empty storage containers and assigning responsibilities for the recovery of packing materials.
- Structuring retrograde planning cells.
- Identifying special requirements for classified, controlled, or critical sensitive items.
- Requesting specialized teams or personnel to assist in retrograde

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Chapter 3

Munitions Operations at Echelons above Brigade

The munitions supply mission is to provide the correct type and quantity of munitions materiel to the force using the principles of sustainment. Munitions support requires that sustainment organizations and their supported units co-own the munitions supply process. The ammunition sustainment architecture demands integrated roles and responsibility at the national strategic, theater strategic, operational, and tactical levels of warfare.

SECTION I – STRATEGIC AND JOINT PARTNERS

3-1. Strategic partners are those institutional Army organizations and agencies that support and enable munitions operations from the national and strategic level. Munitions operations for U.S. forces begin at the strategic level where DOD interacts with the industrial base to coordinate the development, production, procurement, and distribution of munitions required to meet strategic level objectives.

3-2. In the U.S., munitions operations originate in the strategic support area. The strategic support area consists of the defense industrial base that includes DOD, government, and private sector worldwide industrial complexes with capabilities to perform research and development, design, produce, and maintain military weapon systems, subsystems, components, or parts to meet military requirements. These organizations provide support from CONUS. The effectiveness or ineffectiveness of their operations has a direct, if not immediate, impact on tactical combat operations. Various organizations interface with strategic or national-level partners through operational-level organizations. These partners provide products and services that are essential to mobilize, deploy, and sustain military operations. This chapter will focus on DOD organizations and their role related to munitions only.

DEPARTMENT OF THE ARMY

3-3. Military organizations acting at the strategic level include the Army Chiefs of Staff, the ASA (ALT) Joint Program Executive Office-Armaments & Ammunition (JPEO-A&A), USAMC, Joint Munitions and Lethality Life Cycle Management Command, Joint Munitions Command, Combat Capabilities Development Command Armaments Center, Defense Ammunition Center, and U.S. Army Sustainment Command.

ARMY DEPUTY CHIEF OF STAFF, G-3/5/7

3-4. The Army Deputy Chief of Staff (DCS) for Operations, Plans, and Training, G-3/5/7 munitions management office determines the essential strategic munitions requirements to support a strategy, campaign, or operation. The DCS, G-3/5/7 ensures that units provide their munitions requirements for operations and recommends use of munitions resources (munitions required for military deception), priorities, and sustainment requirements (with the G-4). The DCS, G-3/5/7 coordinates munitions resourcing strategies, synchronizes policy, oversees Army weapons training programs, and monitors munitions industrial base readiness in conjunction with the Army staff.

3-5. The Army DCS, G-3/5/7 validates and consolidates Army munitions theater stockage objectives, ensuring they do not exceed DCS, G-3/5/7 approved Army munitions requirements. In the case of preferred munitions (precision munitions, rockets) and low-density specialized capabilities, the Army may retain a portion of the stockpile in CONUS depots to preserve maximum operational flexibility to meet emerging requirements worldwide. Low-density specialized items include, but are not limited to, nonlethal capability sets, anti-personnel canister rounds, select mines, and counter-mine munitions. The goal is to maintain theater

supply levels as close to the validated stockage objective as possible in order to avoid both shortfalls and overages.

3-6. The ASCC often coordinates with strategic and unified action partners (including but not limited to USAMC, PEO-Missile & Space, and Missile Defense Agency) for the movement of specialized munitions and missiles in support of deployed or deploying forces.

ARMY DEPUTY CHIEF OF STAFF, G-4

3-7. The Army DCS, G-4 assists in the development of Army strategy, policies, and programs for logistics and sustainment. The DCS, G-4 plans and supervises the execution of those policies and programs. The DCS, G-4, reviews and assesses the execution of Army logistics policies and programs. The Army DCS, G-4 has responsibility and oversight for plans and resources for storage, surveillance, distribution, accountability, and demilitarization of all Army munitions.

3-8. The DCS, G-4 oversees distribution of the Army's munitions stockpile. The DCS, G-4 is the programming lead for strategic munitions supply requirements and oversees control of the allocation, distribution, and redistribution of Army munitions. The DCS, G-4 ensures allocations are coordinated with the Joint Materiel Priorities and Allocation Board when either multiple CCDRs or theaters are involved or when worldwide operational or emergency situations are indicated.

3-9. The Army DCS, G-4 maintains accurate inventory and serviceability data for Army munitions. The G-4 provides information to support the Army DCS, G-3/5/7 risk assessments and logistics data to assist in determining resourcing solutions for requirements exceeding the Army munitions stockpile.

3-10. For more information on Army DCS, G-4 munitions responsibilities, see AR 5-13 and AR 700-28.

ARMY DEPUTY CHIEF OF STAFF FOR PROGRAMS

3-11. The Army DCS for Programs (commonly referred to as the Army G-8) ammunition division is responsible for developing munitions programming and budgeting requirements. The top priority of Army ammunition resourcing is to support deployed forces and plan for future combat operations. The Army DCS for Programs traditionally focuses on program objective memorandum resourcing. ASA (ALT), along with the Army budget office, focuses on the budget year and year of execution. The Army DCS for Programs and ASA (ALT), collaborate as program evaluation group co-chairs for the equipping program evaluation group.

ASSISTANT SECRETARY OF THE ARMY (ACQUISITION, LOGISTICS, AND TECHNOLOGY) JOINT PROGRAM EXECUTIVE OFFICE-ARMAMENTS & AMMUNITION

3-12. The ASA (ALT) has the responsibility for a broad set of acquisition, logistics, technology, and other overarching tasks. The ASA (ALT) is responsible to the Secretary of the Army for acquiring, developing, delivering, supporting, fielding, and sustaining capable and affordable systems and services including munitions and ensuring that Soldiers—

- Dominate the battle space, safely and securely.
- Achieve first look, first strike advantage with speed and accuracy.

3-13. ASA (ALT) serves as the Army acquisition executive, senior procurement executive, science advisor to the Secretary of the Army, and senior research and development official for the Department of the Army. ASA (ALT) accomplishes these missions through oversight of several entities including national and Army-level directorates, a direct reporting unit, program executive offices supported by project and program managers, and through other relationships with entities including the Army Science Board, U.S. Army Medical Research and Development Command, and Chemical Materials Agency.

3-14. JPEO-A&A is a subordinate division of the ASA (ALT). JPEO-A&A is responsible for life-cycle acquisition management for all conventional ammunition including acquisition strategies, research and development, and life-cycle management across all ammunition families. JPEO-A&A plays a vital role in munitions support. This office ensures the correct types and quantities of munitions are acquired and placed into the Army's munitions support system.

UNITED STATES ARMY MATERIEL COMMAND

3-15. USAMC is the Army's lead materiel integrator providing technology, acquisition support, materiel development, logistics power projection, and sustainment support. USAMC is organized with Army field support brigades (AFSBs), Army field support battalions (AFSBns), and other logistic support elements that resolve materiel readiness issues for Army commands. USAMC's major subordinate commands include Army Sustainment Command and Army Contracting Command.

3-16. USAMC also provides related common support to other Services, multinational, and interagency partners. The capabilities of USAMC are diverse and are accomplished through its various major subordinate commands and other subordinate organizations. See ATP 4-98 for additional information.

3-17. USAMC distributes Army munitions in accordance with the Army DCS, G-3/5/7 priorities as authorized in TAMIS and DCS, G-4 distribution plans. USAMC executes allocation of Army munitions globally as directed by DCS, G-4 in accordance with DCS, G-3/5/7 approved stockage objective and authorizations in TAMIS.

3-18. USAMC munitions activities perform sustainment munitions maintenance. USAMC can deploy personnel forward to the Army service area to perform certain tasks. Munitions maintenance units are responsible for accomplishing portions of the maintenance mission beyond the capability or capacity of the ammunition company. Specifically, munitions maintenance consists of but is not limited to—

- Removal of extensive rust or corrosion, painting and stenciling munitions materials, and major repairs to or fabrication of boxes, containers, and crates.
- Renovation or modification comprising the replacement of either internal or external components that require the use of operational shields or barricades.
- Munitions maintenance is performed at or in a depot-level environment. Specific depot-level capabilities can be deployed forward to the Army service area, as required, to perform certain tasks.

ARMY FIELD SUPPORT BRIGADE AND ARMY FIELD SUPPORT BATTALION

3-19. The AFSB is assigned to the USAMC Army Sustainment Command (ASC). The AFSB leverages USAMC national-level provider capabilities and assists in the coordination of ASA (ALT) support (less medical) to the operational Army. The AFSB mission is to synchronize and integrate USAMC strategic capabilities (Army pre-positioned stocks [APS], Logistics Assistance Program technical support, logistics readiness centers, strategic-level materiel management, sustainment maintenance, and the Logistics Civil Augmentation Program) in support of the theater Army and corps formations. AFSB subordinate battalions provide access to USAMC's broad range of strategic-level support to build and maintain combat power. The AFSB provides this support to the operational and tactical echelons of command in support of multidomain operations via reach-back and call-forward capabilities, as well as operational contracted support.

3-20. AFSBs and AFSBns are responsible for assisting the TSC with receipt, download, and onward movement of APS munitions. AFSBs and their subordinate elements provide on-site management for APS munitions. APS in most locations are stored, tested, inspected, and renovated in facilities managed by TSCs when outside of CONUS. For additional information on APS operations, see ATP 3-35.1.

3-21. The AFSBs transfer the accountability of APS munitions to the receiving units. Activities include conducting a joint inventory of APS, delivering hand receipts to the receiving unit (updating the unit property book), and ensuring that data transfers are accurate. AFSBs normally transfer unit sets from a national provider to an ASP using the Standard Army Ammunition System (SAAS).

3-22. The AFSB provides oversight of the subordinate AFSBns and logistics readiness centers in support of installation baseline services provided for servicemembers dispersed and distributed in a geographic area. The AFSB works in concert with the sustainment command to ensure successful continuum of operations in its assigned geographic area. The AFSB SPO serves as the logistics assistance representative for subordinate units providing logistics assistance and Logistics Civil Augmentation Program capabilities in support of the warfighter. The ammunition support team provides technical expertise and assistance in maintenance, ammunition surveillance, demilitarization, transportation, explosives safety, supplies, and accountability.

3-23. Four of the seven AFSBs have a U.S. Army ammunition warrant officer who serves as the senior ammunition technician to the AFSBn commander. These four AFSBs provide CONUS installation-level ammunition support as the USAMC executive agent to manage CONUS-assigned ASPs (minus Fort Irwin) including Hawaii and Alaska. They support acquisition and logistics synchronization for sustainment and operational units at the retail and tactical level. See AR 700-28 for additional guidance. The ammunition warrant officer provides on-site maintenance, assistance for ammunition surveillance, distribution, storage, explosives safety, accountability and disposal of ammunition, guided missiles, and ordnance. The ammunition warrant officer also provides the AFSBn commander with advice and guidance in analyzing, assisting, and training in ammunition logistics.

3-24. Joint Munitions Command logistics assistance representatives are subject matter experts that assist the commander in analyzing readiness, identifying trends, and addressing readiness issues at the operational and tactical levels. They use a USAMC-approved, standardized reporting system with defined actionable outputs that help the supported commander to develop solutions that increase readiness, enhance training, improve safety protocols, and identify reliability issues.

3-25. USAMC's Aviation and Missile Command Lifecycle Management Command logistics assistance representatives provide the AFSBn commander with technical expertise on individual or multiple mission design series manned and unmanned aviation, air defense, land combat missile systems, and related shop test equipment. For more information on the AFSB, refer to ATP 4-98.

Quality Assurance Specialist (Ammunition Surveillance)

3-26. QASAS personnel are critical to the munitions complex. USAMC is responsible for fielding each trained QASAS through the career program 20 Ammunition Civilian Career Management Office (DA PAM 700-16). QASAS support personnel augment DOD activities and inspect activities of the modular ammunition companies. QASAS personnel perform functions related to the inspection, receiving, storing, maintaining, issuing, testing, and classification of ammunition and explosives. QASAS support for contingency and wartime operations may be obtained through the Army command, ASCC, direct reporting unit (DRU), or DCS, G-4.

3-27. QASAS core functions include inspecting and determining the reliability of the Army's military munitions stockpile. They inspect and monitor military munitions-related operations for compliance with explosives safety requirements. QASAS protect Army personnel and assets while protecting the public from unnecessary exposures to explosives hazards. QASAS teams provide quality assurance support to organizations at every level that receive, store, maintain, issue, use, and dispose of munitions. For additional information on QASAS duties, see AR 702-12.

Joint Munitions and Lethality Life Cycle Management Command

3-28. The Joint Munitions & Lethality Life Cycle Management Command manages research, development, production, storage, distribution, and demilitarization of all conventional ammunition within DOD. Its overarching objective is to deliver the best munitions to meet CCDRs' needs. The Joint Munitions & Lethality Life Cycle Management Command consists of three component organizations: the JPEO-A&A, Joint Munitions Command, and the Combat Capabilities Development Command Armaments Center.

Joint Program Executive Office-Armaments & Ammunition

3-29. JPEO-A&A is an ASA (ALT) organization brought together with the resources and expertise of Joint Munitions Command and the Combat Capabilities Development Command Armaments Center under an initiative known as centralized ammunition management. JPEO-A&A develops and procures conventional munitions to increase available combat firepower. Through four project management and two project director offices, JPEO-A&A executes the total ammunition, networked, force protection, and close battle systems acquisition requirements for the Army and other military Services. In this capacity, JPEO-A&A serves as the Army's single manager for conventional ammunition (commonly known as SMCA) executor helping to integrate those functions.

Joint Munitions Command

3-30. Joint Munitions Command is a subordinate command of USAMC that manages the production, storage, issue, and demilitarization of conventional ammunition for all U.S. military services. It serves as the DOD's field operating agency in the role of single manager for conventional ammunition, providing support to all branches of the U.S. military, select non-DOD customers, and other U.S. agencies and allied nations as directed. It provides CCDRs and their staffs with accurate information on the status of munitions to maximize the efficacy of existing ammunition stockpiles. Joint Munitions Command manages the Army's ammunition arsenals and operates a nationwide network of installations and facilities that produces and stores conventional ammunition. It also serves as the logistics and readiness arm of the life cycle management command, ensuring delivery of munitions to support unit training and deployments. Specialists from Joint Munitions Command often work alongside units in the field and accompany them on deployments to assure the reliability, quality, and safety of ammunition stockpiles.

Combat Capabilities Development Command Armaments Center

3-31. Combat Capabilities Development Command Armaments Center is the Army's principal researcher, technology developer, and sustainer of munitions systems for the life cycle management command. Combat Capabilities Development Command Armaments Center technology enhancements—

- Improve already fielded items.
- Transitions technology to the program executive officers to continue development.
- Maintains a strong armament technology base in government, industry, and academia and provides technical support to Soldiers in the field.

DEFENSE AMMUNITION CENTER

3-32. A subordinate of the Ordnance School within the Sustainment Center of Excellence, the Defense Ammunition Center serves a unique role in the areas of training, explosives safety, logistics engineering, and operational reviews of ASAs. ASAs are described in further detail later in this chapter. A multi-faceted, interdependent organization, the Defense Ammunition Center's major missions are—

- Explosives safety support to the DOD.
- QASAS support.

3-33. The Defense Ammunition Center accomplishes its major missions through several related sub functions. These sub functions contribute to greater safety and increased efficiency in handling, transporting, and storage of munitions. Some of the sub functions or tasks the Defense Ammunition Center undertakes are—

- Providing support for collection of worldwide environmental data.
- Evaluating new technologies for modernization of ammunition operations.
- Performing evaluations of ammunition operations.
- Providing ammunition-related training for DOD military and civilian personnel through a variety of mobile training teams, regional training site facilities, and distance learning products.
- Designing Department of the Army (DA) standardized unit, pallet, and storage procedures.
- Designing methods and procedures for the outloading, blocking, and bracing of ammunition for rail, road, and ship transportation.

3-34. The Defense Ammunition Center promotes and assures safe and efficient operations involving ammunition and explosives. This oversight extends from the time munitions enter the stockpile inventory from the manufacturer through use in training, wartime, or demilitarization.

UNITED STATES ARMY SUSTAINMENT COMMAND

3-35. ASC sustains Army and joint forces in support of CCDRs. ASC is USAMC's executing agent for lead materiel integration. It is the single integrator for ensuring that Soldiers have the right materiel support to accomplish their mission. ASC supports CONUS, forward-stationed, and deployed AFSBns. ASC's forward-

stationed capabilities provide command and control to all USAMC assets in theater, shape the logistics environment, and help set the theater to accelerate force reception into theater.

3-36. The command integrates logistics support with strategic partners and links the national sustainment base with the expeditionary Army. Major mission areas include logistics synchronization in support of the Army sustainment readiness model, APS, theater support, materiel management, and Logistics Civil Augmentation Program external support contracting. See ATP 4-98 for additional information.

UNITED STATES TRANSPORTATION COMMAND

3-37. USTRANSCOM is the functional combatant command responsible for providing and managing strategic common-user airlift, sealift, and terminal services worldwide. USTRANSCOM is responsible for integrating and synchronizing strategic theater deployment execution and inter-theater distribution operations into each GCC's AOR. It ensures that military deployment and redeployment and DOD global patient movement requirements are met using both military and commercial transportation assets based on supported commander business rules and best business practices. USTRANSCOM's major subordinate commands include Air Mobility Command as the Air Force component command, Military Sealift Command as the Navy component command, and the Military Surface Deployment and Distribution Command as the ASCC of USTRANSCOM. See FM 4-0 for additional information on USTRANSCOM.

SECTION II – THEATER AND ARMY-LEVEL MUNITIONS OPERATIONS

3-38. Sustainment headquarters allocate resources to meet operational requirements and priorities for ammunition support. It is imperative that the operational and sustainment headquarters maintain close coordination and cooperation ensuring a complete understanding of the situation, ammunition support requirements, priorities, and capabilities.

GEOGRAPHIC COMBATANT COMMANDER

3-39. The GCC exercises combatant command authority over all forces to accomplish the missions assigned to the command. Combatant command authority cannot be delegated or transferred. Operational control is inherent in combatant command and may be delegated within the combatant command by the GCC.

3-40. GCC uses authoritative directives to organize forces to accomplish assigned missions including logistics. The GCC executes munitions operations through its J-4 division. The GCC J-4 establishes logistics plans, programs, policy, and procedures for operational sustainment and logistics infrastructure development. The GCC J-4 supervises the execution of logistics programs, policy, and procedures in support of land forces in the theater commensurate with Title 10 USC authorities for Army support to other services. The GCC J-4 coordinates and oversees theater reserve and operational stocks. A GCC may also include an explosive hazards coordination cell responsible for performing munitions risk assessments and providing munitions risk information during the planning process.

3-41. If the TSC or ESC is selected to control AOR joint logistics planning and execution, they may be called upon to advise the GCC on the establishment of support relationships and authorities. The TSC or ESC commander considers, at a minimum—

- The mission.
- Prevalent domain in which the operation is to be conducted (land, air, sea, or space).
- The TSC or ESC's capabilities, capacities, and dependencies.
- Time and distance factors.
- Geography and physical infrastructure within the area of operations.
- The planning requirements to properly execute the mission—particularly, how logistics planning is to be integrated with operational planning and which organization is to conduct short, mid, and long-term planning.

THEATER ARMY

3-42. The theater Army is the ASCC to a GCC and is the senior Army headquarters in a theater. It consists of the commander, staff, and all assigned or attached Army forces in the AOR not assigned or attached to a subordinate joint force of the GCC. (FM 3-94)

3-43. The role of the theater Army defined in Title 10 USC in the form of requirements, is to shape the CCDR's AOR in order to support operations, develop relationships, assure access, build partner capacity, and deter adversaries while providing command and control capability that can set the theater and execute multidomain operations in support of the CCDR's requirements. The operational focus of the theater Army is to plan for, tailor, and control Army forces. The function of the theater Army is dependent upon its specific role and may include the following:

- Executing the CCDR's daily operational requirements
- Providing administrative control of Army forces operating in its AOR.
- Setting and maintaining the theater for the joint force.
- Setting and supporting operational areas.
- Exercising command and control over Army forces in theater
- Performing joint roles in limited scope, scale, and duration.
- Planning and coordinating for consolidation of gains in support of joint operations

3-44. The theater Army serves as the CCDR's single point of contact for preparing support estimates and outlining the responsibilities and requirements for maintaining access to and setting the theater where U.S. military presence is forward-stationed or deployed. See FM 4-0, ATP 3-93, and JP 3-31 for further details.

3-45. The theater Army and TSC conduct the bulk of the planning with the strategic support base for Army sustainment in theater. The theater Army planners develop and coordinate means to generate and employ capabilities within the JOA and mitigate capability gaps. Planners consider sustainment by type of support and across the continuum of possibilities to gain capabilities from the joint Services, partner nations, the sustainment enterprise, operational contract support (OCS), and organic capabilities.

3-46. Theater sustainment planning must include identifying locations within the AOR for a theater storage area and multiple ASPs to provide redundant and robust storage capability forward. Other considerations may include the receipt, storage, and disposition of foreign ammunition.

FIELD ARMY

3-47. Field armies are most likely to be employed in theaters where peer adversaries have the capability of conducting large-scale combat. The field army's focus is on tactical operations while the theater Army primarily conducts administrative and operational activities. A field army does not have an approved organizational design; however, the field army typically has an ESC assigned. The ESC staff cooperates with the field army staff and operates in parallel to fulfill sustainment requirements. Fundamentally, the field army headquarters is staffed and equipped to perform three roles:

- Army component and ARFOR for a subordinate unified commander.
- Joint force land component headquarters (with augmentation) for large-scale combat operations.
- Joint task force headquarters (with augmentation) for crisis response and limited contingency operations.

3-48. The ESC is the controlling headquarters for the integration and synchronization of sustainment operations at the field army echelon. The ESC advises the field army staff on issues regarding task organization, munitions capabilities, and risk. In coordination with the field army G-4, it maintains the munitions operations running estimate and take actions to mitigate shortfalls.

3-49. Field armies may execute competition-related tasks as directed by the theater Army. However, they primarily facilitate the transition to armed conflict by focusing on activities that must occur within an area of operations. This allows the theater Army to maintain its AOR-wide orientation as the ASCC. As the ARFOR, the field army performs seven functions, including:

- Executing command and control over multi-corps operations.

- Exercising administrative control in the area of operations.
- Executing Army support to other services in the area of operations.
- Assuming directed Army, joint, and multinational authorities and responsibilities.
- Shaping an assigned area of operations.
- Integrating unified action partner capabilities to support multidomain operations.
- Planning and coordinating for consolidation of gains in an unassigned area of operations.

THEATER SUSTAINMENT COMMAND

3-50. The TSC has four operational responsibilities to forces in theater: theater opening, theater distribution, theater sustainment, and theater closing. The TSC is the primary sustainment headquarters that links distribution management and materiel management executed at the theater strategic level of war with the operational-level force. The TSC is the distribution manager of the intra-theater segment of the global distribution system. An attached TSC receives command and control from the theater Army in support of the GCC. It commands and controls subordinate units enabling decentralized sustainment operations throughout the AOR.

STAFF AND COMMAND RESPONSIBILITIES

3-51. The TSC commander and staff responsibilities for sustainment plans and operations are discussed below. These are not in order of priority and are not all-inclusive:

- Coordinating with the theater Army commander and staff to understand the theater Army mission.
- Coordinating support from strategic providers in accordance with the theater Army support priorities as directed by the theater Army commander or G-4.
- Developing and disseminating an OPORD to subordinate units. This order must contain a concept of operations that specifies tasks for subordinate units and clearly delineates command and support relationships as specified in the theater Army OPORD.
- Developing munitions estimates to determine munitions adequacy for the current operations concept and making changes to the support concept as required.
- Communicating critical munitions requirements in priority order to the higher headquarters.
- Identifying and communicating critical capability shortfalls to the theater Army commander and staff.
- Providing logistics status reports to the theater Army staff in accordance with the theater Army reporting SOP.

3-52. The theater army and the maneuver force operations establish requirements that determine TSC operations. The size and arrangement of the force are considerations that help determine quantity of munitions required and layout of the distribution network. The TSC sets theater stockage objectives, including goals for number of days of supply on-hand. The theater reaches munitions stockage objectives over time. The TSC determines the timeline to reach the stockage objective.

3-53. The TSC focuses on theater strategic and operational levels of munitions management, acting as a bridge between the strategic and operational levels of sustainment and directing subordinate logistics commands in the AOR. The TSC develops plans to support the theater Army sustainment concept.

3-54. The TSC SPO officer focuses on detailed planning for munitions support to the force in accordance with the GCC's intent. Within the TSC DMC staff, the materiel management, transportation operations, and distribution integration branches collaborate to develop a munitions distribution plan to be included in the TSC G-3 OPORD.

3-55. The TSC provides munitions support by directly managing the requirements, stockage objectives, and distribution of munitions in the assigned AOR. The munitions section within the TSC DMC staff (figure 3-1) coordinates with subordinate ESCs or other subordinate headquarters as necessary.

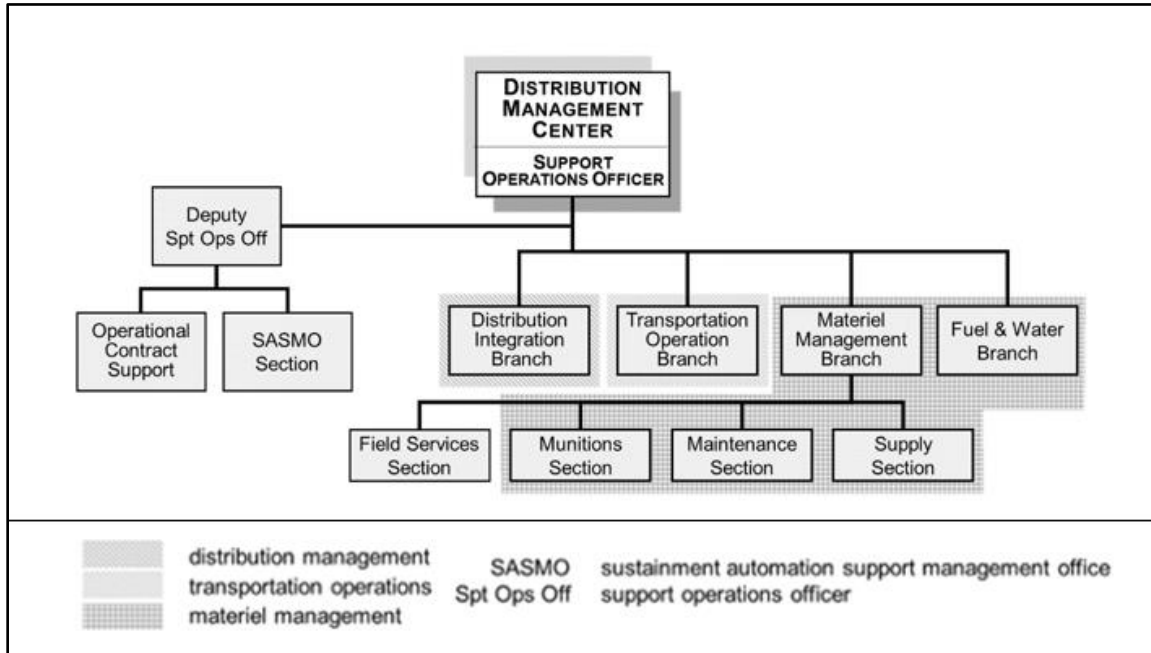


Figure 3-1. Theater sustainment command, distribution management center

3-56. The TSC provides guidance to strategic partners when conflicts exist between areas of operations. For example, the command ensures that information flow from strategic deployment, distribution, and sustainment partners is accurate, timely, and adequate to support the actions of the theater sustainment forces. As an ITV gatekeeper, the TSC transportation operations branch assures the strategic to operational linkage of critical information and notifies strategic partners if ITV data is not accurate or provided.

3-57. One of the primary roles of the TSC is munitions supply planning. Supply planning is the ability to forecast and establish munitions stockage levels at each supporting echelon to meet mission requirements. The TSC coordinates with the GCC ASCC for theater ASP site plans (security and construction). The ASCC issues an order to the TSC with an operations concept. The TSC plans for theater distribution based on the requirements in the operational concept. The TSC may be task-organized with ESCs, sustainment brigades, and functional logistics organizations supporting multidomain operations.

3-58. The TSC ensures the flow of munitions meets the priorities and timelines established by the ASCC and the GCC. The TSC staff also coordinates with subordinate ESCs to ensure clear understanding of the ESC support requirements.

3-59. The TSC controls AOR sustainment support, specifically the functions of distribution management, transportation operations, materiel management, supply and services, OCS, and personnel services. The TSC resolves issues if unforeseen events interfere with the planned timing of munitions deliveries into theater.

3-60. The ASCC determines priority of support for the theater. The TSC assigns support based on which units are conducting offensive or defensive operations, which units are available to be deployed or redeployed, and whether a unit or geographical area is critically short of munitions.

DISTRIBUTION MANAGEMENT CENTER

3-61. The DMC is responsible for AOR-wide distribution management to include munitions. The TSC's DMC role is to synchronize, coordinate, and integrate intra-theater munitions support. The DMC ensures sustainment support is accurate, timely, and adequate to support the mission and objectives of the ASCC.

3-62. When developing the ground distribution system, the DMC accounts for identifying, evaluating, and comparing factors that tend to facilitate convoy movement and control. These factors include movement restrictions, route classifications, traffic flow, choke points, and rest halts.

3-63. The DMC schedules munitions distribution in accordance with priorities established by the operational commander. The munitions section generates a materiel release order directing ammunition shipments. The distribution integration branch tracks the munitions in transit. The theater ASP configures munitions shipments arriving in the theater prior to shipment forward as applicable.

3-64. The DMC examines current operations to ensure success in achieving the effects the CCDR desires on the battlefield. The DMC has three subordinate branches responsible for developing the munitions distribution plan—the distribution integration branch, the materiel management branch, and the transportation operations branch.

3-65. Distribution manager main functions include—

- Using the information provided by the materiel management component to coordinate with the transportation component for allocation of transportation modes to move the materiel.
- Providing the transportation component with munitions type, quantity, priority, and recommend transportation mode.

3-66. The DMC manages munitions distribution through synchronization of the distribution management section, munitions section, and the transportation operations branch. Specific functions of the TSC DMC are listed below:

- Establishing and maintaining the sustainment COP.
- Developing, coordinating, and managing the theater munitions distribution plan.
- Managing transportation operations (to include mode, terminal, movement control, and common-user land transportation support).
- Providing materiel management for all classes of supply.
- Integrating OCS into sustainment operations.
- Coordinating external munitions support requirements for supported units.
- Synchronizing munitions support requirements to ensure they remain consistent with current and future operations.
- Planning and monitoring munitions support operations and adjusting to meet support requirements.
- Coordinating with other operational and sustainment munitions staffs at each echelon.
- Preparing and distributing the external munitions support SOP that provides guidance and procedures to supported units.
- Communicating asset disposal instructions to ASAs in response to serviceable or demilitarization disposition requests.
- Accounting for receipt of ammunition into theater and distribution in theater through the system of record.

3-67. Each logistics echelon with a munitions section is resourced with SAAS equipment and assigned or attached munitions personnel. The TSC has the authority to establish the munitions automation support architecture in theater.

Munitions Section

3-68. The munitions section within the DMC materiel management branch exercises staff supervision over munitions support operations. These include supply and maintenance operations relating to munitions, missiles, and special weapons. The major tasks of the munitions section align with the distribution management process.

3-69. The munitions section addresses command priorities, requirements determination, and supply planning by—

- Advising the sustainment commander and staff on munitions status.
- Directing special handling and release authorities for specific items based on command guidance. An example might be a specific allocation of certain versions of Army mid-range or long-range precision munitions. Army command staffs may be the final approval authority for their use or

issue and provide detailed instructions in operational orders under CSRs, while the theater still obtains its full allocation.

- Recommending establishment and movement of ASAs as the situation dictates.
- Recommending CSRs to the ASCC.

3-70. The section addresses asset visibility by—

- Providing visibility of conventional ammunition.
- Maintaining stock control visibility of all munitions in theater.
- Processing requisitions through SAAS.
- Maintaining a running estimate of munitions requirements.
- Approving ammunition requests from supported division and corps elements.

3-71. The munitions section conducts supply planning including—

- Developing plans and policies involving munitions supply and maintenance.
- Providing staff input for munitions planning.
- Developing the munitions sustainment plan for future force posture.
- Reviewing and updating munitions planning factors for the theater scenario.
- Monitoring ammunition suspensions.
- Recommending adjustments to munitions stockage levels.
- Establishing ammunition stockage levels based on corps and theater directives.
- Developing munitions surveillance policies.

3-72. The section handles requirements determination by—

- Conducting munitions statistical analysis and responding to requests for information.
- Coordinating munitions requirements with the corps and theater G-3 and G-4 staffs.
- Providing technical advice and assistance to ammunition officers in subordinate BSBs, sustainment brigades, and ammunition supply units.
- Coordinating munitions support (brigade through echelons above corps).
- Reviewing the RSR.

3-73. The munitions section synchronizes distribution through—

- Coordinating with the DMC to integrate ammunition movement requirements into movement programs.
- Coordinating with sustainment brigade munitions officers on cross-leveling munitions support personnel and equipment.
- Coordinating resupply of munitions stocks for units at regeneration sites.
- Coordinating special transportation to include airdrop requirements for munitions in coordination with the distribution integration branch.

3-74. The munitions section recommends ammunition supply and storage site locations. It may coordinate with the U.S. Army Technical Center for Explosives Safety for requirements concerning site planning. For example, it coordinates explosives licenses, explosives safety site plans, safety submissions, explosives safety deviation approval risk acceptance document waivers and exemptions using DA Form 7632 (*Deviation Approval and Risk Acceptance Document [DARAD]*). As appropriate, it also coordinates with other agencies to maximize stakeholder and subject matter expert input. For further discussion on deviation approval risk acceptance documents, refer to DA PAM 385-30.

Distribution Integration Branch

3-75. The distribution integration branch collaborates with the TSC G-3 to develop the OPORD to task subordinate units with munitions distribution responsibilities. The distribution integration branch queues materiel in accordance with the materiel management priority and ensures transportation modes with adequate haul capacity are allocated to distribute the materiel. The distribution integration branch in a TSC normally includes an ammunition officer and an ammunition logistics NCO.

3-76. The distribution integration branch synchronizes and integrates materiel and transportation requirements into distribution actions supporting operational-level sustainment support throughout the AOR. The distribution integration branch relies on coordination and information exchange between the materiel management, munitions, and transportation operations branches.

3-77. This branch requires a complete understanding of the distribution network to optimize capabilities and task subordinate organizations in support of on-going and future operations. The distribution integration branch plans and synchronizes distribution operations in the theater distribution network to include visibility, capacity management, and control of system operations. The primary functions of the distribution integration branch are listed below:

- Managing munitions for distribution to ensure items are properly organized and queued in order of priority as determined by the command.
- Anticipating future requirements through ongoing analysis.
- Comparing theater distribution operations with the ASCC concept of operations to ensure the synchronization and execution are in accordance with ASCC commander priorities.
- Monitoring and assessing sustainment operations for impact on future operations.
- Comparing supported unit requirements with munitions distribution capabilities and tracking munitions to their final destination.
- Coordinating with the transportation section to ensure motor, air, and rail assets are available to support munitions movement requirements.
- Managing munitions flow within the assigned AOR. Coordinating with forward sustainment brigades and BSBs regarding munitions deliveries.
- Managing excess munitions in theater to fill shortages and meet operational requirements.

3-78. The TSC and sustainment brigade coordinate the distribution integration component of the distribution process. They queue materiel in accordance with the priority assigned and ensure that transportation modes possess adequate capacity to distribute materiel.

3-79. The distribution integration branch and the munitions section act in tandem during munitions operations. The munitions section verifies ammunition requests to be within the RSR and CSR and uses SAAS to determine an ammunition resupply source.

Transportation Operations Branch

3-80. The transportation operations branch executes the controlling function for the physical movement of munitions. It is composed of several transportation mobility officers, warrant officers, and NCOs. The TSC DMC manages all the following facets of transportation:

- Enforcing priorities established by the ASCC and the supported CCDR.
- Considering all modes of transport to include inland surface transportation (rail, road, and inland waterway), sea transport (coastal and ocean), and air transportation.
- Maintaining visibility of distribution assets.

3-81. The transportation operations branch supports DMC planning efforts for operation plans, concept plans, and major operations by providing estimates, requirements, assessments and any additional information the distribution integration branch may require to support multiple planning efforts. The branch develops theater highway regulation, traffic circulation, and maneuver and mobility support plans. It manages all facets of transportation information related to coordinating and evaluating all methods of transportation movement control and logistic support. Additional examples of transportation operations branch responsibilities are listed below:

- Creating the movement program for inclusion to the theater distribution plan.
- Tracking the implementation of the movement program executed by the movement control battalion to ensure compliance. This function is comparable to the ITV process that transportation managers use.
- Advising the sustainment commander and staff on munitions status and coordinating munitions actions on available and in-transit stocks.

- Managing transportation operations to include mode, terminal, and movement control and common-user land transportation support.
- Coordinating special transportation and air delivery requirements for munitions.
- Monitoring and assessing transportation operations for impact on future operations.

3-82. The transportation operations branch provides staff supervision of all allocated transportation assets and coordinates directly with the movement control battalion. The branch coordinates with joint and strategic partners to synchronize deployment and distribution efforts and optimize distribution within the JOA by employing all transportation modes available.

EXPEDITIONARY SUSTAINMENT COMMAND

3-83. The ESC is the primary sustainment headquarters focused on executing distribution management and materiel management at the operational level of war within a JOA or Army area of operations. An ESC is normally assigned to a corps or field army and is attached to a TSC operating in the joint security area. The ESC is positioned to provide a regional focus. The forward deployment of the ESC facilitates agile and responsive support by placing the ESC in relative proximity to the supported force and its OE. The ESC is similar in structure and purpose to a TSC with primary differences in scale and scope of responsibility. The ESC is capable of operating as the senior logistical command within a theater or AOR independent of a TSC or as a subordinate command of the TSC.

3-84. The ESC's role is to provide sustainment support to a corps or field army formation. The ESC headquarters may be task-organized with sustainment brigades and functional logistics organizations such as a transportation brigade expeditionary to support large-scale combat operations. The ESC support operations section monitors and manages munitions storage and distribution within the JOA. The ESC exercises command and control and executes munitions support through sustainment brigades. An ESC may effectively support a single theater of operations. The limiting factor is the size of the ESC staff, not the size of subordinate task-organized units. Requesting a theater movement control element (TMCE) increases an ESC's ability to control and direct operations. For example, an ESC in support of an ARFOR conducting large-scale combat operations may support that line of effort. Additional lines of effort such as opening a new port would decrease the ESC's effectiveness. Careful mission analysis will determine how capable the existing sustainment organization is regarding the new requirement. The ESC establishes movement boards to manage transportation policies, priorities, lines of communications status, convoy protection, synchronization, and transportation assets allocation to support theater distribution operations.

3-85. If the Army does not deploy a TSC within the theater of operations, the ESC will expand its focus to encompass the theater and may be attached to the TSC. The ESC attached to a TSC commands and controls all assigned and attached sustainment units in an area of operations as directed by the TSC commander providing logistics, personnel services, and finance and comptroller support. The ESC monitors and stays apprised of Army Health System support. The ASCC staff determines the task organization for the ESC attached to a TSC. A task-organized ESC attached to a TSC normally includes a sustainment brigade and a movement control battalion to support theater opening, theater distribution, and theater closing operations.

3-86. The ESC supports deployed forces in the JOA, including the theater of war and theater of operation, while the TSC maintains a theater-wide focus of the entire AOR. The ESC will perform the same functions as a TSC to include executing command and control over task-organized sustainment units conducting area of operations opening, distribution, sustainment, and area of operations closing in support of the Army forces, corps, or a joint task force.

3-87. An ESC is assigned to the corps during large-scale combat operations to assist the corps sustainment cell with planning and coordinating munitions support. The corps ESC and its subordinate task-organized munitions units provide general support for all units in the geographic area as determined the corps staff.

3-88. The ESC plans, coordinates, and synchronizes the conduct of distribution management, transportation operations, materiel management, and OCS in the JOA. The ESC headquarters conducts operations at the operational level of war. The ESC plans and synchronizes sustainment and distribution support for sustainment brigades executing munitions resupply. The ESC commands and directs sustainment operations for a theater of operations (when a TSC is not present). This includes all logistics, finance and comptroller,

and personnel services tasks associated with area of operations opening, distribution, sustainment, and area of operations closing operations. If a TSC is not present, the ESC will require staff augmentation to perform long-range planning. Some munitions considerations for the ESC include—

- Changes to anticipated consumption rate.
- Any incident or change having significant impact to the operational capability of a munitions unit.
- Any incident or change having significant impact on the logistical posture of any tactical unit.

3-89. Similar to the TSC, the munitions section within the ESC DMC (figure 3-2) plans and coordinates munitions support with subordinate sustainment brigades or other subordinate headquarters as necessary. In coordination with the field army or corps G-4, it maintains the munitions operations running estimate and takes actions to mitigate shortfalls. ESC DMC responsibilities are the same as those previously listed for the TSC DMC.

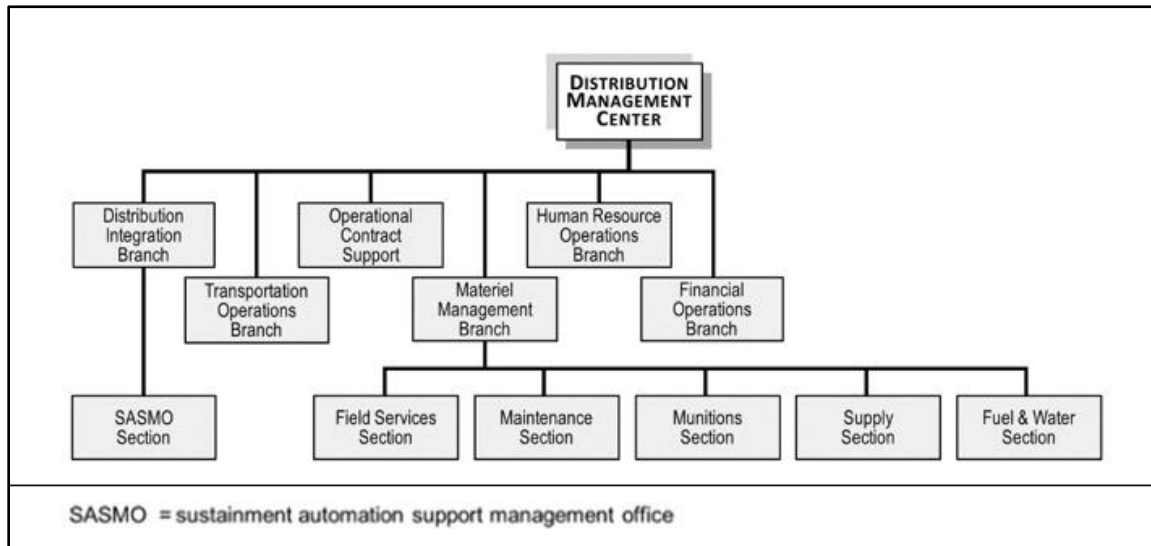


Figure 3-2. Expeditionary sustainment command, distribution management center

3-90. The theater Army G-4 and TSC shape the ESC’s priorities. The ESC passes these priorities on to subordinate units. The ESC issues directives to subordinate sustainment brigades and specifies unit support relationships. The ESC coordinates with the TSC, joint task force J-4, or theater Army G-4 to establish munitions projected storage and distribution points in the operations plan and operations order.

DISTRIBUTION MANAGEMENT CENTER

3-91. The ESC DMC manages all facets of sustainment support for the force for which it is responsible. The ESC plans and controls Army transportation including the effective use of Army air and land assets. It also enforces priorities for air, land, and water transportation (both sea and inland waterways) established by the supported commander.

3-92. The ESC DMC calculates projected consumption rates as well as receiving actual consumption rates from subordinate units in the supported AO and compares the projections and actual rates to determine requirements.

3-93. The ESC SPO directs the DMC and advises the commander on support requirements versus support assets available. The DMC manages ammunition distribution through the distribution integration branch, the munitions section, and transportation branch.

Distribution Integration Branch

3-94. The distribution integration branch coordinates and synchronizes the movement of all supplies into and out of the JOA. The branch integrates materiel and transportation requirements into distribution actions

supporting operational-level sustainment support. The distribution integration branch relies on coordination and information exchange between the munitions section and transportation operations branch to synchronize resources for movement of munitions.

3-95. The distribution integration branch in an ESC normally includes an ammunition officer and an ammunition logistics NCO. Some of the distribution integration branch functions correlate with the functions of the distribution management and materiel management branches. This branch requires a complete understanding of the distribution network to optimize capabilities and task subordinate organizations in support of on-going and future operations. The distribution integration branch plans and synchronizes distribution operations in the theater distribution network to include visibility, capacity management, and control of system operations.

3-96. The ESC distribution integration branch coordinates the distribution integration component of the distribution process. The distribution integration branch develops the distribution plan to be included in the ESC G-3 OPORD. The CSSBs in the joint security area and field army and corps support areas execute distribution as directed by the ESC G-3. The distribution integration branch queues munitions for distribution in accordance with their priority and ensures allocation of transportation modes with adequate haul capacity. The distribution manager's main responsibilities are to—

- Use the information provided by the materiel management component to coordinate with the transportation component for allocation of transportation modes to move the materiel.
- Provide the transportation component with commodity, quantity, priority, and recommend mode.

3-97. In the ESC DMC, the munitions section exercises staff supervision over munitions support operations. These include supply and maintenance operations relating to munitions, missiles, and special weapons. The munitions section responsibilities are similar to those of the TSC DMC.

Transportation Operations Branch

3-98. The transportation operations branch role in munitions distribution includes maintaining visibility of distribution assets within the distribution network. The branch can direct cross leveling of distribution assets and executes the controlling function for physical movement. In the absence of the TSC, the ESC transportation operations branch coordinates with joint and strategic partners to synchronize distribution efforts and optimize distribution within the JOA by employing all transportation modes available.

3-99. The branch coordinates with contract transportation providers, mode operators, and supported units. The branch also manages common-user land transport assets (both U.S. and host nation) and liaises with host nations for contracted assets.

3-100. The transportation branch coordinates directly with the movement control battalion. Movement control managers consider the following when selecting the mode (air, land, or sea) of transportation and the supply route for munitions:

- Support priorities.
- Availability of personnel and equipment (for example, trucks, helicopters, and MHE).
- Special munitions handling and transportation requirements.

THEATER MOVEMENT CONTROL ELEMENT

3-101. The TMCE is a theater-level element assigned to a TSC or an ESC that manages movement of equipment and personnel using the movement control process. The TMCE sets and supports the theater intertheater and intratheater distribution requirements through four branches: movement control division, intra-theater operations branch, inter-theater operations branch, and the theater container management branch.

3-102. To set the theater in support of the CCDR's theater strategy, the TMCE plans efforts and collaborates with transportation boards, liaises between strategic transportation partners to identify strategic ports of entry into the AOR, and assists the CCDR in establishing agreements for their use of ports of entry. This critical role enables the facilitation and coordination with strategic transportation requirements between the CCDR and strategic partners (USTRANSCOM, Defense Logistics Agency, and USAMC).

3-103. To support the theater, the TMCE plans, implements, and monitors intratheater movements programs, committing transportation air and ground assets in support of reception, staging, and onward movement operations. The TMCE provides theater container control, leads or participates in movement boards, and liaises with the joint deployment and distribution operations center. For more details, see ATP 4-16, ATP 4-12, and FM 4-0.

SUSTAINMENT BRIGADE

3-104. The sustainment brigade is the Army's primary brigade-level sustainment headquarters providing command and control for assigned, attached, and operationally controlled sustainment units. Sustainment brigades are typically assigned or attached to a TSC, ESC, or division, and have a span of control of three to seven battalions. The sustainment brigade is a multifunctional headquarters responsible for planning and synchronizing sustainment and integrating subordinate units into sustainment operations. It supports Army forces at tactical and operational levels, providing support to field army, corps, and divisional units and units operating in its area. The sustainment brigade munitions branch manages all levels of munitions operations to include—

- Operating ASAs in the JOA.
- Establishing ammunition supply and maintenance procedures consistent with appropriate directives of the ASCC and the corps.
- Commanding, controlling, and planning ammunition missions.
- Inspecting, processing, and shipping enemy ammunition.
- Conducting retrograde activities.

3-105. The sustainment brigade manages tactical ammunition through routine interaction with supported brigades and subordinate CSSBs. Each battalion S-4 transmits a request for resupply of ammunition for organic and attached units through the staff channels to the sustainment brigade. The sustainment brigade, in coordination with the TSC or ESC, reviews all requests and balances them against the CSR. The sustainment brigade issues munitions, adhering to the CSR as closely as possible, and informs the maneuver commander of projected consequences if critical munitions are exhausted prior to resupply.

3-106. The sustainment brigade executes distribution management and materiel management as directed by the sustainment command and as part of the theater-wide distribution process. The focus of the sustainment brigade is to oversee the execution of current munitions objectives through units at the tactical level. The sustainment brigade has attached CSSBs that are further task-organized with functional munitions and transportation elements. These elements operate multimodal distribution hubs, synchronize multiple node operations, and maintain visibility of the distribution system. The sustainment brigade may participate in the ESC-led movement board to manage transportation policies, priorities, lines of communications status, convoy protection, and synchronization and transportation assets allocation to support theater distribution operations.

SUPPORT OPERATIONS STAFF

3-107. The SPO staff maintains asset visibility across the subordinate functional units. The SPO staff must properly identify which units the sustainment brigade and its subordinate CSSBs support. The SPO manages internal supplies and stocks and supervises distribution, maintenance, and materiel management functions within the brigade's geographic area of operations.

3-108. The sustainment brigade SPO determines the most advantageous means of munitions resupply. General considerations for munitions resupply operations include:

- Identifying the best mode (air, water, highway, and rail) and conveyances (truck, barge, air, pallets, and containers) to move munitions and related equipment.
- Vehicle weight limits may be reached before cargo space or cube limits are reached, and conversely, vehicle cargo space or cube limits may be reached before weight limits are reached.
- Munitions incompatibility affects ammunition load building.
- Certain categories of chemical munitions require qualified technical escorts during shipment (for more information, refer to AR 50-6).

- Resupply routes should minimize exposure to congested areas. Additional considerations for operational security during munitions distribution are discussed in chapter 5.

DISTRIBUTION INTEGRATION BRANCH

3-109. The sustainment brigade contains a distribution integration branch with a munitions section that is similar in task organization to the TSC's munitions section and distribution integration branch. The sustainment brigade distribution integration branch functions are very similar to the ESC but smaller in scope and scale. The sustainment brigade munitions branch assists supported brigade ammunition offices in brigade ammunition management and planning.

COMBAT SUSTAINMENT SUPPORT BATTALION

3-110. CSSBs are modular, tailorable, and task-organized building block organizations that perform functional missions in support of sustainment brigade missions. A CSSB may also be attached to a DSB. A CSSB can typically perform command and control of eight companies. The CSSB is capable of performing oversight of all munitions operations such as distribution, ammunition storage point establishment, explosive safety reporting, and coordination with division and BCT staff for munitions support. The CSSB does not decide the priority of support. In situations where conflicting support priorities exist, the SPO staff consults with the sustainment brigade and sustainment command.

3-111. The CSSB is attached to the sustainment brigade or DSB and provides ammunition general support to units. The munitions branch within the CSSB coordinates directly with the supported units and monitors reports from various brigade ASAs. A modular ammunition company or a platoon from a platoon ammunition company will be attached to or placed under the operational control of the CSSB to operate the designated ASA. The CSSB is capable of performing oversight of all munitions operations such as distribution, ASP establishment, explosive safety reporting, and coordination with corps or field army staff for munitions support.

3-112. The CSSB coordinates distribution support for munitions for units operating at EAB and within the CSSB's support area. The CSSB has a support relationship with division and BCT headquarters operating within the JOA. The CSSB must maintain close coordination with its sustainment brigade to ensure understanding of operational priorities. In some circumstances, the CSSB may be required to coordinate directly with the corps or ASCC.

3-113. Figure 3-3 depicts a notional CSSB task organization.

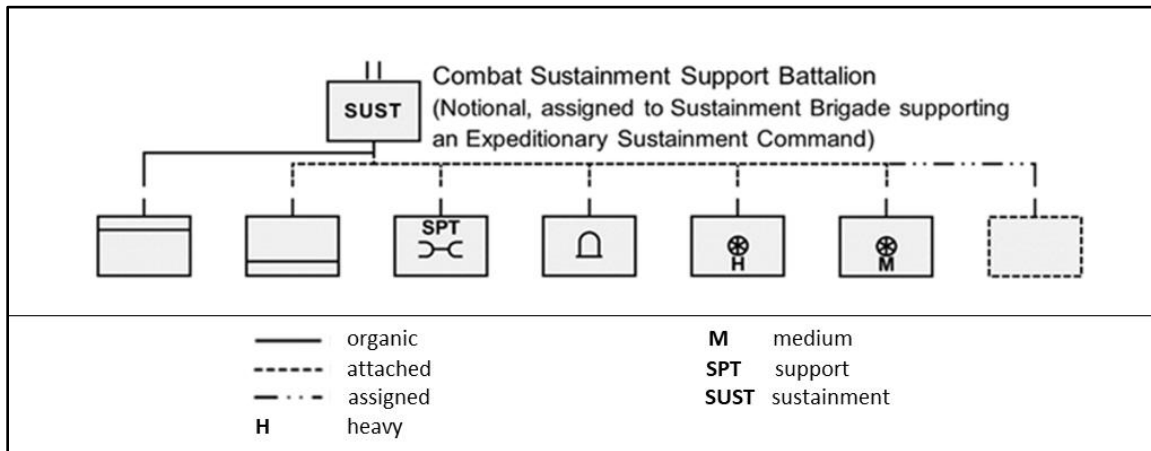


Figure 3-3. Combat sustainment support battalion

3-114. The CSSB conducting distribution receives munitions from one node and distributes them to another node for further distribution (supply point to supply point). Based on its mission, the CSSB may also replenish operational units directly. When task-organized to conduct theater distribution, the CSSB depends on the

sustainment brigade to conduct distribution planning and integration. The CSSB uses its transportation assets to execute distribution and conduct resupply and replenishment missions as directed in the OPORD.

3-115. The CSSB SPO must analyze its supported units' requirements. The supported units' logistics staff officers determine unit munitions requirements, which are passed to the CSSB. The CSSB SPO considers the mission, running estimates, and unit requirements and balances them with professional experience and judgement to synchronize support and anticipate changes to the support plan. The CSSB communicates support requirements that exceed its capabilities to the sustainment brigade.

3-116. Task organizations are fluid as organizations transition through different roles throughout the operation. The CSSB SPO coordinates with the corps or field army G-3 to ensure awareness of units that are operating in or that may transit the area. The SPO reviews task organizations and available orders to determine supported units over time. CSSB SPO duties include—

- Analyzing data to determine the trends and efficiency of ammunition stock operations.
- Monitoring supply status data on munitions stocks at ASAs.
- Providing technical assistance, ammunition surveillance, and oversight of subordinate unit ammunition maintenance programs.
- Coordinating with the sustainment brigade on cross-leveling munitions.

3-117. The SPO transportation staff forecasts movement requirements for munitions in coordination with the SPO ammunition staff. It coordinates with the subordinate transportation units to determine transportation capabilities availability by mode (air, land, and water) and node to support movement requirements. This may include contracted or host-nation transportation capabilities.

3-118. Various transportation units assigned to the CSSB distribute ammunition. The assigned mission will determine the number and type of truck companies attached to the CSSB. Typical transportation units attached to a CSSB in a supporting role are inland cargo transfer companies, medium truck companies, and composite truck companies. The CSSB provides the following capabilities:

- Ammunition lift platoons or modular ammunition companies assigned to the CSSB operating an ASA that provide receipt, storage, issue, and reconfiguration of ammunition items.
- Transportation elements provide mobility of personnel and munitions distribution. At the tactical level, the CSSB's transportation assets provide distribution capability from the CSSB support area to the BSB.

3-119. CSSBs and other supporting battalions assigned to sustainment brigades resupply BSBs with ammunition and conduct throughput distribution to FSCs as needed. Field artillery brigades executing deep fires, air and missile defense units, combat engineers, and combat aviation brigades all have specific munitions requirements. The modular ammunition company provides ammunition support to these units while also providing ammunition resupply support to BCT distribution companies.

SECTION III – CORPS AND DIVISION-LEVEL MUNITIONS OPERATIONS

3-120. The staff structure and responsibilities of the corps and division headquarters are similar. The G-3 of each determines munitions requirements and consolidates reports, while the G-4 monitors munitions status and communicates requirements through support channels. Corps and division headquarters differ in their respective scope and scale of responsibilities as determined by their force structure. These operational headquarters play a major role in munitions support. They must all be fully aware of munitions requirements and the status of subordinate organizations. They must also understand the munitions organizations available to provide support based on their capabilities. These headquarters integrate munitions support into all planning and effectively communicate, coordinate, and cooperate with the various sustainment headquarters and support organizations.

CORPS-LEVEL MUNITIONS OPERATIONS

3-121. A corps is normally the senior Army headquarters deployed to a JOA. The corps is designed to control the operations of two to five divisions. During large-scale combat operations, the corps operates as a formation as well as a headquarters. The corps will normally command and control the subordinate divisions

as well as an assigned ESC and various supporting brigades. The ESC is the corps sustainment command headquarters within its area of operations. The corps G-4 staff will coordinate with the ESC to execute munitions operations.

3-122. The corps may serve as ARFOR when it is the only U.S. Army corps assigned to an area. As ARFOR, the corps provides administrative and logistics support to all assigned Army forces as specified by the theater Army. The theater Army commander dictates the administrative control responsibilities of the ARFOR while retaining control of logistics, personnel, and medical support of the deployed force during reception, staging, onward movement, and integration. The corps G-4 develops the corps sustainment support concept that ensures Army forces are sustained throughout all phases of an operation.

3-123. The corps G-4 plans for munitions requirements supporting operations and receives, consolidates, monitors, and communicates munitions reports through support channels during operations. The actual function of providing logistical support to facilitate munitions operations on the battlefield rests with the sustainment organizations. The ESC headquarters performs munitions distribution management and materiel management.

3-124. An ESC is normally assigned to the corps. The ESC is the corps' command for the integration and synchronization of munitions in an area of operations. The corps' ESC and its subordinate task-organized functional and multifunctional sustainment units provide general support for all units in corps area of operations as directed by the corps commander. The ESC directs cross-leveling of munitions distribution resources to meet requirements and optimize the distribution flow. The ESC commander may perform the duties of deputy commanding general (support) if directed by the corps commander. The ESC assists the corps sustainment cell with planning and coordinating sustainment.

3-125. The corps ESC commands and controls all assigned and attached units in an area of operations as directed by the corps commander. A task-organized ESC assigned to a corps normally includes enablers such as corps logistics support element, movement control battalion, and a sustainment brigade task-organized with CSSBs to support sustainment operations. The ESC uses two planning horizons for operations (short-range and mid-range) and synchronizes operational-level sustainment to support current operations. The ESC depends on the corps staff for long-range planning capability. The corps commander determines the task organization for the sustainment brigade attached to a corps ESC.

3-126. Sustainment brigades are attached to a corps ESC. The sustainment brigade commands and controls all assigned and attached units in an area of operations as directed by the corps commander, providing general support logistics, financial management, and personnel services to forces operating in the corps area of operations. A task-organized sustainment brigade attached to a corps ESC normally includes attached CSSBs and a motor transportation battalion to support tactical-level munitions operations. The sustainment brigade coordinates and synchronizes tactical-level munitions operations to support current and future operations.

3-127. The chief ammunition NCO is the principal staff NCO for ammunition management in the corps. This NCO is assigned to the corps main command post's sustainment, logistics and supply element. Due to the low density of ammunition-specific billets in the corps and division staff, a supporting TSC or sustainment brigade normally assists in munitions plans and operations.

3-128. The air and missile defense officer is responsible for air defense at corps through theater Army. The air and missile defense officer determines air defense artillery ammunition requirements, estimates the adequacy of the air defense artillery ammunition CSR, and provides information on the status of air defense artillery ammunition.

DIVISION-LEVEL MUNITIONS OPERATIONS

3-129. The division is the tactical unit of execution for a corps during large-scale combat operations. Like a corps, the division is both a headquarters and a formation. The role of the division is to serve as a tactical headquarters, commanding brigades. The capabilities of the division are determined based on the direction of the corps and the subordinate units assigned or attached to the division. A division will conduct operations with its assigned DSB and DSSB. Divisions may have additional CSSBs attached to meet operational requirements.

3-130. The division controls operations through the staff. Each staff element has specific duties and responsibilities by area of expertise. The division's G-4 is the principal staff officer for sustainment. The G-4 coordinates the sustainment warfighting function for the commander through the sustainment functional cell within the main command post. The division's sustainment cell performs the same tasks as the corps sustainment cell.

3-131. The division G-3 has the role of establishing munitions requirements and operational priorities based on the mission. The G-3 establishes the RSR. The RSR is based on mission analysis, historical trends, and requirements submitted by subordinate organizations in direct coordination with the chief of fires (or fire support officer) and other coordinating staff as necessary. The RSR is expressed in rounds per weapon system per day to accomplish the mission. During operations, the G-3 reviews munitions resupply quantities and adjusts based on historical usage data gathered as the operation progresses. The RSR establishes the ammunition baseline for requesting ammunition. The G-3 establishes ammunition distribution priorities of support based on mission requirements and determines (in coordination with the G-4 and the engineer officer) the locations of main supply routes and support areas.

3-132. The G-4 is the principal staff officer for sustainment plans and operations, supply, maintenance, transportation, field services, and OCS. The division's sustainment cell performs the same tasks as the corps sustainment cell. At the division level, the G4 prepares paragraph four and Annex F (Sustainment) to the OPORD or operation plan, which includes munitions distribution procedures.

3-133. The division G-4 plans for munitions requirements in supporting operations and receives, consolidates, monitors, and communicates munitions requirements through support channels during operations. The G-4 maintains visibility of the distribution of munitions allocations and sustainment priorities based on G-3 operations priority. The actual function of providing logistical support to facilitate munitions operations on the battlefield rests with the sustainment organizations. The DSB performs munitions distribution management and materiel management.

3-134. The G-4 ensures that accountability and security of munitions supplies and equipment are adequate. G-4s calculate and recommend sustainment ammunition loads to the G-3. The G-4 monitors stockage objectives, stockage levels, requisition, distribution, redistribution, and resupply. The G-4 has oversight capability and assists the G-3 with establishing the RSR and the CSR. The G-4 recommends command policy for munitions distribution and retrograde to include amnesty programs. The G-4 coordinates the transportation, temporary storage, handling, and disposal of hazardous material or hazardous waste to include administrative transportation tasks for operational ammunition distribution and retrograde. The G-4 identifies and coordinates for munitions requirements the unit can meet through contracting. The G-4 also coordinates real property control and facilities management to include areas designated as ASAs.

3-135. The air and missile defense officer is responsible for air defense at the division level. The air and missile defense officer determines air defense artillery ammunition requirements, estimates the adequacy of the air defense artillery ammunition CSR, and provides information on the status of air defense artillery ammunition.

DIVISION SUSTAINMENT BRIGADE

3-136. The DSB is a multifunctional brigade headquarters assigned to a division headquarters. Its structure and mission are similar to the sustainment brigade except that it solely supports units attached to and supporting the division operations unless otherwise directed. The DSB has a SPO staff identical to the sustainment brigade SPO structure and functions in the same manner focusing on division units and operations. The DSB coordinates and synchronizes tactical-level sustainment operations to support current and future operations.

3-137. The DSB commands and controls all assigned and attached units in an area of operations as directed by the division commander. The DSB provides direct support logistics, personnel services, and finance and comptroller support to the division to include general support to non-divisional forces operating in the division area of operations. The DSB coordinates and synchronizes tactical-level munitions operations to support current and future operations. The DSB depends on the division staff for long-range planning capability. The DSB and subordinate units must move and displace at the same pace as the division command posts.

3-138. The DSB commander is the sustainment coordinator for the division and is the primary senior advisor to the division commander and the deputy commanding general (support). The DSB commander's role as the sustainment coordinator does not replace the division G-4's role as the division sustainment planner responsible for developing the sustainment support concept based on the division G-3 operations concept. The DSB can assist or support the DSSB staff in planning and coordinating sustainment.

3-139. The DSB develops a concept of operations based on the division operations order and the G-4's concept of support. The DSB has an organic DSSB with organic companies with the capability to support division operations. The DSB may be required to support non-divisional units operating in the division area of operations.

DIVISION SUSTAINMENT SUPPORT BATTALION

3-140. The DSSB is organic to the DSB and provides munitions support to units attached to and supporting a division. The DSSB has the following organic companies: headquarters, composite supply, composite truck, support maintenance, and field feeding. The composite supply company depends upon the composite truck company for the distribution and return of supplies and equipment. The headquarters company, composite supply company and the composite truck company depend upon the support maintenance company for field maintenance.

3-141. The DSSB and its subordinate units must move and displace at the pace of the division command posts. The DSSB commands and controls all organic, assigned, and attached units. The DSSB synchronizes and executes munitions support to the BCT and multifunctional support brigades attached to the division.

3-142. The DSSB provides support to BCTs and support brigades for capabilities not organic to the BSB. These capabilities include transportation support, fuel storage, water production, field service support, and contingency contracting. Additional capabilities could be required due to an increase in population, scope of mission, or equipment density because of extensive BCT task organization.

3-143. Unit distribution is the routine method the DSSB uses to support the BCT; the DSSB transports supplies to the BSB location for distribution. The DSSB may conduct throughput distribution. For example, a DSSB may deliver munitions directly to an FSC, bypassing the BSB's distribution company.

SECTION IV – ORDNANCE BATTALION (AMMUNITION) AND MODULAR AMMUNITION COMPANY

3-144. The ordnance battalion provides command and control of modular ammunition units at the operational level and conducts staff planning and technical supervision of subordinate ammunition operations. In a deployed environment, an ordnance battalion (ammunition) is assigned to the TSC and subsequently attached to a sustainment brigade.

ORDNANCE BATTALION (AMMUNITION)

3-145. The role of the ordnance battalion (ammunition) is to perform distribution management and materiel management for ammunition support. Attached companies are configured to receive, store, maintain, account for, issue, and prepare munitions for distribution.

3-146. An ordnance battalion (ammunition) provides oversight of modular ammunition units at the company level and below. The battalion is attached to the sustainment brigade and establishes and operates ASAs. The battalion provides ammunition general support to units as designated in the OPORD. Ammunition lift platoons or modular ammunition companies operate an ASP and provide for the receipt, storage, issue, and reconfiguration of ammunition items.

3-147. The ordnance battalion (ammunition) acts in concert with the sustainment brigade staff to accomplish—

- Provision of munitions support for joint forces, U.S. government agencies, and multinational forces as directed.
- Ammunition inventory and retrograde management.

- Development of Explosive Safety Management Program and site licensing of assigned ASAs.

3-148. The ordnance battalion (ammunition) SPO duties include—

- Analyzing data to determine the trends and efficiency of stock operations.
- Monitoring supply status data on munitions stocks at ASAs.
- Providing technical assistance, ammunition surveillance, and ammunition maintenance program oversight of subordinate units.
- Coordinating with the sustainment brigade on cross-leveling munitions.

3-149. The ordnance battalion (ammunition) SPO ammunition cell is normally composed of an ammunition officer and an ammunition NCO who provide oversight of ammunition replenishment and distribution operations. For more information on the ordnance battalion (ammunition), refer to ATP 4-93.1.

MODULAR AMMUNITION COMPANY

3-150. The foundation of the Army's modular munitions construct is the modular ammunition company. The modular ammunition company provides an ASA that is mobile and flexible. The modular munitions construct allows maximum flexibility in force design and force allocation to meet most requirements of multidomain operations. The modular ammunition company, through its assigned ammunition platoons and the BSB's distribution company ammunition section, provide this flexibility.

3-151. The modular ammunition company's role is to receive, store, and issue munitions. The organization of the company permits assignment of modular platoons tailored for specific functions supporting forces or other munitions units as required. Modular ammunition companies operate ammunition supply areas at theater, corps, and other levels as required by the tactical situation.

3-152. The modular ammunition company is attached to the ordnance battalion (ammunition) or a CSSB. In some situations, they may be assigned to a TSC, ESC, or sustainment brigade. This company consists of a headquarters and two to five modular ammunition platoons. This company provides ammunition general support to designated units. Under the ammunition modularity concept, only the number of companies and platoons needed are used to support the deployed force. Generally, one modular ammunition company is required to support a division. This unit depends upon appropriate elements within the theater to provide religious, legal, Army Health System, finance, communication, automation, and electromagnetic warfare support and personnel and administrative services. The modular ammunition ordnance company also requires augmented security assets in most environments. In addition to EAB units, the modular ammunition ordnance company provides munitions support to the BSB as necessary. Figure 3-4 depicts a modular ordnance company.

Modular Ammunition Company

- **Role:** Provides ammunition general support to designated units.
- **Capability:** Receives, configures, inspects, manages, issues, ships, and retrogrades munitions stocks.
- **Parent:** CSSB.
- **Command Relationship:** Attached.
- **Support Relationship:** General Support.
- **Span of Operations:** Corps or Theater rear boundary to the BSA.

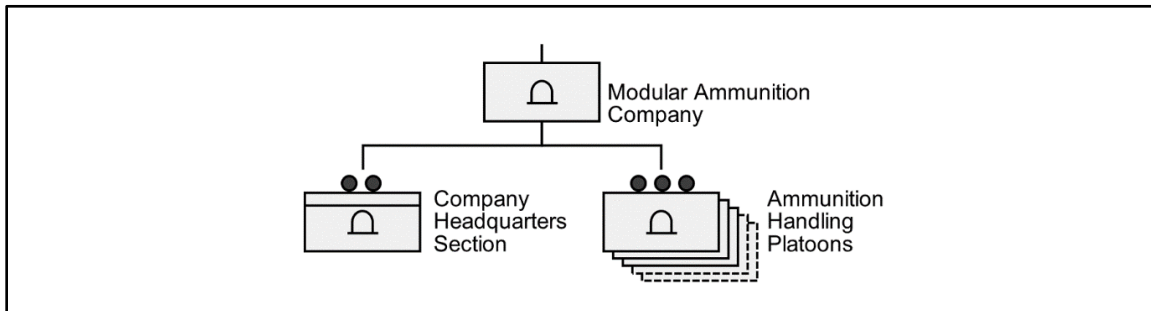


Figure 3-4. Organization of the modular ordnance company

3-153. The headquarters platoon provides administrative, planning, and logistics support for two to five geographically separated or centrally located modular ammunition platoons. This platoon operates the unit supply and provides construction; firefighting; chemical, biological, radiological, and nuclear defense; and field maintenance support for assigned and geographically collocated platoons. It will collocate with at least one modular ammunition platoon when deployed. When deployed, the firefighting and field maintenance sections are often task-organized under and co-locate within the modular ammunition platoons ASPs.

3-154. The CSSB modular ammunition company resupplies the headquarters support company and monitors the controlled supplied rate for critically managed munitions. The modular ammunition company provides support to units on an area basis. It receives munitions and maintains theater, corps, and division stocks, conducts operational-level reconfiguration, and distributes munitions throughout the theater. The concept of the modular ammunition company permits assignment of modular platoons that are tailored for specific functions and deployed to support forces or other munitions units as required. The modular ammunition company support structure provides a flexible munitions distribution system that meets the needs of the GCC or senior sustainment commander. The modular ammunition company operates ASAs.

MODULAR AMMUNITION PLATOON

3-155. Modular ammunition platoons receive, configure, inspect, manage, issue, ship, and retrograde munitions stocks using distribution enablers. The modular ammunition platoons normally consist of a platoon leader, ammunition warrant officer, chief ammunition NCO, ammunition inspectors, ammunition stock control NCO, and ammunition handlers with associated equipment, and they may operate in conjunction with other modular ammunition platoons. The unit also performs munitions field maintenance (such as destroy, pack and crate, band, inventory, and decontaminate ammunition stocks). The modular ammunition platoon—

- Prepares and maintains ammunition records and reports.
- Operates the communications net.
- Provides the appropriate DMC with transaction and inventory management data.

3-156. Modular ammunition platoons are normally attached to a modular ammunition company but may be directly attached to a CSSB to provide EAB munitions support. Alternately, platoons may be attached to a TSC, ESC, sustainment brigade, or an ammunition battalion. Modular ammunition platoons may deploy separately from their parent company. These platoons may be attached to a sustainment company headquarters, normally within a CSSB, to provide support to EAB elements.

3-157. A modular ammunition platoon may support a brigade under most conditions. If deployed separately from the modular ordnance ammunition company, the unit depends upon appropriate elements within the theater to provide religious, legal, Army Health System, finance, communication, and automation and electromagnetic warfare support and personnel and administrative services. The unit also depends upon a company-level headquarters organization for field feeding; supply; construction; firefighting; field maintenance; chemical, biological, radiological, and nuclear defense; and personnel and administrative support.

3-158. When operating an ASP, the modular ammunition platoon may also require additional security elements beyond the ability of the platoon. The number of munitions units and or platoons that will be committed to any operation should be determined during planning.

3-159. Modular platoons are capable of loading and moving 20-foot containers with an assigned rough terrain container handler operator, which is required during initial theater opening operations. The modular ammunition platoon may have either a general or direct support relationship with units operating within their supported area and must maintain close coordination with all supported units.

3-160. Each platoon consists of two ammunition sections that perform ammunition support functions including safe receipt, storage, re-warehousing, and combat configuration and issue of munitions using the 5,000-lbs rough terrain forklifts. Each ammunition section is capable of continuous 24-hour operations and split operations. The ammunition sections —

- Maintain the safety and security of assigned ammunition stockage in accordance with appropriate Army regulations.

- Prepare ammunition for transportation safety requirements prior to movement using packing, crating, and banding material.
- Assist ammunition inspectors and surveillance personnel in execution of their duties.
- Conduct inventories as required or directed.
- Execute authorized demilitarization and destruction of unserviceable munitions.
- Perform limited field maintenance and decontamination of ammunition stocks.
- Assist in firefighting operations and storage site maintenance.

3-161. Under the munitions modularity concept, only the number of companies and platoons needed to support the force are deployed. Modular ammunition units have a general support relationship with units operating within their supported area. Functional ammunition tasks executed through modular ammunition units include the following:

- Operating ASAs in the JOA.
- Establishing ammunition supply and maintenance procedures consistent with the policies and directives of the ASCC and the corps.
- Commanding, controlling, and planning ammunition missions.
- Commanding, controlling, and planning retrograde activities.
- Inspecting, processing, and shipping enemy ammunition.

3-162. Modular ammunition platoons are employed within a theater to operate ASAs. The modular ordnance ammunition platoon provides a storage capacity of the designated level of a theater munitions stockage policy.

3-163. The ASP is the primary ASA at EAB. The ASP role in distribution management is to receive, store, configure, issue, and maintain ammunition. It ensures on-hand ammunition is available and ready for loading on transportation platforms when required to meet distribution timelines. The ASP may be located at any location within the JOA but should be situated in proximity to critical infrastructure and nodes (such as ports) to economize and expedite theater distribution (see figure 3-5). The ASP provides support to brigade ammunition points occupied or operated by organic or designated ammunition teams. ASP stockage levels and size are based on operations plans, availability of ammunition and facilities, the threat to resupply operations, and other operational variables. ASP site planning, design, and layout must include careful consideration of the enemy threat.

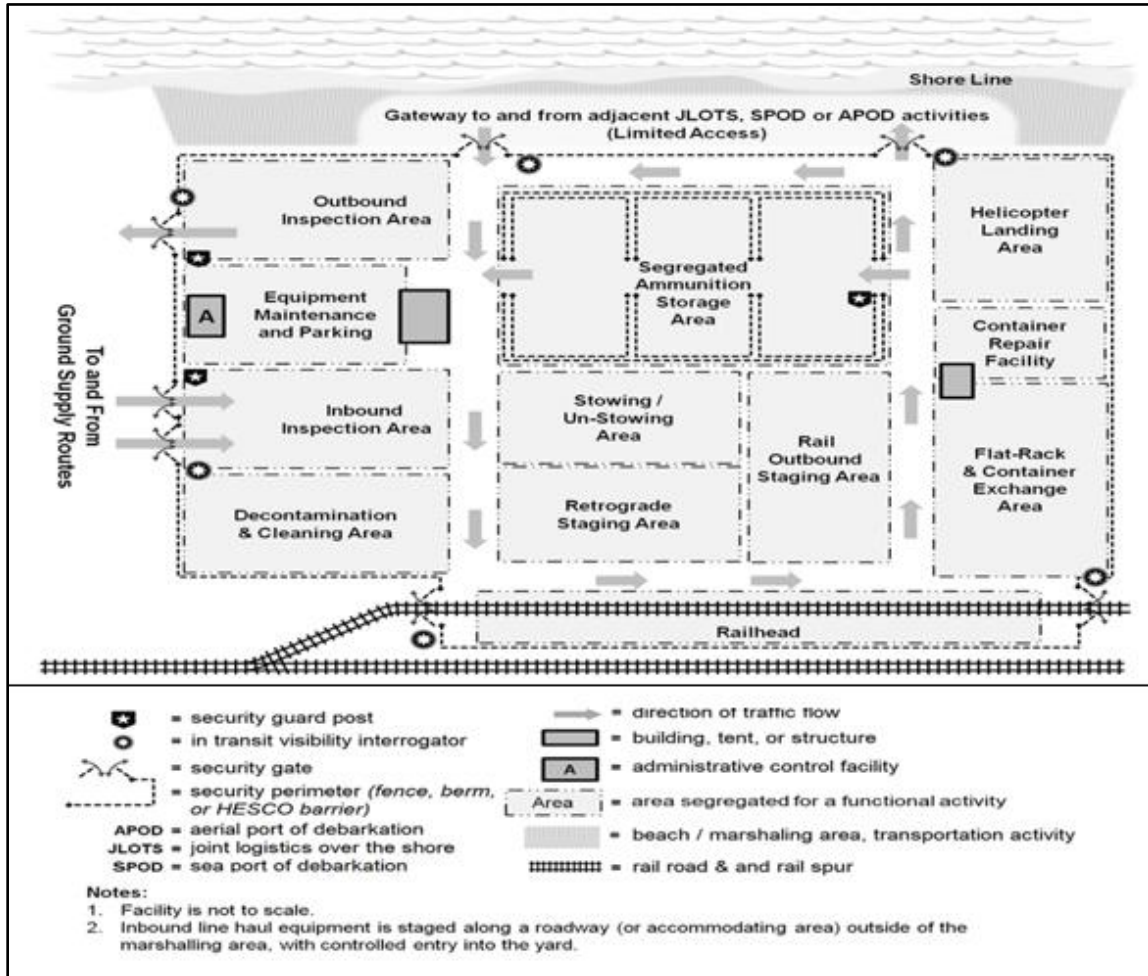


Figure 3-5. Layout of an ammunition supply point

3-164. One or more modular ammunition platoons operate each ASP. The size, stocks and workload dictate the number of ammunition platoons required. During the ASP site selection process, commanders should focus on locations that minimize the need for engineer support. It should be located near an improved road network to ensure access by transportation assets. The ASP can expand to five or six square kilometers or larger, depending on the current tactical situation and mission. ASP stocks are most often stored on the ground on unimproved surfaces. Units should lay out ASPs so that vehicles can enter and leave any one area without crossing any of the other areas. Refer to chapter 5 of this publication for protection considerations and for general tactical site selection. For layout considerations, refer to DA PAM 385-64. An ASP may receive some or all of its munitions requirements and delivery from a supporting theater ASP. The ASP issues ammunition in configured loads as appropriate.

3-165. The theater ASP is usually the largest munitions storage facility in the theater. A modular ammunition company in a sustainment brigade operates the theater ASP. The theater ASP is located near a POD, with ready access to highway, rail, air, and port facilities for distribution. The ASP receives ammunition to include theater reserve ammunition. The theater ASP will also receive retrograde ammunition for return to CONUS or transfer to another theater or JOA.

3-166. The theater ASP requires additional container handling equipment and platforms as it receives 100% of inbound munitions originating from the POD and stores and retrogrades a majority of containerized ammunition. A theater ASP will normally maintain a higher initial and final stockage objective than other

ASPs. A theater ASP may be located inside a logistics support area and will normally stock high tonnage, low-density munitions such as those used by air defense artillery units.

3-167. During initial entry, the theater ASP may reconfigure sustainment loads into combat or mission configured loads for distribution. A **mission configured load is an ammunition load configured to support specific mission requirements across task forces or organizations**. In a mature theater, the theater ASP may distribute a majority of sustainment loads to forward ASPs for reconfiguration in order to economize resources and speed forward shipments. Munitions and transportation personnel must efficiently manage containers received at the theater ASP. Refer to ATP 4-12 for more information.

MAINTENANCE

3-168. Modular ammunition companies or platoons in an ASA perform field maintenance on ammunition. Field maintenance focuses on preventing deterioration of ammunition due to rough handling and exposure. It returns unserviceable ammunition that is not suitable for issue to a serviceable condition. ASAs perform field maintenance operations to maintain stocks in an acceptable serviceable state for immediate issue and use. Maintenance activities performed at field level include—

- Cleaning, drying, and protection of individual items and packing material.
- Spot painting and re-stenciling.
- Removing rust and corrosion.
- Painting and stenciling of ammunition items, including containers.
- Repairing and fabricating boxes, containers, and crates.
- Submitting ammunition condition reports.
- Replacing readily removable external parts and components such as, but not limited to, fuses of artillery and mortar ammunition, grommets, nose plugs, and humidity indicator housing cards.
- Return of munitions inspection.
- Receipt inspection.
- Pre-issue inspection.
- Inspection of packaging and loading during the shipment (retrograde) process.
- Certifying ammunition residue as explosive free.
- Periodic inspections.
- Assigning local lot numbers for small arms ammunition.
- Determining and assigning condition codes.
- Checking for suspension or restrictions on all ammunition assigned to brigade.
- Maintaining depot ammunition surveillance cards on locally stored or managed ammunition.

3-169. ATHP personnel perform field maintenance during the distribution and redistribution process. Munitions field maintenance includes ammunition surveillance activities associated with this level. ATHP personnel perform field maintenance operations to maintain stocks in an acceptable serviceable state for immediate issue and use. The same maintenance tasks identified in the ASP apply to the ATHP.

3-170. Inspection and maintenance are joint efforts performed under the direction of QASAS, military occupational specialty code 890A warrant officers, 89B NCOs (advanced leader course graduates), and trained attached civilian personnel. Military inspectors and ammunition technicians will perform QASAS duties associated with ammunition inspection and field maintenance when the QASAS are not available. The commander must approve maintenance operations without a QASAS present.

AMMUNITION SURVEILLANCE OPERATIONS

3-171. The ammunition surveillance program is the most critical aspect of ammunition management. The Army surveillance program ensures that the ammunition stockpile is safe to use and store and will function as designed. Trained and certified inspectors continuously conduct ammunition surveillance operations during the maintenance and redistribution process. Munitions handlers conduct ammunition surveillance operations throughout all strategic roles. The program identifies items for timely maintenance, disposal, priority of issue, and restricted use. The ammunition surveillance inspection program is structured to ensure

that materiel in the stockpile meets established explosives safety and serviceability criteria and is properly classified. Trained and certified personnel conduct inspections using statistical sampling techniques and procedures.

3-172. QASAS control the ammunition surveillance activities. A QASAS inspects and classifies munitions and its components during movement, storage, and facilities and maintenance operations. A certified ammunition warrant officer, 89B NCO (staff sergeant or above), trained attached civilian wage grade or contracted ammunition inspector, or a QASAS, visually inspects all opened ammunition, and determines the serviceability of both the ammunition and its containers. In addition, inspectors must check for compatibility and ammunition in a hazardous condition. For further discussion of ammunition surveillance operations, functions, inspections, standards, records, and reports refer to DA PAM 742-1.

3-173. The ammunition inspector in the ATHP is responsible for inspecting the quality and serviceability of all munitions items. This NCO will work closely with QASAS personnel to ensure that ammunition lot numbers are not suspended. Issuing facilities recall suspended ammunition lot numbers and issue serviceable ammunition in its place. This NCO is also responsible for the coordination with EOD personnel to demilitarize unserviceable munitions. Ammunition inspectors are also responsible for dispositions of CEA and captured enemy weapons. In the event the unit acquires CEA or enemy weapons, the ammunition inspector works closely with logistics assistance representatives to process them.

ORDNANCE BATTALION, AMMUNITION, WARTIME HOST-NATION SUPPORT (WHNS)

3-174. The role of the ordnance battalion, ammunition, wartime host-nation support is to provide command and control and staff planning for up to nine ordnance companies (ammunition) involved in the coordination and management of U.S.-owned class V stocks being received, stored, and issued by host-nation ammunition units.

3-175. For wartime host-nation support, oversight of munitions operations conducted by a host-nation will be the responsibility of the headquarters in which the operation occurs. The size and makeup of the munitions elements will be determined during the planning phase of the operation. The corps, TSC, or ESC may maintain control of the munitions element directly or via a sustainment brigade depending on mission variables. This unit provides operational control over U.S.-owned stocks received, stored, and issued by host-nation units to U.S. units.

Ordnance Battalion, Ammunition, Wartime Host-Nation Support (WHNS)

- **Role:** Provides command and control for assigned ammunition companies.
- **Capability:** Provides technical direction over mission operations of subordinate units.
- **Parent:** Material Support Command – Korea.
- **Command Relationship:** Assigned.
- **Support Relationship:** General Support.
- **Span of Operations:** Corps or Theater
- **Span of Operations:** Corps or Theater rear boundary to the BSA.

ORDNANCE COMPANY, AMMUNITION, WARTIME HOST-NATION SUPPORT

3-176. The role of the ordnance company, ammunition, wartime host-nation support is to provide operational control over U. S.-owned ammunition stocks being received, stored, warehoused, and issued by host-nation ammunition units to U.S. forces combat units.

3-177. For wartime host-nation support, oversight of munitions operations conducted by a host nation will be the responsibility of the headquarters in which the operation occurs. The size and makeup of the munitions elements will be determined during the planning phase of the operation. The corps, TSC, or ESC may

maintain control of the munitions element directly or via a sustainment brigade depending on mission variables.

Ordnance Company, Ammunition, Wartime Host-Nation Support

- **Role:** Provides modular ammunition support on an area basis.
- **Capability:** Unit provides necessary expertise required to perform stock accountability, stock status reporting, and quality assurance or quality control functions for U.S. owned ammunition stocks being received, stored, warehoused, and issued by host nation ammunition units.
- **Parent:** Ordnance Battalion, Ammunition, Wartime Host-Nation Support or CSSB.
- **Command Relationship:** Attached.
- **Support Relationship:** General Support.
- **Span of Operations:** Corps or Theater rear

Chapter 4

Brigade and Below Munitions Operations

The safe, secure, and rapid distribution of military munitions is a critical element of the munition distribution management and materiel management processes. Munitions distribution is executed using multimodal government and contractor-owned transportation. Munitions distribution in a theater of operations begins with understanding the munitions support requirement. Based on the requirement, commanders ensure adequate materiel and distribution capability are in place. Munitions distribution operations expand or contract as determined by the tactical situation.

BRIGADE COMBAT TEAM AMMUNITION RESPONSIBILITIES

4-1. BCTs are versatile modular organizations with inherent capabilities that make them effective in any environment. There are three types of BCTs: armored, infantry, and Stryker. BCTs maneuver against, close with, and destroy enemy forces. BCTs have organic combined arms capabilities including battalion-sized maneuver, field artillery, reconnaissance, and sustainment units.

4-2. A BCT has organic capabilities across the warfighting functions. These capabilities are scalable to meet mission requirements. BCTs can operate independently for up to three days depending on the mission.

4-3. All three types of BCTs have companies that support brigade operations. The types and quantities of these companies are the same for each BCT, but the exact composition and capabilities of the supporting companies will differ based on the type of BCT. All BCTs have a distribution company and six forward support companies.

4-4. The BCT S-3 has many responsibilities that require coordination with other staff sections and supported units. Brigade S-3 ammunition responsibilities include—

- Determining brigade ammunition requirements and priorities based on input from subordinate battalions and knowledge of upcoming tactical operations. A master gunner may assist with this.
- Determining the consolidated brigade RSRs in coordination with the fire support officer and submitting it to the brigade S-4.
- Determining the location of main supply routes and logistics support areas with support from the S-4 and engineer officer.

4-5. At brigade level and below, the fire support officer serves as a special staff officer for fires and directly coordinates with the S-3. The fire support officer advises the supported commander or assists the senior fires officer with the organization of fires functions and fire support. The fire support officer's munitions-specific responsibilities include—

- Determining field artillery ammunition requirements.
- Coordinating field artillery asset rearming and ammunition re-allocation.

4-6. The S-4 is the logistics planner and coordinating staff officer for sustainment operations and provides staff oversight for supply and transportation.

4-7. The duties of the S-4 include—

- Developing logistics plans to support operations and preparing support annexes.
- Coordinating with the supporting FSC and BSB on current and future support requirements and capabilities.
- Coordinating for all classes of supply.

- Designating supply routes and locations of logistical elements (in coordination with the S-3 and FSC commander).
- 4-8. Specific brigade S-4 responsibilities regarding ammunition include—
- Coordinating an issuing schedule with the BSB SPO section.
 - Consolidating and forwarding daily ammunition requirements and expenditures to the BSB SPO and brigade or battalion ammunition officer (BAO).
 - Providing a unit issue priority list and forwarding the consolidated unit ammunition requirements to the BSB SPO and BAO.
 - Providing subordinate battalion S-4s with their allocations of the brigade CSR and supporting proper accountability of ammunition in subordinate units.
- 4-9. The property book officer serves as a coordinating staff officer under the brigade S-4 and is integral to munitions accountability. The property book officer's ammunition duties and responsibilities include—
- Generating issue or turn-in document numbers for combat loads.
 - Monitoring subordinate unit authoritative property system of record ammunition accounts.
 - Posting or approving postings of ammunition to the property book using Global Combat Support System-Army (GCSS-Army).

SUPPORTED BATTALION AMMUNITION RESPONSIBILITIES

- 4-10. The supported battalion S-3 ammunition responsibilities include—
- Operating the battalion TAMIS account and establishing ammunition combat loads for subordinate units.
 - Monitoring ammunition utilization and expenditure reports from subordinate units and those generated by the battalion S-4.
 - Managing and reporting training ammunition allocations for the battalion.
 - Submitting ammunition requirements and reports to the brigade headquarters (in conjunction with the battalion S-4).
- 4-11. The fire support officer serves as a special staff officer for fires and directly coordinates with the S-3. When assigned, master gunners assist the S-3 in forecasting ammunition, ranges, and training aids.
- 4-12. The S-4 focuses on internal requirements, munitions functions, and generates the internal logistics status report. The S-4 determines the battalion munitions requirements and coordinates the procurement and warehousing of munitions and equipment.
- 4-13. The battalion S-4 requests munitions based on consolidated user requirements needed to support tactical operations. Companies forward requirements in a logistics status to the battalion S-4. The logistics status report should include on-hand quantities, critical shortages, and forecasted changes in munitions requirements based on command guidance. The battalion S-4 consolidates the battalion munitions requirements and submits them to the brigade S-4 within authorized quantities (the CSR), if established. Specific battalion S-4 ammunition responsibilities include—
- Providing oversight accountability for ammunition load munitions at the company level.
 - Recommending cross-leveling of subordinate company ammunition as necessary.
 - Requesting combat load and resupply and validating or determining resupply requests as routine or emergency.
 - Authenticating all subordinate unit issue requests and verifying that they do not exceed a unit's authorization or available quantities.

SUPPORTED COMPANY AND BELOW AMMUNITION RESPONSIBILITIES

- 4-14. Company and below level munitions manager responsibilities include—
- Overseeing ammunition combat loads for organic and attached units.

- Ensuring each Soldier associated with ammunition management is completely knowledgeable in publications, security, storage, and transportation of ammunition and all actions concerning ammunition management.
- Conducting all necessary actions in accordance with servicing ASA, and SOPs for drawing and returning ammunition and residue.
- Ensuring munitions forecasts are validated to be realistic, feasible and timely.
- Ensuring that all issued munitions are used properly.
- Ensuring that remaining munitions or their returnable remnants turned-in upon completion of operations or when no longer needed.
- Ensuring that training ammunition issues and turn-ins are properly reconciled.
- Forecasting and submitting ammunition requests and expenditure reports to their servicing battalion headquarters.

4-15. Responsibilities of the company supply section, supply sergeant, supply officer, or appointed designated representative of the company include—

- Using GCSS-Army to account for ammunition combat loads.
- Ensuring proper accountability and physical security of all munitions in accordance with applicable regulations, policies, and procedures.
- Coordinating pick-up and turn-in dates with servicing ASA as required.

SECURITY FORCE ASSISTANCE BRIGADE AMMUNITION RESPONSIBILITIES

4-16. Security force assistance brigades provide advisors to conduct worldwide security force assistance at the operational and tactical levels to develop the capacity and capability of foreign security forces and their supporting institutions in support of theater security cooperation objectives. The security force assistance brigade is significantly smaller than a BCT.

4-17. Each security force assistance battalion in the brigade has an ammunition warrant officer and NCO that serve as ammunition logistics advisors to the partner nation security forces. The ammunition logistics advisors manage the team's ammunition and advise partner security forces on matters including ammunition accountability, compatibility, net explosive weight criteria, explosives site certification process, managing funds, and processing external support requests. The ammunition logistics advisor performs the following internal functions:

- Advises the team leader on ammunition operations, transportation, and explosives safety standards.
- Collects, processes, and coordinates for team ammunition support through the next higher headquarters.
- Conducts periodic and routine inventories of operational loads maintained by the team.
- Provides input for training evaluations.

4-18. The ammunition logistics advisor performs the following external functions:

- Advises partner security forces on logistics, specifically ammunition transport and explosives safety hazards.
- Advises the partner nation counterparts on tracking and monitoring contract deliveries.
- Adheres to the principles of cross-cultural communication, problem solving, and conflict resolution.
- Supports the partner nation counterparts with capabilities as operational and mission variables allow.

4-19. For more details and information on the security force assistance brigade, see ATP 3-96.1.

BRIGADE SUPPORT BATTALION

4-20. The BSB is organic to the BCT and some support brigades. It provides supply, maintenance, motor transport, and medical support to the supported BCT or brigade. It is tailored to support the brigade to which it is assigned. The BSB provides command and control, administrative, and logistics support for all organic and attached units. Figure 4-1 depicts the BSB organizational structure.

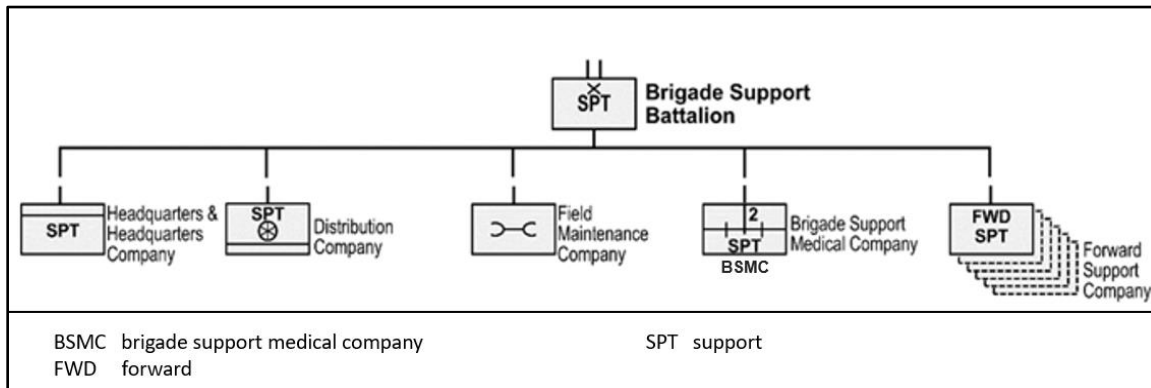


Figure 4-1. Brigade support battalion

4-21. BSBs provide distribution platforms that enable the brigades to conduct sustained operations for a finite period. BSBs plan and execute replenishment operations in support of BCT battles and engagements. Replenishment operations are deliberate, time-sensitive operations conducted to replenish FSCs with essential supplies, such as munitions. The sustainment brigade can provide logistics capability that is not organic to the BSB (such as water purification and bulk fuel) or provide additional capacity (such as additional transportation) to support the BSB.

4-22. The distribution company transportation platoon provides transportation support to the brigade and supply distribution to the FSC. The transportation platoon headquarters provides leadership, supervision and technical guidance to tactical truck squads performing motor transport operations to brigade units. The transportation platoon executes missions when ordered by the company or BSB. ATP 4-11 has more detailed information on transportation operations.

4-23. When the supported brigade's requirements exceed BSB capability, immediate coordination must occur between the BSB commander and staff, BCT commander and staff, and the supporting sustainment brigade. The BSB may require additional capability for various reasons including increase in supported population, scope of mission, or equipment density due to expanded BCT task organization.

BRIGADE SUPPORT BATTALION SPO

4-24. The BSB SPO is the principal staff officer responsible for synchronizing BSB distribution operations for units assigned or attached to the brigade. The BSB SPO applies BSB capabilities against brigade requirements.

4-25. The BSB SPO staff plans and coordinates orders published by the S-3 for execution by all subordinate BSB units, including the FSC, during the performance of current operations and brigade support operations. These orders can include a synchronization matrix outlining the plan for execution. This enables the BCT S-4 and all subordinate BSB units to be aware of the brigade support plan.

4-26. In the BCTs, the BSB SPO staff includes an ammunition warrant officer, ammunition logistics NCO, and an ammunition inspector NCO. In the combat aviation brigade and field artillery brigade units, the BSB SPO staff includes an ammunition officer, ammunition logistics NCO, and an ammunition inspector NCO. These individuals coordinate with the transportation branch office, which consists of a transportation officer, operation NCO's and movement control NCO's. Together these branches coordinate the distribution of munitions for their supported units.

4-27. The BSB SPO will array additional capabilities and integrate them with the BSB capabilities. In a general support relationship, the DSSB SPO and the BSB SPO together ensure all supporting and supported units have a complete understanding of the additional capability and the established support and command relationships.

4-28. The BSB SPO communicates requirements to the sustainment brigade SPO. The BSB SPO provides the type, scope, and projected timeline of the support required to the sustainment brigade; the sustainment brigade determines how to provide support. A CSSB tasked with support of a BSB coordinates support and synchronizes distribution through each unit's respective SPO staff.

4-29. The BSB SPO section is responsible for planning, monitoring, and reporting on-hand munitions stockage levels, storage, security, and risk management of the BSA ammunition transfer point. The ammunition section in the BSB's distribution company works closely with the SPO section to understand and support operational requirements. Other responsibilities include, but are not limited to—

- Developing the concept of support and the distribution of munitions logistics package plan.
- Coordinating external support requirements with the BCT S-4, division G-4, and supporting sustainment brigade.
- Planning, preparing, and overseeing munitions support during BSB operations within the BCT area of operation.
- Maintaining a COP for munitions within each formation and throughout the BCT to ensure timely delivery of required support.
- Coordinating munitions support for all units assigned or attached to the BCT.
- Advising the BCT commander for aerial delivery munitions support.
- Updating the BSB munitions logistics status reports.
- Planning and monitoring RSRs and adjusting to meet support requirements.
- Performing logistics preparation of the battlefield and advising the commander on the relationship of support requirements.

4-30. The BSB SPO manages munitions for the brigade, provides staff supervision to the distribution company's ammunition section, and provides technical assistance and advice on munitions management to brigade units. The SPO maintains records of munitions allocations, receipts, and expenditures for brigade units. The ammunition officer in the SPO also functions as the BAO.

4-31. The BAO is assigned to the BSB's SPO section and manages the munitions staff cell. This officer is responsible for consolidating munitions requirements and coordinating resupply operations for the brigade and attached units. The BAO provides mission guidance and communicates priorities to the distribution company ammunition section. The BAO's mission is to—

- Assist the SPO in preparing plans and procedures for ammunition operations.
- Manage brigade ammunition operations.
- Maintain liaison with the ASAs supporting the brigade and with ammunition staff officers at the sustainment brigade, ESC, or TSC.

4-32. The BAO oversees the BSB distribution company ammunition section operations. BAO daily operations include monitoring and coordinating the cross-leveling of stocks and monitoring supply status data and accountability. The BAO provides technical assistance and monitors ammunition surveillance operations and validates ammunition requests.

4-33. The BAO provides input on the proper positioning of the ammunition transfer point to support maneuver elements of the BCT effectively, consistent with the current operational situation. The BAO should also provide input to planning development, specifically to those sections or annexes that identify munitions support to maneuver elements.

4-34. The BAO establishes a SAAS account for the brigade. SAAS allows the BAO to manage brigade or task force organization, produce and manage reports, compute and maintain ammunition requirements during operations, and submit electronic directives to a SAAS located in the ASP, ATHP, or MATP. The BAO uses SAAS to account for all ammunition and to process all ammunition transactions.

4-35. The ammunition logistics NCO is the principal enlisted assistant to the BAO. The ammunition logistics NCO performs duties as assigned consistent with the responsibilities of the BSB SPO ammunition office and can be designated to act on behalf of the BAO in the BAO’s absence. Additional responsibilities for the ammunition NCO may include—

- Developing an operational SOP for section operations.
- Providing technical assistance, coordination, and advice on ATHP or MATP operations and ensuring operations comply with SOPs.
- Monitoring munitions flow into and out of the ATHP or MATP and coordinating with transportation elements.
- Establishing primary and back-up communication linkages.
- Coordinating munitions receipt and handling at the POD.

4-36. The ammunition inspector NCO is an enlisted assistant to the BAO. The ammunition inspector NCO performs duties assigned consistent with the responsibilities of the BSB SPO ammunition office, and can be designated to assist task-organized units such as FSCs in procedures of ammunition surveillance, unit-level inventory, maintenance, and disposition. Additional responsibilities for the ammunition NCO may include:

- Assisting in the development of an operational SOP for section operations.
- Monitoring unit ammunition accounts and providing assistance when warranted.
- Liaising in coordination efforts for ammunition transfer.
- Developing and maintaining running estimates.
- Assisting the BAO in constructing projects designed to create new capabilities or efficiencies.

4-37. For more details on BSB SPO responsibilities, see ATP 4-90 and FM 3-96.

DISTRIBUTION COMPANY

4-38. The BSB distribution company is the primary supply and transportation hub of the BCT, and it manages the distribution of munitions to the brigade. It contains an ammunition section that is responsible for facilitating the transfer and temporary retention of munitions from the supporting ASA to units assigned to the brigade. Figure 4-2 depicts the organization of the BSB distribution company.

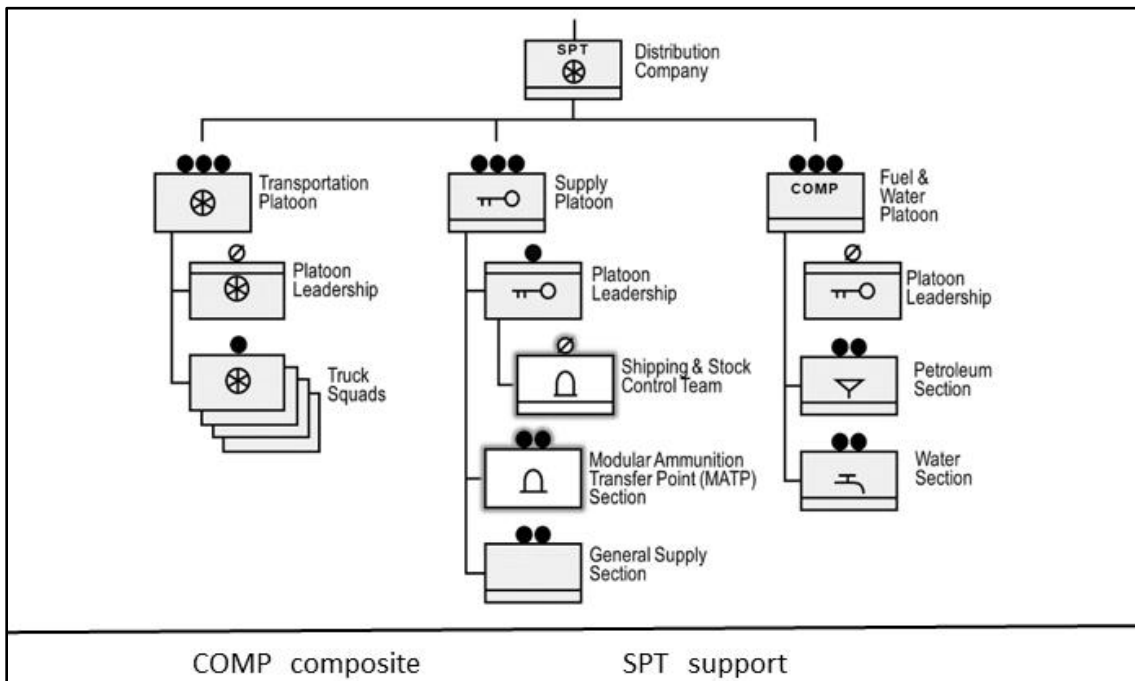


Figure 4-2. Distribution company general configuration

4-39. The role of the BSB distribution company is to plan, direct, and supervise supply and transportation distribution to the brigade. The company provides distribution capability for munitions operations. It maintains visibility of the distribution network within their area of operations, synchronizing the flow of throughput into the brigade area of operations. The BSB distribution company executes a combination of supply and transportation functions to accomplish supply replenishment supporting defensive operations. The distribution company executes anticipatory replenishment in accordance with the concept of support.

4-40. The BSB distribution company includes a transportation platoon and a supply platoon. The distribution company ammunition section provides munitions support as the transfer agent to units assigned to or operating in the brigade area of operations. It conducts daily receipt, storage, and issue of munitions for the brigade. The distribution company is located in the brigade support area and operates throughout the supported brigade area. Figure 4-3 provides a notional battlefield array for the BSB.

4-41. The role of the supply platoon ammunition section in the distribution company is to provide receipt, reconfiguration, and temporary retention or storage, retrograde, shipment and issuance of ammunition for units assigned or attached to the brigade.

BSB Distribution Company

- **Role:** The BSB distribution company plans, directs, and supervises supply distribution in support to a brigade combat team or multifunctional brigade.
- **Capability:** The distribution company manages the distribution of supplies to the brigade and provides distribution capability for class I, II, III, IV, V, and IX.
- **Parent:** Brigade support battalion.
- **Command relationship:** Organic to a BSB.
- **Support relationship:** Direct support to the BCT.
- **Span of operations:** Brigade combat team area of operations.

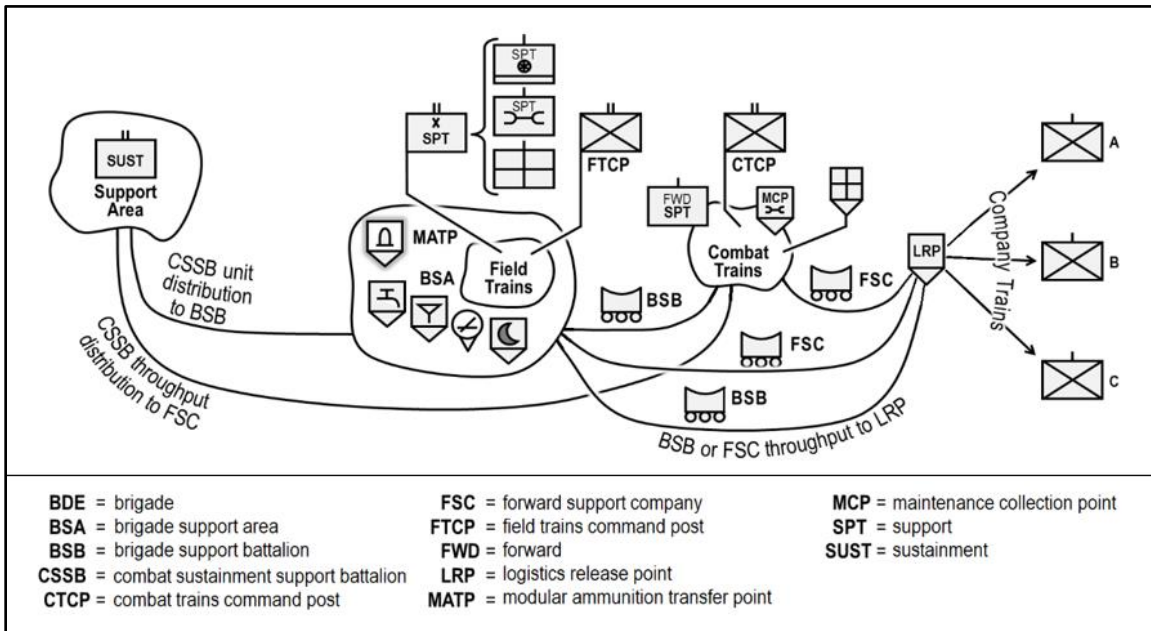


Figure 4-3. Notional battlefield array of a brigade support battalion

4-42. The BSB distribution company commander and key leaders must continuously conduct distribution management to integrate supplies with available transportation assets and control movement according to the distribution plan.

4-43. The BSB commander sets priorities of support for the distribution company based on the concept of operations. When requirements exceed the capability of the distribution company, aerial delivery or supply

point distribution may be required to ensure timely delivery of supplies. For additional information about the distribution company, see ATP 4-90.

AMMUNITION SECTION

4-44. An ammunition section is organic to the supply platoon of the BSBs distribution company. The ammunition section stores and supplies ammunition for the brigade. The ammunition section chief manages the assigned personnel and equipment. When operating outside the brigade support area, the ammunition section may require additional security elements.

4-45. The ammunition section operates either an ATHP or MATP. The BSBs of Stryker, infantry, and armored BCTs, as well as multidomain task forces, receive ammunition support through the MATP. The ammunition section supporting the MATP consists of multiple lift teams equipped with dedicated MHE. This permits increased flexibility for the BSB to surge lift capabilities forward to transload class V quickly to the supported units. Other types of multifunctional brigades, including combat aviation brigades and field artillery brigades, receive ammunition support through an ATHP. Table 4-1 displays several key differences between the ATHP and MATP.

4-46. These sections are equipped with a computer to access SAAS via the web. Ammunition transactional data is made available to the supporting theater DMC, which provides EAB elements visibility of what the brigade has received, has on-hand, and facilitates the anticipatory logistics process.

Table 4-1. Key differences between the ATHP and MATP

	<i>Ammunition Transfer Holding Point (ATHP)</i>	<i>Modular Ammunition Transfer Point (MATP)</i>	
Units Supported	Other functional and multifunctional brigades (aviation, field artillery)	ABCT, IBCT, SBCT, MDTF	
Structure	Ammunition warrant officer Section chief Ammunition section	Section Chief Ammunition Teams: x2 for IBCT and MDTF x3 for SBCT and ABCT (tailored to expected workload)	
Mission Focus	Ammunition storage and accountability, ASA area-based supply point distribution for customer support. Normally operating in one location adjacent to or nearby the brigade support area.	Primary: Ammunition throughput and visibility, mobile ammunition support operations. Fast-moving, often with section performing split operations in two or more locations. Secondary: Ammunition storage and accountability, ASA-type customer support.	
Modularity	Not applicable	Ammunition team design matches EAB ammunition unit design facilitating requests for augmented support in standard units (team, section, platoon) when needed.	
ABCT	armored brigade combat team	IBCT	infantry brigade combat team
ASA	ammunition support activity	MDTF	multidomain task force
EAB	echelons above brigade	SBCT	Stryker brigade combat team

Ammunition Transfer Holding Point.

4-47. Under most circumstances, the ATHP is a temporary operation conducted adjacent to the brigade support area to facilitate the receipt, storage, and issue of ammunition to the supported brigade (see figure 4-4). Commanders accomplish this task at the ATHP with the 890A ammunition warrant officer assigned to the distribution company ammunition section serving as an accountable officer.

4-48. The ammunition section for an ATHP also consists of an ammunition section chief, ammunition handlers with associated equipment, and two stock control and accounting specialists. It provides munitions support to its brigade and may independently deploy the section to establish an ATHP. A layout of a typical ATHP is shown in figure 4-5 on page 4-10.

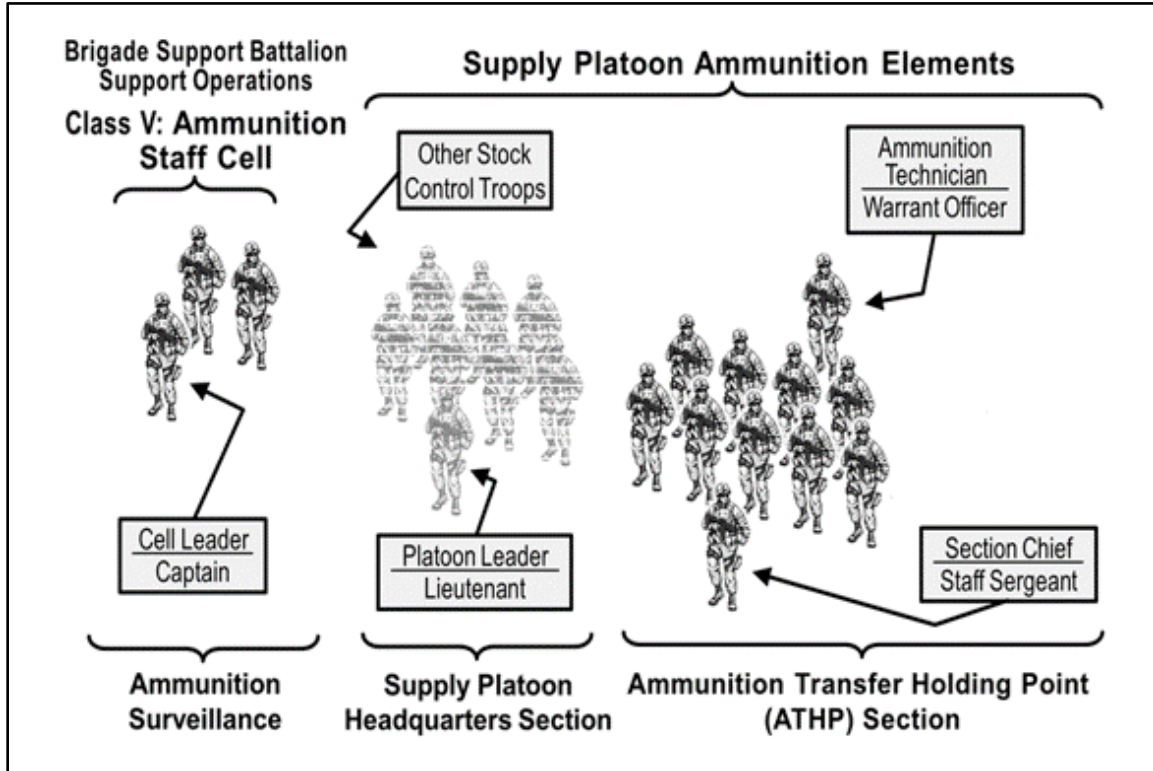


Figure 4-4. Brigade support battalion, distribution company, supply platoon for ammunition transfer holding point operations

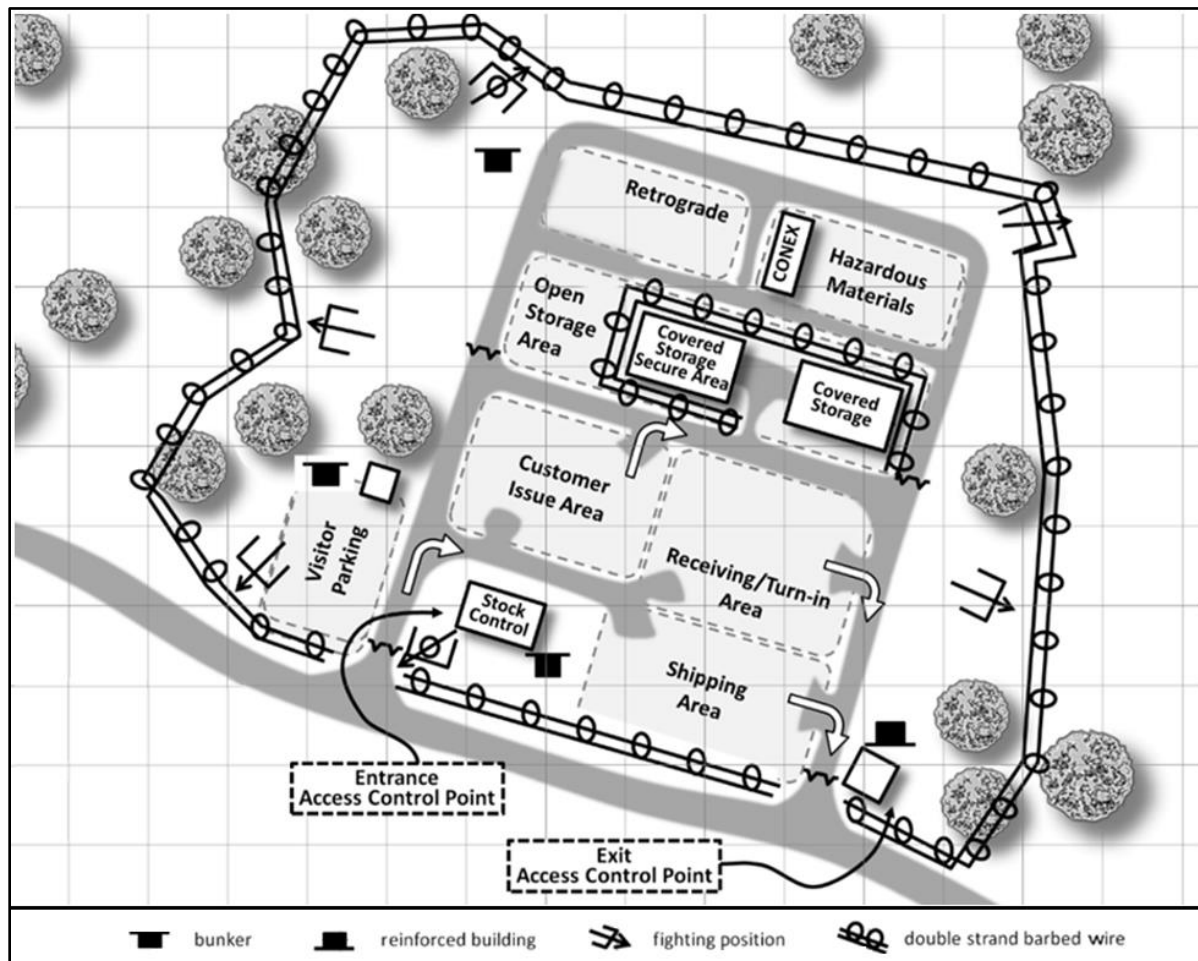


Figure 4-5. Notional layout of an ammunition transfer holding point

Modular Ammunition Transfer Point

4-49. The ammunition section for the MATP provides the BCT commander with the ability to scale, tailor, and surge class V capability and capacity required to sustain combat power during large-scale combat operations across a widely dispersed area of operations. The section has an ammunition section chief, but it is divided into optimized ammunition teams consisting of a team chief, four ammunition handlers, and their associated equipment. Each squad in the ammunition section can establish limited duration split-based MATP operations. This enables the company to facilitate the transfer of ammunition with supply point and unit distribution methods concurrently at multiple locations. The ammunition section for a MATP is depicted in figure 4-6.

4-50. The ammunition section for the MATP is comprised solely of ammunition handling specialists. The two ammunition stock control and accounting specialists of the ATHP section were moved to the distribution company's supply platoon headquarters to focus on class V visibility and throughput.

4-51. There are two types of ammunition teams for the MATP – the standard and the heavy lift section. The only difference between the ammunition and heavy-lift teams is in their MHE. The ammunition teams are authorized a 5,000-pound capacity forklift; the heavy-lift team are authorized a 10,000-pound capacity forklift. The ammunition sections for both armored and Stryker BCTs have two ammunition teams and one heavy-lift team. The infantry BCT has one ammunition team and one heavy-lift team.

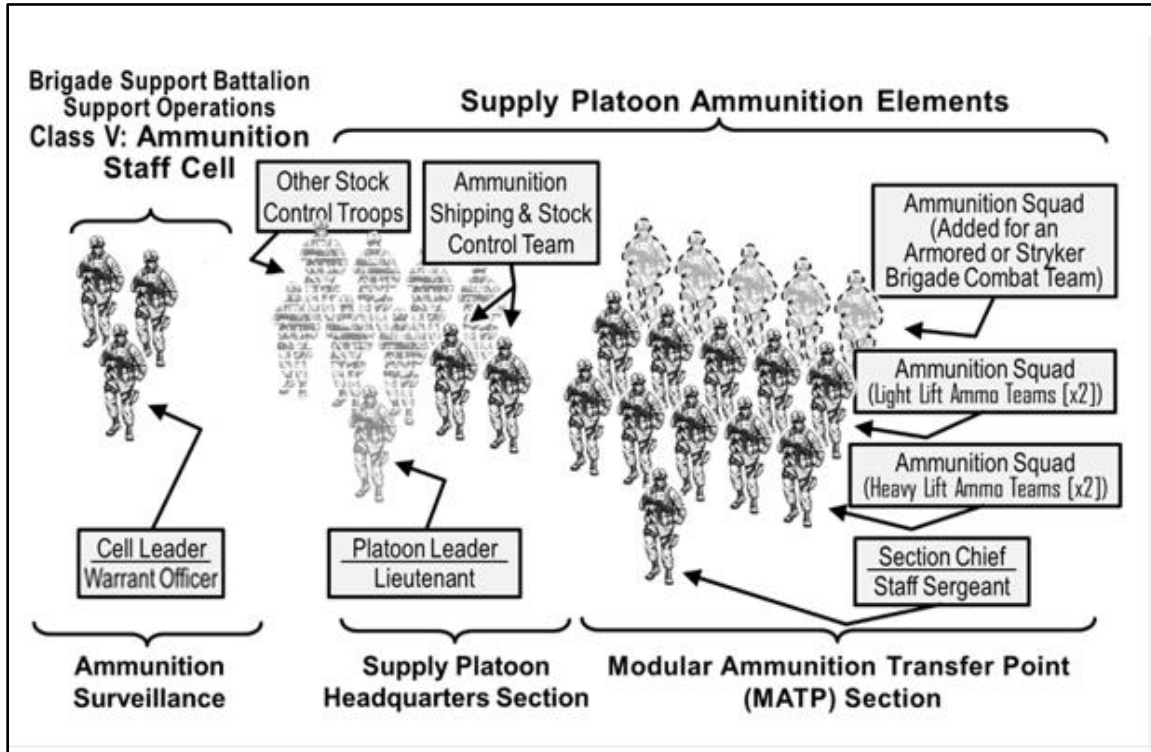


Figure 4-6. Brigade support battalion, distribution company, supply platoon for modular ammunition transfer point operations.

4-52. The MATP should not be seen as a storage facility for the BCT. The MATP is designed to enable the section to transload munitions from EAB transportation assets, providing limited load configuration based on operational requirements or suspensions, and temporarily holding ammunition for forward support companies. A pair of MATP layouts are depicted in figure 4-7 on page 4-12.

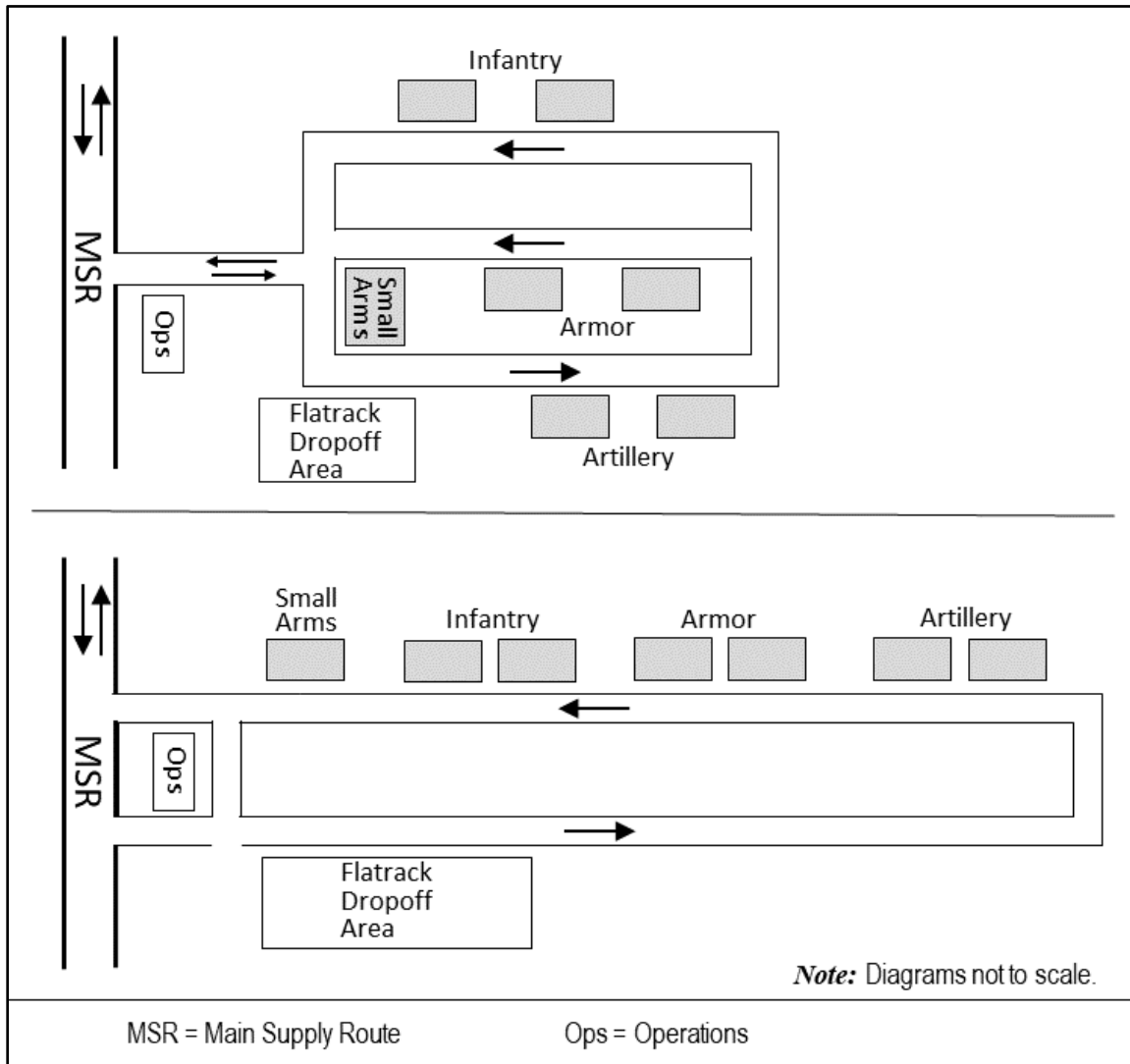


Figure 4-7. Alternative layouts for a hasty modular ammunition transfer point.

ATHP and MATP Operations

4-53. Munitions personnel establish accountability or visibility of the ammunition when it arrives at the ATHP or MATP. Munitions personnel enter the munitions into SAAS if the munitions are stored. The section must manually account for the munitions during periods of disrupted communications or if they arrive at the MATP location for immediate transfer. The section inventories and signs for the shipment. ATHPs receive ammunition from ASPs. The ASP normally delivers ammunition to the ATHPs or MATPs on flat racks using a load handling system or trucks with trailers. Both types of ammunition transfer points may receive a portion of their munitions from echeloned ASPs and a portion as configured items from the theater ASP. Once in the ATHP or a MATP, munitions personnel issue the ammunition in single DODIC sets or configured loads as required.

4-54. The ammunition section can distribute ammunition to the units in two ways. The primary method is unit distribution. The ATHP or MATP pushes ammunition to the FSC using the BSB distribution company. Aerial delivery can also be used for unit distribution. Alternatively, supply point distribution can be used. This method entails the FSC picking up ammunition from the ATHP or a MATP using distribution platoons. The FSC distribution platoon conducts munition resupply to their supported units. The requesting unit

submits the request through the battalion S-4 or designated representative for approval. The BAO confirms the request prior to issue.

4-55. FSCs arrive at the ATHP or a MATP to pick up ammunition, drop off empty or partially empty ammunition flat racks, and receive fully loaded flat racks. Ammunition section personnel assist the FSC loading the ammunition. The ammunition section reconfigures loads to meet mission requirements on a limited basis only. Munitions personnel issue flat racks as shipped. The section may consolidate ammunition on partly empty flat racks with returned ammunition aboard to make full loads for issue within the brigade. If the FSC has a heavy expanded mobility tactical truck load handling system in their distribution platoon, they can enter the ATHP and pick up the appropriate rack. Some ammunition loads configured at the ASP exceed the capability of the FSC's organic load handling systems. Section personnel ensure that configured loads destined for further transportation by the FSC do not exceed their capabilities to distribute.

4-56. Mission variables determine coordination on the location, amount, and type of ammunition received at the ATHP or a MATP. The brigade S-3, S-4, and sustainment staff's requirements determine the amount of ammunition sent to an ASP. Ammunition section personnel will interrogate radio frequency tags of arriving load handling system shipments to gain immediate visibility of the shipment and destination. The BAO notifies the section of a pending resupply mission and identifies the required type of ammunition load and quantity. The BSB tasks a FSC to move munitions and dispatches a load-handling system to the ATHP or MATP. FSCs drop loaded load-handling system flat racks at a designated logistics release point. Close coordination with supported units is required to establish the location and time of delivery. Using units assume accountability upon receipt and use their organic personnel and equipment assets to re-arm. The BAO determines if on-hand stocks in the ATHP or MATP are sufficient to meet requirements or if munitions from an EAB support activity will be required.

4-57. The ammunition section chief reports all issues and turn-ins to the BSB SPO section. Transportation assets used to deliver ammunition resupply pick up the unit returns and deliver them for immediate retrograde. When time and equipment permit, the supply platoon representative will attach radio frequency tags to the retrograde shipments. The movement tracking system tracks the ammunition vehicle returns as they are retrograded. The movement tracking system provides the ability to redirect the shipment if needed. The ammunition section maintains the ammunition stocks it can transport. The BAO is responsible for coordinating cross-leveling activities within the brigade and coordinating with the sustainment brigade for ammunition resupply activities. If required, ammunition can be prepared for aerial delivery directly into the area of operations using throughput distribution. Weapon system crews will be responsible for conducting self-trans-loading from the ground to the weapon system.

4-58. The ATHP or MATP personnel establish munitions accountability through the SAAS upon arrival at the ATHP. The section inventories and signs for the shipment. The accountable officer's representative receipts the ammunition in the SAAS. The ATHP or MATP holds segregated battalion munitions until called forward. Munitions personnel inspect munitions periodically to ensure serviceability and safe storage. Munitions personnel should use the safety guidance in DA PAM 385-64.

4-59. Before the ATHP or MATP personnel issue ammunition to a unit, the BAO validates the requirements and notifies the ammunition section onsite. Once the ATHP or MATP personnel issue ammunition to an FSC, the FSC assumes responsibility and uses its transportation assets to move the ammunition forward. The unit should present all request for issue documents through TAMIS on an electronic DA Form 581 (*Request for Issue and Turn-In of Ammunition*) if automation is available.

4-60. Ammunition may also be issued against a unit document from an EAB ASA and temporarily retained at the BSB ATHP until it is deemed appropriate to transfer munitions to the supported unit.

4-61. For further discussion of munitions storage area planning to include site selection, safety, compatibility groups and quantity distance factors, unserviceable and suspended ammunition, CEA, and salvage and ammunition packing storage, refer to ATP 4-35.1 and DA PAM 385-64.

ATHP and MATP Displacement

4-62. The BSB organizes convoy support and security for movement of the ATHP and MATP. Movement operations depend on the tactical requirement for uninterrupted munitions support. If continued support to the brigade is required, the BAO establishes an advanced element at the new site and coordinates the arrival

of MHE, personnel, and munitions. EAB munitions support structure begins shipment to the new site as required. The BAO and supply platoon ammunition section establish operations and relocate all required equipment, personnel, and stocks after arriving at the new site.

4-63. The ammunition section relocates in unison with the movement of its assigned brigade. The ammunition section provides dedicated support to users as far forward as possible. Despite the similarities between the ATHP and MATP design, the distinction in logistics operations may lie in the distance of the supported brigade from the forward line of troops (FLOT). Generally, the proximity of support elements to the FLOT warrants increased mobility. In large-scale combat operations, commanders must consider whether to reduce the logistical tail to retain its ability to mobilize on demand.

4-64. In a stability operation or defense support to civil authorities operation, there may be little or no requirement for movement. A *stability operation* is an operation conducted outside the U.S. in coordination with other instruments of national power to establish or maintain a secure environment and provide essential governmental services, emergency infrastructure reconstruction, and humanitarian relief (ADP 3-0). When required to displace, the ammunition section may require external transportation support to relocate munitions. Commanders should establish detailed plans to allow for quick, orderly movement under duress or on demand. During displacement, the BSB SPO and the BAO must communicate with using units and EAB munitions support structure to ensure there is no disruption in the flow of munitions, evacuation, and emergency destruction priorities.

4-65. Traditionally, ATHP operations involved the static or mobile positioning of personnel and equipment to store ammunition in excess of the unit's organic lift capacity. The distance of multifunctional brigades (supported by an ATHP) from the FLOT may afford commanders the opportunity for storage of munitions on the ground. Nevertheless, the OE remains volatile and uncertain, so ammunition sections must be prepared to request additional lift capability from supporting EAB units.

4-66. In large-scale combat operations, the BSB should be prepared to move frequently. As such, it does not have enough lift assets to remain mobile while maintaining large stockpiles of ammunition. Forward support companies should maintain adequate numbers of combat configured loads for emergency resupply within the combat trains of the battalion they support while their assets located in the field trains receive planned resupply at the ammunition transfer point.

4-67. As part of a main or supported effort, the MATP section supporting the BCT must avoid creating a surplus of munitions in its inventory to preclude the storage of munitions on the ground. As the MATP provides dedicated munitions support as far forward as possible, its ammunition section should be moved in phases to maintain continuity of support to the maneuver units. For example, one team from the ammunition section could move as part of an advance element to establish a new site, while the remaining team or teams move later to establish full operations without disrupting support. Doing this would require the ammunition transfer point locations to be communicated to —

- Forward support companies so they know where to receive their class V loads.
- The DSB so it knows where to ship class V loads.
- The BCT headquarters for situational awareness.

FORWARD SUPPORT COMPANY

4-68. FSCs are organic to BSBs in BCTs. They are designed to extend the reach of the BSB into the maneuver area. The brigade commander may attach or place an FSC under the operational control of their respective supported battalion for a limited duration. An FSC provides logistics in direct support to its specific supported battalion with dedicated logistics assets organized specifically to meet the battalion's requirements.

4-69. The FSC has a headquarters section, a distribution platoon, and a maintenance platoon as illustrated in figure 4-8. The distribution platoon consists of a platoon headquarters and four squads that can be task-organized to distribute munitions. The distribution platoon of the FSC oversees logistics package operations and manages the distribution of supplies coming from or passing through the FSC in support of its maneuver

battalion. The distribution platoon conducts replenishment operations and provides general supplies, fuel, and ammunition to its supported battalion.

4-70. The FSC is the forward most unit responsible for the distribution and supply of ammunition to maneuver units.

4-71. The key distribution and materiel managers in the FSC are the commander, executive officer, and supervisory NCOs. The FSC commander coordinates with the supported battalion S-4, executive officer and BSB SPO. The S-4 is the logistics planner for the battalion and responsible for determining munitions requirements and creating the battalion's sustainment concept of support. The FSC commander is the executor of the S-4's plan. The FSC commander ensures companies conduct munitions operations in accordance with the supported commander's intent. Figure 4-9 on page 4-16 provides an example of a field site of forward support elements in a logistics resupply point.

- Forward Support Company**
- **Role:** The forward support company provides logistics in direct support of a specific supported battalion.
 - **Capability:** The forward support company provides field feeding, bulk fuel, general supply, ammunition, and field-level maintenance in direct support of a supported battalion.
 - **Parent:** Brigade support battalion.
 - **Command Relationship:** Organic to a BSB; may be attached or operational control to its supported battalion for a limited duration.
 - **Support Relationship:** Direct support to its specific maneuver battalion; general support to other units in the BCT; general support to others on a limited basis by exception.
 - **Span of Control:** Brigade combat team area of operations from the BSA to the forward line of troops.

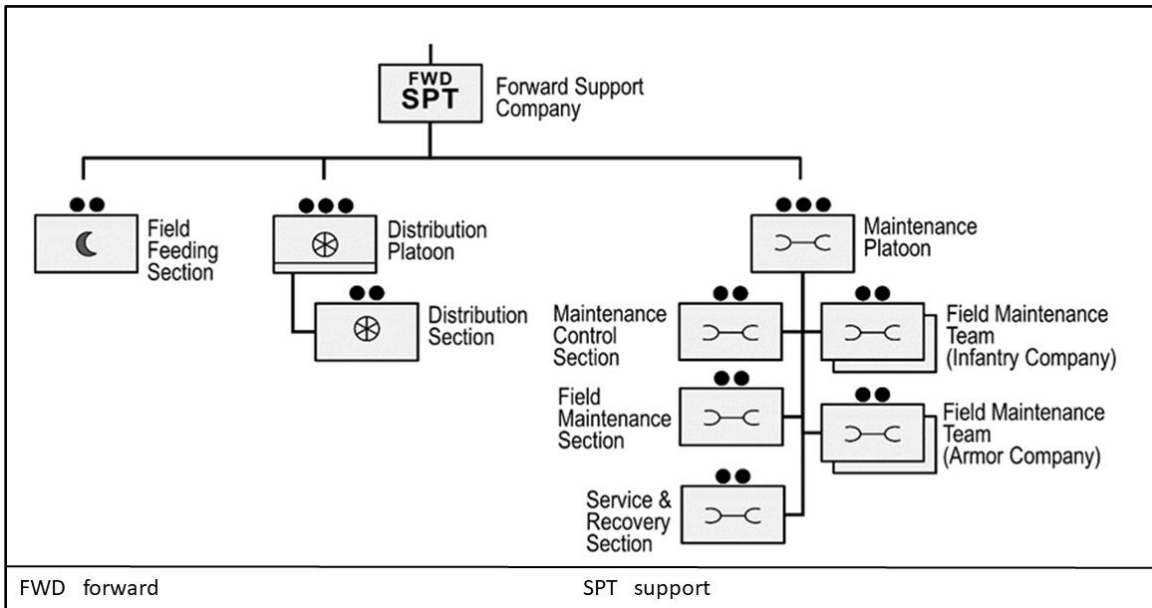


Figure 4-8. Forward support company organization

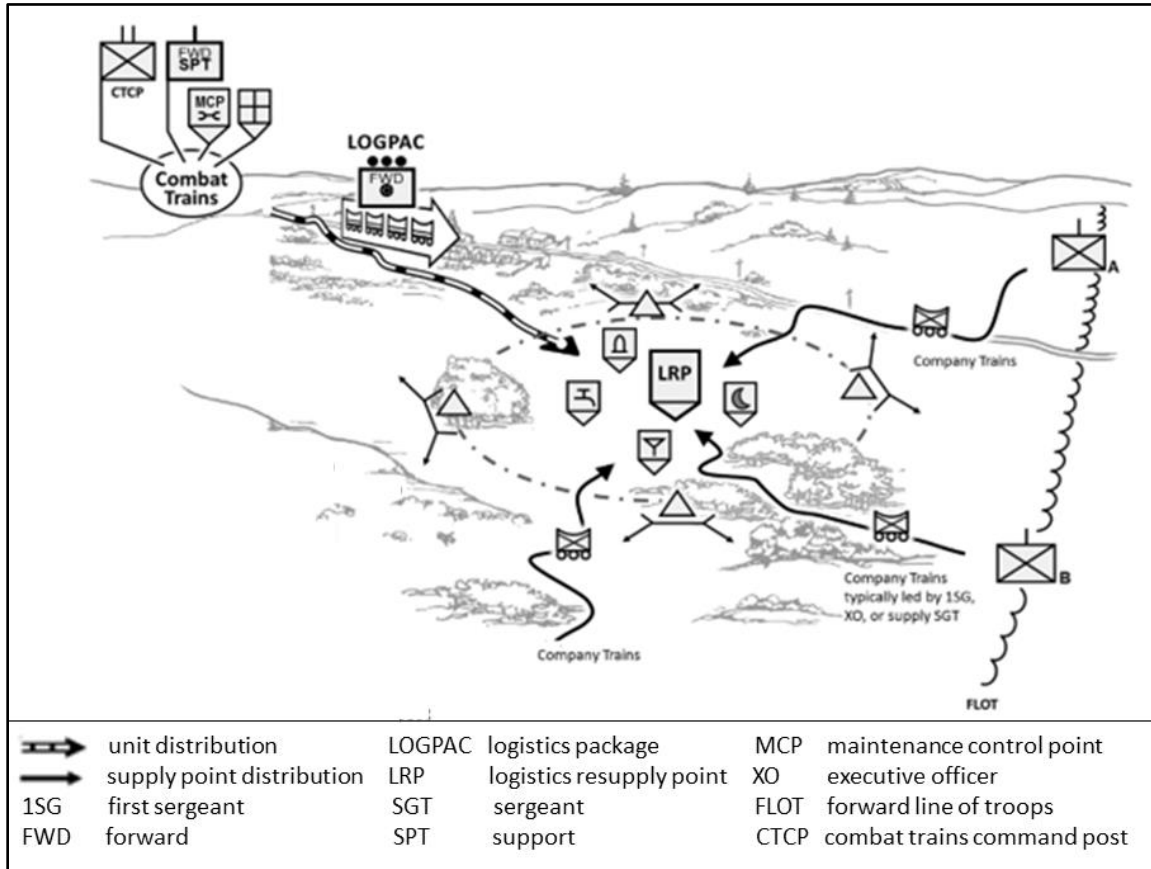


Figure 4-9. Field site of forward support elements in a logistics resupply point

4-72. The combat trains are the central location where a FSC commander can greatly influence the logistics operations of the company and battalion. Having FSC commanders in the combat trains also allows them to attend planning sessions and meetings with the battalion S-3, S-4, and executive officer. Under certain circumstances, the FSC commander may locate in the field trains. In this instance, the battalion headquarters and headquarters company commands and controls the combat trains. The FSC distribution platoon receives battalion-configured loads in the combat trains from the field trains. The distribution platoon breaks them into company-configured loads.

4-73. FSCs provide the BSB commander the ability to prioritize the logistics effort in support of large-scale operations. FSCs become the vital link from the BSB to the supported battalions and provide the brigade, battalion, and BSB commanders the greatest flexibility while supporting operations. The FSC provides the supported commander with dedicated logistics assets organized specifically to meet the battalion's requirements.

4-74. The following capabilities are provided by the FSC:

- Refueling and rearming support.
- Transportation of all classes of supply.
- Replenishment operations.

4-75. The FSCs resupply combat trains with munitions for further distribution within the maneuver units. The distribution company in the BSB resupplies the FSC. The FSC delivers and caches combat configured loads at designated logistics release points. DSSBs and CSSBs may conduct throughput distribution to the FSC.

4-76. Materiel managers should prepare tactical logistics packages and push packages containing munitions during offensive operations. Units accomplish the return of vital distribution assets (such as flat racks and containers) through retrograde of materiel during delivery of configured loads. This increases the supported maneuver commander's tactical flexibility and decreases the resupply time.

DISTRIBUTION PLATOON MUNITIONS SECTION

4-77. The distribution platoon in the FSC of a maneuver battalion provides direct transportation support to include management and distribution of munitions to their supported battalion. The FSC distribution platoon is responsible for transporting munitions from the BSB distribution company supply platoon ammunition section to the supported battalion. The FSC commander and distribution platoon leader must closely coordinate with the maneuver battalion S-3, S-4, and master gunner in order to ensure timely and accurate munitions distribution.

FORWARD ARMING AND REFUELING POINT

4-78. A FARP is a temporary location, event, or mission that is organized, equipped, and deployed as far forward or widely dispersed as tactically feasible to provide fuel and ammunition necessary for the sustainment of aviation maneuver units in combat. A FARP provides fuel and ammunition necessary for the sustainment of aviation maneuver units during decisive operations. The attack and reconnaissance squadrons and battalions operate FARPs. The combat aviation battalion FSC distribution platoon resupplies munitions for combat aviation battalion aircrafts. Establishing a FARP allows commanders to extend the range of their aircraft or significantly increase time on station by eliminating the need for aircraft to return to an aviation unit's central base of operations to refuel and rearm. An aviation battalion FSC is responsible for the resupply and replenishment of commodities and supplies to the FARP mission.

4-79. Combat aviation battalion commanders employ FARPs in support of aviation operations when the distance covered or endurance requirements exceed normal capabilities of the aircraft. The combat aviation battalion commander may employ FARPs during rapid advances when field trains are unable to keep pace. For more information on FARPs, refer to ATP 3-04.17.

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Chapter 5

Safety, Environmental Stewardship, and Protection in Munitions Operations

Munitions operations have the potential to cause death or injury to personnel, catastrophic damage to equipment and facilities, and damage to the environment. Safety, in any operation, is of the utmost concern to Soldiers and a critical requirement for leaders at all levels. The Army is a national leader in the areas of environmental and natural resource stewardship. Protection operations during munitions support are essential to both safety and mission accomplishment.

SAFETY CONSIDERATIONS

5-1. Safety, including risk assessment and accident reporting, is an inherent responsibility of commanders at all levels. The following discussion provides guidance on both general and munitions-related safety issues. For more information on general explosives safety, refer to ATP 4-35.1.

5-2. During the planning phase of any operation, safety personnel must conduct a task analysis and safety evaluation before writing unit SOPs. This allows sufficient time for safety input to ensure that units can implement operational changes effectively and efficiently. Policy directives, site plans, licenses, and SOPs are developed and approved per Army command policy. Army commands and unit safety managers serve as the command point of contact for all safety-related ammunition and explosives actions. They will—

- Initiate development of explosives licenses and explosives safety site plans and coordinate these with appropriate staff elements (for example, G-3 or S-3, G-4 or S-4, engineering, and logistics elements), and with sustainment brigade and unit QASAS support personnel.
- Participate in the base planning process as required. Planners should review the base master plan to ensure that no unit plans construction inside the explosives safety arcs. When construction unrelated to ammunition operations is required within the explosive safety arcs, safety personnel update the explosive safety site plans and submit revised explosive licenses to the approval authority.
- QASAS personnel supporting Army commands, sustainment brigades, and units will provide technical assistance to safety directors and managers in the development of explosives licenses, inspections, explosives safety site plans, submissions, and explosives licenses.

5-3. AR 385-10 provides options, based on the acceptance of ever-increasing degrees of risk, to the commander facing various and fluctuating battlefield hazards. The provisions of AR 385-10 apply in a recognized war zone, contingency operations area, or an area where hostilities are imminent. The Army commander can implement these provisions after receiving proper authorities. Several fundamental facts govern the relaxation of peacetime explosives safety standards during combat and contingency operations, which require acceptance of added risks. Whenever and wherever possible, ammunition personnel follow the peacetime explosives safety standards. Implement less restrictive guidance only after assessing the risks of relaxation against mission-imposed parameters. AR 385-10 provides guidance for site plans, waiver requirements, and site licensing.

5-4. DA PAM 385-64 establishes munitions and explosives safety standards to protect military personnel, Army civilian employees, the public, and the environment. The intent is directed at asset preservation to maintain mission capability. However, reduced levels of protection may impair or delay mission capability in the event of an explosives accident. Explosives safety quantity-distance standards include asset preservation distance and minimum separation distance. Where quantity-distance considerations must be relaxed, preventing propagation and preserving personnel, military equipment, and ammunition should be

paramount. In some situations that do not meet the specific requirement, safety personnel can provide equivalent protection by using protective construction or restructuring the operation. In situations where safety personnel provide equivalent protection, they must support their solution with approved analysis by the appropriate level of command. Safety personnel do not consider equivalent protection actions that meet regulatory requirements as waivers or exemptions.

5-5. At the segregation area, unexpended ammunition is identified and segregated by type and lot number. After being checked for non-standard or hazardous conditions, the munitions are repacked, palletized, and stored in accordance with distances outlined in established theaters of operations.

5-6. Ammunition personnel use MHE to store, handle, and move munitions. Examples are forklifts, towing tractors, cranes, pallet jacks, palletized load system trucks, and conveyors. Forklifts and cranes are the most common MHE used by ammunition units. Trained operators, supervisors, maintenance, and safety personnel are key to ensuring a safe MHE operating environment.

5-7. Commanders use the Army risk management process to address tactical situations that fall outside the provisions of safety regulations. Commanders should identify the hazards associated with the operation, assess these hazards, develop controls, make a decision based on the analysis, and supervise and evaluate the operation and controls.

5-8. Munitions handlers must be alert to the danger associated with depleted uranium rounds. Since these rounds present a potential radiological hazard, proper storage and handling are critical. DA PAM 700-48 identifies added precautions. Ammunition handlers must follow these precautions when handling ammunition containing depleted uranium or other radioactive commodities.

ENVIRONMENTAL STEWARDSHIP CONSIDERATIONS

5-9. Commanders must follow applicable environment regulations during peacetime operations. In contingency operations, or when coordinating operations within a host nation or coalition scenario outside the continental U.S., commanders must promote and inspire a keen awareness of the environment. Many federal, state, local, and host-nation laws hold commanders legally responsible for environmental damage caused by inadequate planning or supervision of operations and training. Leaders must comply with environmental provisions to avoid adverse environmental impacts when planning or executing operations. Regulations, rules, and guidance for munitions unit leaders are contained in AR 200-1, ATP 3-34.5, and Federal Register CFR 40.

5-10. The operational commander determines the need for, and environmental impact of, the destruction of ammunition or other explosives to prevent capture by the enemy.

5-11. If possible, Army forces should repair environmental damage occurring because of enemy actions or accidents involving munitions. Containment, cleanup, and restoration of the immediate area allows commanders to use the area for future operations. Commanders must follow guidance in applicable publications and use environmental risk assessment matrices to assess possible damage. Such assessments allow leaders to minimize environmental damage while optimizing performance and mission completion.

5-12. Modular ammunition companies are equipped with Army fire fighters and associated equipment for basic fire prevention, protection, and hazardous material response operations in an ASP.

PROTECTION CONSIDERATIONS

5-13. Munitions are required for protection and commanders must secure munitions in all operations. Commanders must conduct protection and security procedures deliberately due to the potentially catastrophic events that may result from improper adherence to protection requirements.

5-14. Munitions unit commanders and personnel must be aware that in any type of conflict, ASAs will be priority targets for the enemy. ASAs are vulnerable to the entire spectrum of threat weaponry and forces, including insider threats. ASA site planning, design, and layout must include careful consideration of the enemy capability to attack it and incorporate all active and passive measures available to minimize the risk of damage. To ensure operational security for munitions operations, units should include military deception and anti-terrorism measures in daily activities. This includes munitions transportation operations that should

consider cargo concealment, dispersal, and the varying of platform (vehicle type, aerial delivery, or ground haul) routes and timetables for distribution.

5-15. In a combat zone when ASAs or munitions distribution operations do not display fire or chemical symbol placards due to threat, a map and master list (manifest) describing the location and contents must be provided to fire-fighters, guards, security forces, and first responders. For more information on operational security, refer to ADP 3-37.

MUNITIONS PROTECTION REQUIREMENTS

5-16. The Army's ordnance corps is the proponent for explosives safety. The ordnance corps has established safety as a fourth core competency. Munitions and explosives safety is a priority consideration for all Soldiers and leaders. Reducing the probability of and limiting damage caused by unintended initiation of munitions requires disciplined application of explosive safety procedures and adherence to explosive safety rules

5-17. Ammunition and explosives have identified regulatory requirements for secure handling and storage. Regulations place ammunition and explosives into four risk categories based on their ease of utility, potential casualty and damage effect, ease of adaptability and portability, as well as their attractiveness to pilferage by criminal elements. Representative risk categories for ammunition and explosives and their regulatory physical security measures are outlined in AR 190-11.

5-18. Certain inert munitions and those munitions devices primarily used for training commonly referred to as dummy ammunition are sensitive items based on their potential for pilferage, misuse, modification, or conversion into operational munitions. These munitions must be clearly marked and prevented from being misidentified, distributed, or retrograded with other munitions. In some instances, commanders class dummy ammunition category IV and ammunition handlers must treat it as live ammunition. Refer to the item's controlled inventory item code per AR 708-1 for guidance. Ammunition planners and handlers should refer to regulatory guidance for the secure storage and transportation of ammunition and explosives in AR 190-11 and DA PAM 385-64.

5-19. Any materials assigned a controlled inventory item code other than a U or a blank is sensitive, controlled, or pilferable. Controlled item inventory code U means the item is non-sensitive in nature. The Army assigns associated risk categories for munitions in accordance with AR 190-11. For more information on controlled inventory item code, refer to DA PAM 708-2.

5-20. Logistics operations often use contracted or host-nation transportation platforms for distribution and retrograde, therefore ammunition handlers and managers must pay special attention and adhere to the controlled inventory item code per DA PAM 708-2 in all munitions operations. Commanders must use the specified munitions-controlled inventory item code when determining relative levels of security required in accountability, distribution, retrograde, and storage of munitions. Transportation of U.S. munitions always requires a U.S. security element for distribution and retrograde operations.

5-21. Military police may assist in assessing logistical storage, transfer, and shipping areas as well as systems, modes, aerial PODs, and seaports of debarkation for vulnerabilities and threats. The United States Army Criminal Investigation Division may help munitions unit commanders to identify and mitigate vulnerabilities in deployed environments.

PROTECTION AMMUNITION

5-22. Due to persistent threat, commanders and munitions planners must ensure Soldiers have adequate means to defend themselves and their equipment at all times when preparing for, conducting, or returning from operations. Ammunition issued for this purpose is referred to as protection ammunition regardless of the type or quantity issued and is a subset of a commander's operational load in accordance with AR 5-13.

5-23. At times, munitions combat loads may not be required or available prior to reception in a theater of operations or during certain operations within a theater. In a permissive environment, only limited quantities or specific types of munitions may be required for protection prior to, enroute to, during operations, or upon redeployment from the theater of operations. Planners should consider permissive environments during the planning process. Permissive environments are common during domestic humanitarian aid operations or those executed in partner nations.

5-24. Individual Soldiers must always have the means to defend themselves from threats in contingency operations regardless of their military occupational specialty or assigned weapon. Commanders ensure their Soldiers retain, maintain, and properly safeguard protection ammunition throughout the duration of an operation. Commanders and munitions planners ensure individual Soldiers retain a minimum allocation of protection ammunition for personally assigned weapons from the time of initial deployment until reception at home station or the termination of hostilities.

Physical Security

5-25. Upon departure from the ASA, the receiving unit must provide physical security for ammunition in accordance with AR 190-11 and DA PAM 710-2-1. The physical security requirements for ammunition during combat operations and following the end of hostilities are consistent with the physical security of all ammunition. Throughout contingency operations, there may be pockets of enemy resistance, guerrilla units, or terrorists that want to continue the fight. Leaders must keep this in mind and develop effective physical security plans to prevent the capture or destruction of munitions stocks. AR 190-11 provides detailed guidance for the physical security of ammunition and explosives. Based on the size and physical terrain characteristics of a storage area, ammunition units may require additional augmentation to provide physical security.

5-26. Commanders of ammunition units must ensure their unit has developed an effective security plan based on applicable regulations, command directives, and the tactical situation. At a minimum, the plan must include the following:

- Unit mission.
- Current tactical situation.
- Level of threat expected.
- Available resources.
- Unit vulnerability.

5-27. The security plan must consider all aspects of physical security. These include—

- Access control.
- Guard force operations.
- Personnel screening.
- Document and materials accountability.
- Emergency actions.

Categories of Ammunition

5-28. Category I to category IV munitions items require special consideration. Category I items include non-nuclear missiles and rockets in a ready-to-fire configuration (for example, Stinger and Javelin). They also include explosive complete rounds for missiles. Category II items include high explosive and white phosphorous hand and rifle grenades, antitank and antipersonnel mines with an unpacked weight of 50 pounds or less, and demolition explosives. Category II items include weapon components such as silencers, mufflers, and noise suppression devices. Category III ammunition includes .50 caliber and larger, with explosives-filled projectile (unpacked weight of 100 pounds or less each). Some examples are grenades, incendiary, and fuses for high explosives grenades. Category IV items include ammunition with non-explosive projectiles (unpacked weight of 100 pounds or less each). Examples would be riot control agents, 100-pound package or less. For more information regarding regulatory requirements for munitions physical security, see AR 190-11.

Appendix A

Munitions Distribution Enablers

Munitions distribution enablers include material handling systems, associated container and packing materials, and equipment and automatic identification technology. The integration of distribution enablers allows sustainment units to provide rapid munitions support in a timely manner.

MATERIALS HANDLING EQUIPMENT

A-1. Modular force operations require a logistics system with timely and rapid delivery of supplies. Incompatibilities between transportation modes, MHE, and cargo platforms force re-handling of supplies. Soldiers require a variety of equipment at each logistics node. Key to successful distribution is the use of technology to the maximum extent. Ammunition handlers must attempt to reduce the required equipment variants, provide timely support reduce the logistics footprint within the OE, and improve the efficiency of the distribution system. The effective use of materials handling systems (palletized load system and the load handling system) improves the operating force's —

- Responsiveness - streamlined sustainment process supporting the objective force.
- Deployability - increased efficiency in distribution nodes.
- Agility - ability to respond to changing unit needs to maintain battle rhythm.
- Lethality - reduced disengagement time enables continuous operations.

A-2. Distribution operations at the tactical level use different types of MHE to transfer cargo platforms between transportation modes and reconfigure loads on the platforms. Commanders must factor operating and maintaining MHE into the logistics footprint at each distribution node. Palletized load system and load handling system components help to reduce the personnel and equipment requirements. Figure A-1 depicts two examples of MHE.

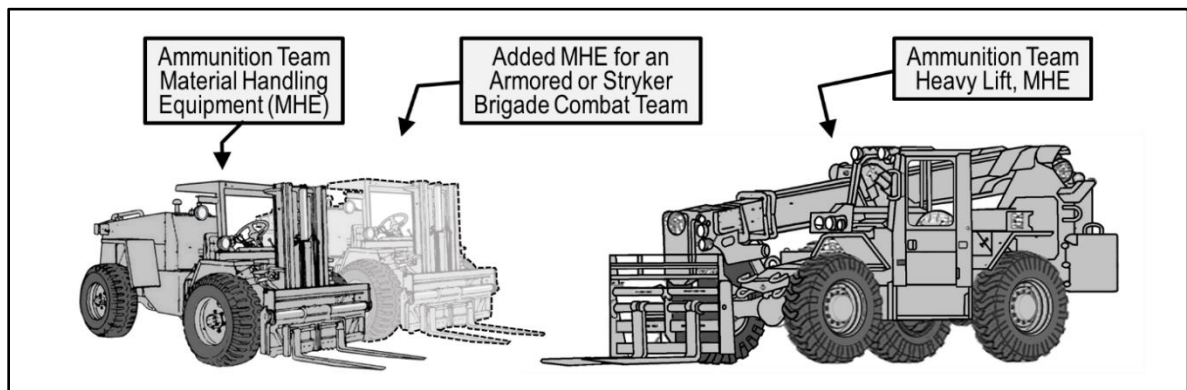


Figure A-1. Materials handling equipment

A-3. Effective and efficient use of intermodal platforms requires that planners factor all aspects of intermodal operations (for example, loading, deployment, reception, onward movement, unloading, distribution, and associated force structure) into support plans. Planners should prioritize the use of finite intermodal platforms. Pre-designating containerhips as well as establishing priority use and return of containerized ammunition distribution systems or other special containers for ammunition movement are two examples of planning actions aimed at ensuring the effective and efficient use of intermodal platforms.

PALLETIZED LOAD SYSTEM

A-4. Palletized load system and load handling system platforms minimize MHE requirements, reduce Soldier exposure, and enhance Soldier protection while reducing the logistics footprint. These systems assist with configured packaging and platform-embedded materials handling for rapid, accurate, and agile resupply that reduces the physical demand on Soldiers. This speeds sustainment replenishment operations and rapidly returns combat platforms to the fight.

A-5. A modular ammunition platoon may establish and manage a flatrack control point at or near an ASP to facilitate seamless flatrack exchange and accountability.

A-6. Incompatibilities require numerous interface devices for cargo platforms such as palletized load system flat racks and containerized roll-on and off platforms to be transported on aircraft and watercraft. This forces re-handling of munitions using numerous types of MHE from the national provider to the brigade. Interface devices add to the cargo handling time by requiring additional steps to connect or disconnect them in distribution operations. This creates a larger logistics footprint in terms of the Soldiers required to perform these extra steps. Examples of these enhancing interface devices include the following:

- Container handling unit for the palletized load system and load handling system.
- Load handling system ability to carry International Organization for Standardization containers.
- Roller platform for air deployment for International Organization for Standardization containers.
- Aircraft interface kit for loading and unloading containerized roll-on and off platforms on a C-17 or C-130 (also known as a slipper device).
- Flat rack aircraft interface kit for aircraft loading and unloading the wider flat rack.

A-7. Munitions commanders and planners recognize strengths and inherent incompatibilities in MHE and systems in order to provide the most streamlined and effective distribution system possible. They look for ways to reduce handling and equipment requirements while enhancing efficiency and assuring adequate redundancy to overcome any mechanical or technical shortfalls in handling equipment and systems.

A-8. The container-handling unit is an add-on kit that allows for the loading, unloading, and transport of standard 20-foot International Organization for Standardization containers without the need for an intermediate flat-rack. M1075 palletized load system trucks (with or without winch) can have an integral container handling unit stowage space between the load handling system hook arm and engine.

CONTAINERS AND PACKING MATERIALS

A-9. ASAs are the primary consolidation hubs for turned-in or backup ammunition storage containers and packing materials. ASAs also consolidate materials for building or repairing pallets and storage containers. The commander and ammunition personnel in the ASA must take care to ensure compliance with applicable policies and procedures for the management of containers and packing materials within the ASA.

A-10. There are various categories of containers linked to their source or acquisition. This is an important element of container management in that each container category may or may not have certain costs associated with its use (for example, detention, leasing per diem, and leasing off hire costs). ASA managers must be familiar with all categories of containers and the regulations, policies, and procedures that govern their use. Categories of containers include government-owned containers, government-leased containers, contractor-acquired government-owned containers, government-furnished equipment containers, carrier-furnished containers, contractor-owned containers, unresolved or disputed ownership containers, and abandoned and unserviceable containers (modified, altered, damaged, or destroyed).

A-11. Containers storing ammunition may move forward of a theater ASP as containerized throughput when an echeloned ASA has proper container handling capability.

A-12. In theater, container storage sites are registered and regulated through transportation procedures established to ensure container utilization economy through visibility of assets and ownership verification. As ASAs will frequently become sites of temporary container storage, they must adhere to the Surface Deployment and Distribution Command's procedures for ITV and storage tracking. Refer to ATP 4-12 for more information.

Appendix B

Captured Enemy Ammunition

CEA includes all ammunition products and components produced for or used by a foreign force that is hostile to the U.S. (that is or was engaged in combat against the U.S.) in the custody of a U.S. military force or under the control of a DOD component (DA PAM 385-64).

PLANNING FOR CEA

B-1. Planning for CEA is an analytical process based on known enemy resources and facilities. Requirements for the disposition of CEA can easily exceed the capabilities of munitions units. DA PAM 385-64 and AR 381-26 outline U.S. Army policy for the handling of CEA. Further discussion of CEA is found in ATP 4-35.1. CEA may also include North Atlantic Treaty Organization or U.S. manufactured munitions that may not have been under U.S. custody or control.

B-2. The Army considers found enemy ammunition excess and munitions personnel will follow handling guidance outlined in DA PAM 385-64. Further, AR 381-26 requires ammunition personnel follow one of three options for excess ammunition on the battlefield—use, destroy, or secure and retrograde. All of these options except use apply to CEA. CEA includes all types of munitions. The ammunition company will require close support from EOD prior to any CEA handling operation to ensure the safety of munitions personnel.

B-3. CEA is stored separate from U.S. munitions; however, it must be accounted for, stored, and guarded using the same criteria that applies to U.S. munitions. EOD personnel, QASAS, or military munitions inspectors will identify and make the final decision on CEA. Leaders must ensure personnel carefully observe U.S. munitions standard safety policies and procedures during retrograde operations that include CEA.

B-4. Commanders must notify EOD personnel when they find or capture enemy ammunition caches. The on-scene commander notifies EOD and provides the following information:

- Grid coordinates.
- Estimated quantity of munitions.
- Initial estimate of the different types of CEA in the cache.
- Size and type of force securing the site.

B-5. EOD analyzes and identifies the types of munitions in the cache and determines the following:

- Munitions type by filler (chemical, biological, radiological, nuclear, and explosive).
- If the munitions present a hazard to friendly forces (booby-trapped, armed, or damaged).
- If the items are safe to transport.

B-6. EOD then evaluates the CEA for munitions that will require technical intelligence exploitation. This includes first-seen enemy ordnance and ordnance items of interest. EOD teams are able to conduct the first level of technical intelligence at the site. Items requiring further exploitation must be secured for transport and sent to the senior EOD headquarters within the theater of operations for level two exploitation. The EOD chain of command processes and disseminates information collected from the scene to the intelligence community. In addition, civilian or military ammunition inspectors may assist in inspecting the cache after EOD has determined there are no extraordinary hazards (booby-traps, time-delay devices, or armed munitions). Segregation and disposal of all hazardous enemy munitions will be conducted by certified or trained personnel.

B-7. Sustainment commanders may task modular ammunition units to prepare caches for retrograde. The ammunition unit inspects, segregates, and loads the captured stocks onto EAB transportation assets tasked to move the CEA. Working together, these EAB assets load and transport the CEA to the designated ASA. The

ASA stores CEA in a designated secure area separate from the area containing U.S. munitions. Regardless of its condition, CEA cannot be intermingled with U.S. munitions stocks.

B-8. Once the CEA is identified and segregated by type, ammunition personnel will enter the munitions into the appropriate SAAS for accountability and control. Ammunition personnel should complete this procedure as soon as possible after receipt by the ATHP or MATP. Reporting and disposition instructions for CEA are the same as for friendly munitions. Close control of CEA is required. DA PAM 385-64 contains more information on the U.S. Army policy for handling of CEA.

B-9. U.S. forces may use CEA for limited operations, if authorized. For example, engineers can use CEA as a substitute for bulk explosives during demolition operations. Munitions personnel must still segregate all CEA from U.S. munitions, even those authorized for use by U.S. forces. See ATP 4-35.1 for more information.

REINTEGRATION AND RETURN OF CAPTURED ENEMY AMMUNITION

B-10. Munitions planners must prepare for the contingency of returning seized munitions to legitimate civil governance control upon request of the approving authority. Maintenance of CEA may be a critical factor prior to a reintegration operation. Upon approval by the appropriate authority, munitions personnel may issue stored CEA to stabilize local national forces.

B-11. Disarmament, demobilization, and reintegration of former combatants is fundamental to most efforts to establish stability and lasting peace. Disarmament may include seizing ammunition, collecting and destroying weapons and supplies, closing weapons and ammunition factories, and preventing resupply.

B-12. Munitions maintenance and ammunition surveillance occurs throughout operations. Additionally, seized ammunition may require maintenance during consolidation of gains operations. Reintegration of former combatants may include the return of CEA to host-nation control.

DESTRUCTION OF AMMUNITION

B-13. The two categories of ammunition destruction are “routine” and “emergency.” The current tactical situation dictates the method of destruction used. Ammunition personnel must receive permission from their chain of command before destroying unserviceable ammunition.

B-14. Planners should create a general contingency plan for the destruction of unserviceable ammunition along with a cost effects analysis for every storage activity. The destruction site should be carefully selected so explosive fragments, debris, and toxic vapors do not become a hazard to personnel, materials, facilities, or operations. For more information on selecting a destruction site and destruction procedures, refer to ATP 4-35.1 and TM 43-0002-33. TM 43-0002-33 provides guidance for the emergency destruction of ammunition.

B-15. Emergency destruction of CEA and friendly ammunition prevents enemy forces using the ammunition. Commanders have the authority to order the emergency destruction of ammunition. Commanders must ensure SOPs are approved and available to the responsible units directed to conduct emergency destruction. Commanders may delegate this authority to subordinate commanders. If possible, planners should prepare contingency plans for emergency destruction of ammunition. The planned detonation should impede enemy troop movements without creating hazards to friendly troops. The first priority for emergency destruction is classified ammunition and its associated documents. The second priority is ammunition the enemy could immediately use against friendly forces, such as hand grenades or land mines, and any ammunition the enemy could use in their weapons. For more information on emergency methods of destruction, refer to ATP 4-35.1.

B-16. Commanders must follow applicable environmental regulations when destroying munitions during peacetime operations. Failure to obey environmental laws and regulations may subject commanders to fines or imprisonment. AR 200-1 provides detailed information on environmental laws and guidelines. Munitions that have delay devices or anti-disturbance mechanisms are sometimes used and could cause incidents. These munitions include—

- Improvised munitions, unexploded bombs, shells, and other devices.

- Unexploded missiles, sabotage devices, mines, and booby-traps (EOD personnel do not have to dispose of mines and booby-traps, but they may be asked to assist).
- Unexploded ordnance in downed aircraft.
- Hazardous explosive materials in fires and explosions.
- False reports on all of the above munitions.

ATP 4-32 contains detailed information on EOD missions and responsibilities during destruction of unexploded ordnance.

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Appendix C

Munitions Information Systems

Ammunition units must have reliable communications to accomplish their mission. These units must establish effective communications networks that relay accurate and timely information between supported and supporting units and staff to ensure the success of ammunition support in the theater of operations.

MUNITIONS INFORMATION SYSTEM OVERVIEW

C-1. Munitions operations depend on requirements generated by and managed through the respective logistics or sustainment system. Materiel managers need to be concerned about lost communications due to enemy activity. Whether the enemy action causes interruption of the communications by attacking satellites or using intermittent jamming or spoofing, the resulting blackout will require Army forces to adapt and adjust.

C-2. Units may mitigate short-term losses of satellite communications through alternative communications methods and courier networks. A primary, alternate, contingency, emergency plan, commonly referred to as a PACE plan, is a key requirement for operations in a contested environment. These plans provide prioritized options for redundant means of communication to ensure effective command and control and interoperability:

- Primary—the best, and intended, method of communications.
- Alternate—another common, but perhaps less optimal method.
- Contingency—method may not be as fast, convenient, or reliable, but it can still accomplish the task.
- Emergency—communications method of last resort. Emergency methods may cause delays or otherwise affect operations.

See FM 6-02 for more information regarding primary, alternate, contingency, emergency plans.

MUNITIONS DIGITAL SYSTEMS ARCHITECTURE

C-3. The munitions digital architecture allows for rapid and efficient demand placement, issue, and total asset visibility and accountability.

C-4. Sustainment information systems unique to munitions management include the SAAS, Munitions History Program that includes the Ammunition Surveillance Information System and the Ammunition Multimedia Encyclopedia, TAMIS, the National Level Ammunition Capability (NLAC), Conventional Ammunition Packaging and Unit Load Data Index.

C-5. Munitions requisitions and stockage management follows a prescribed pathway through the munitions digital architecture. This pathway is illustrated in figure C-1 on page C-2.

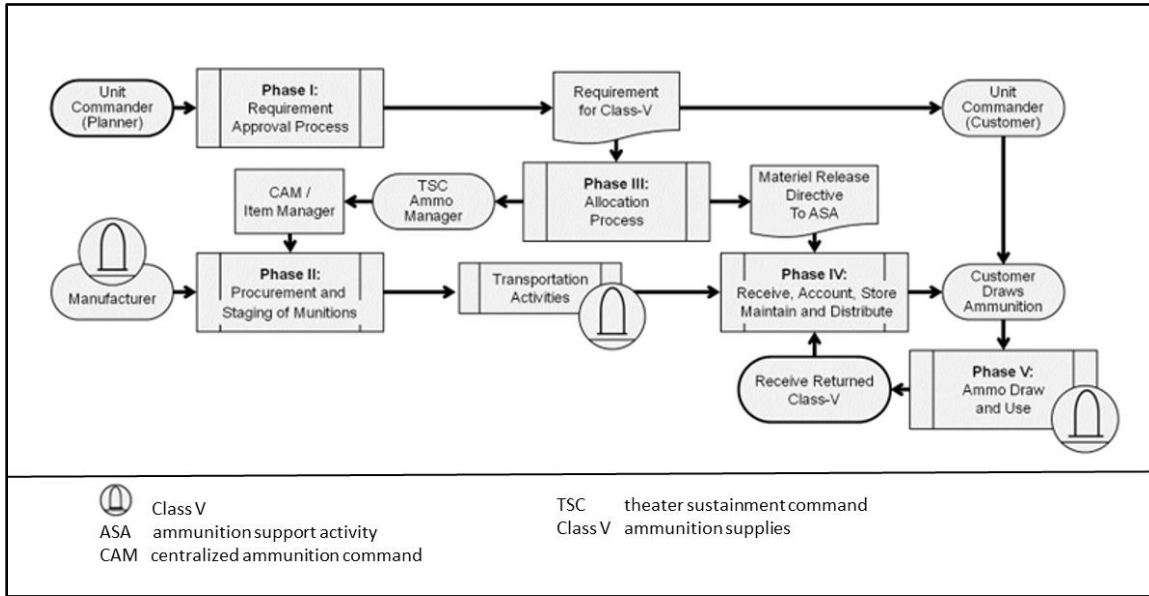


Figure C-1. System overview of munitions requisition and management

C-6. Integration of munitions data occurs at the strategic, operational, and tactical levels. To accomplish this, munitions distribution is coordinated between the commanders and staff of the supported and supporting units. Munitions distribution involves all levels of munitions managers. In addition, the ASCC, Joint Munitions Command, depot-level national providers, USTRANSCOM, and servicing ASAs use the munitions information systems to request, manage, and distribute munitions stocks.

C-7. The G-3 or S-3 staff uses TAMIS to manage munitions requests from subordinate units. Figure C-2 illustrates the approval process. If authorized, the G-3 approves authorizations through TAMIS. The Army G-4 and the Total Army Ammunition Authorization and Allocation Conference monitor these authorizations.

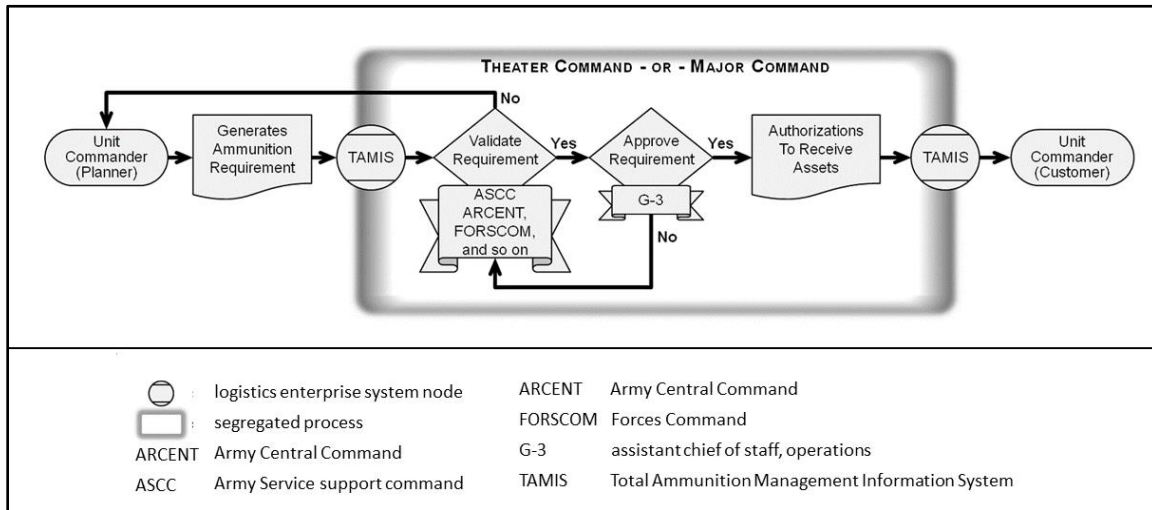


Figure C-2. Munitions requirement approval process.

C-8. The G-4 or S-4 uses Total Army Ammunition Authorization and Allocation Conference applications to manage munitions posture at all levels of warfare. These applications include the Logistics Modernization Program, the NLAC, and production statistics.

C-9. The Joint Munitions Command item managers combine data from TAMIS, NLAC, and the Logistics Modernization Program to determine if munitions requests are supportable. The Joint Munitions Command

directs shipments from CONUS ASAs, depots, or retail (installation) ASPs, and determines future production requirements as necessary.

C-10. Depot-level national providers receive munitions requests from the Joint Munitions Command item managers and theater-level sustainment headquarters as appropriate. Depots send transportation requests to USTRANSCOM. Depots receive ammunition from munitions plants, confirm transportation, and release munitions for shipment. Depots receive overstock, damaged munitions, or munitions requiring maintenance from ASAs during retrograde operations.

C-11. To manage munitions authorizations at all levels of operations, the DA G-4 applies Total Army Ammunition Authorization and Allocation Conference applications. This application is the primary forum through which the DCS, G-4 and DCS, G-3/5/7, ammunition management offices distribute conventional ammunition authorizations and allocations in support of validated requirements and G-3 priorities to all Army commands, organizations and agencies. The other applications include the Logistics Modernization Program, Munitions History Program, the NLAC, and production statistics. Munitions personnel use data from all four systems to manage ammunition authorization. ASCCs validates authorized requirements in TAMIS and forwards requests to subordinate commands through TAMIS. Figure C-3 illustrates the procurement and staging of munitions.

C-12. USTRANSCOM receives munitions movement requests from depots through the Logistics Modernization Program and the Munitions Total Management System. A USTRANSCOM entity picks up munitions from depots and transports them to seaport of embarkation to the POD.

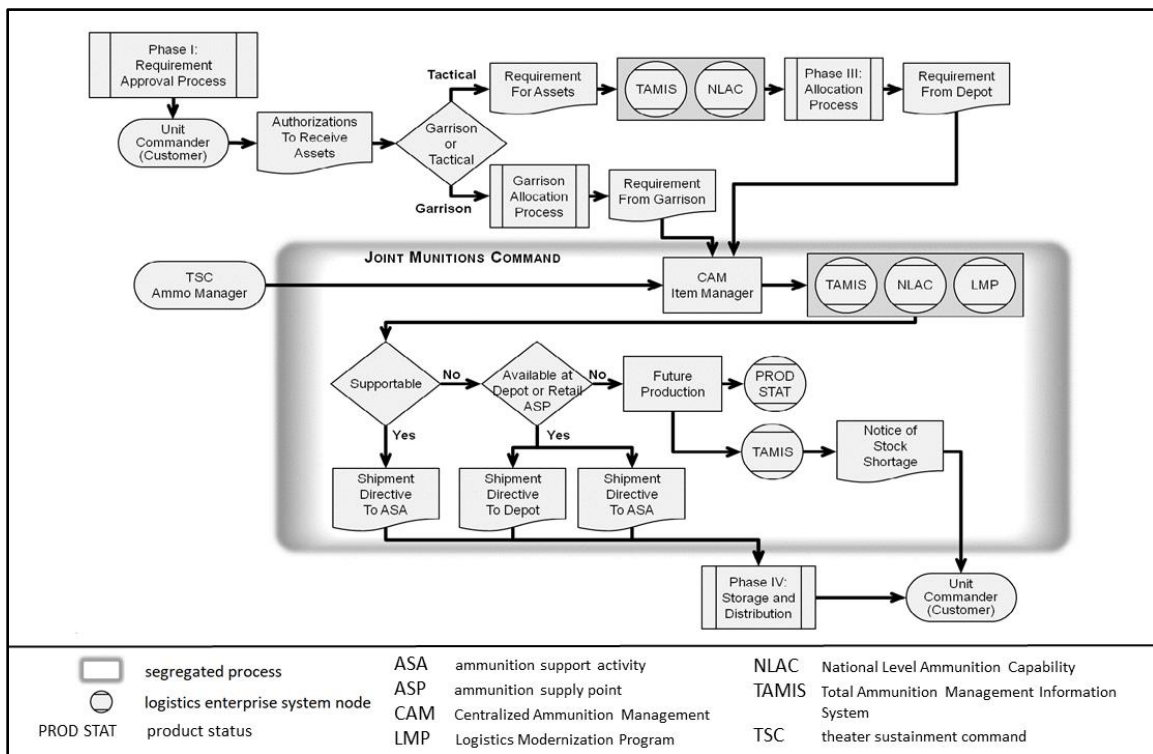


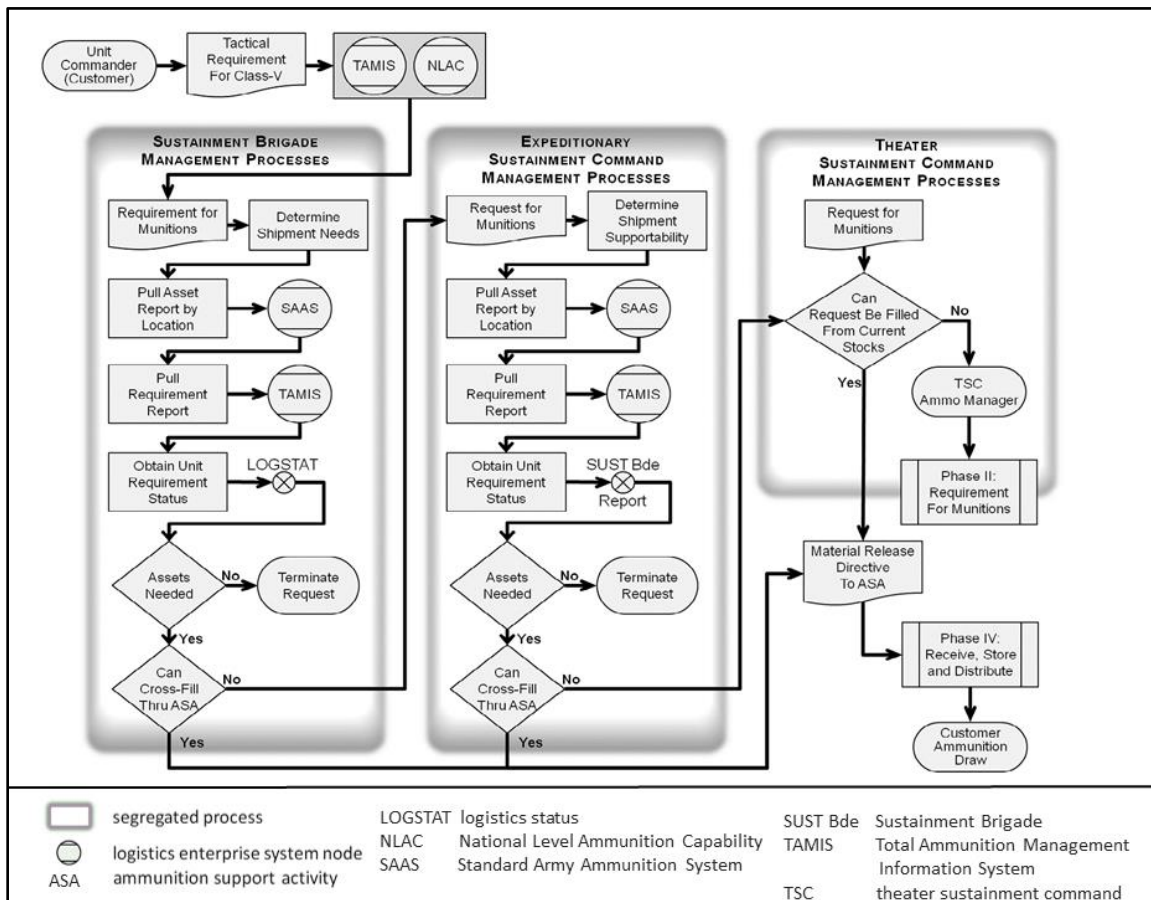
Figure C-3. Munitions procurement and staging of munitions

C-13. The operational headquarters staff places a request for munitions with the supporting sustainment organization based on operational requirements. Figure C-4 on page C-4 illustrates the allocation and authorization process.

C-14. The TSC receives digital requests for munitions, determines if they can fill them from current stocks and sends shipment directives to an ASA or sends a fill request to Joint Munitions Command item managers. ASAs send serviceable or demilitarization disposition requests to the TSC and the TSC issues asset disposal instructions.

C-15. The ESC, when attached to a TSC, receives digital requests for munitions from the sustainment BAO, The ESC determines supportability while using the SAAS asset reports, by location, to determine stockage and feasibility of cross-fill from adjacent ammunition support activities. It also sends shipment directives to ASPs. The ESC uses TAMIS reports to obtain unit requirement status and determine need for assets. The ESC calls for assets from the TSC as requirements demand.

C-16. The sustainment headquarters verifies and validates munitions requests, asset availability, and conducts oversight of unit munitions programs through TAMIS. The sustainment headquarters receives munitions requirements through TAMIS and determines shipment needs. The sustainment brigade uses SAAS asset reports, by location, to determine stockage and feasibility of cross-fill from adjacent ammunition support activities. It also sends shipment directives to ASAs. The sustainment brigade verifies unit requirements against their logistics status reports. The sustainment brigade calls for assets from the ESC as necessary.



C-17. ASAs receive requests for munitions from TAMIS (using an electronic DA Form 581), or when TAMIS is unavailable, in analog format from the sustainment brigade, the requesting unit, or installation ammunition managers. ASAs process requests in SAAS. ASAs receive shipment directives from the TSC or the ESC and sustainment brigade. ASAs receive munitions shipments and store, maintain, and issue stocks through SAAS as depicted in figure C-5. When in possession of damaged munitions, ASAs receive disposition instructions from the TSC or ESC. When ASAs are overstocked or in possession of munitions requiring maintenance, the TSC or ESC provides disposition instructions to continue to store, maintain, or retrograde to depot level. ASAs receive SAAS-returned munitions materials and reconcile the transaction in SAAS in accordance with all applicable regulations, policies, and procedures.

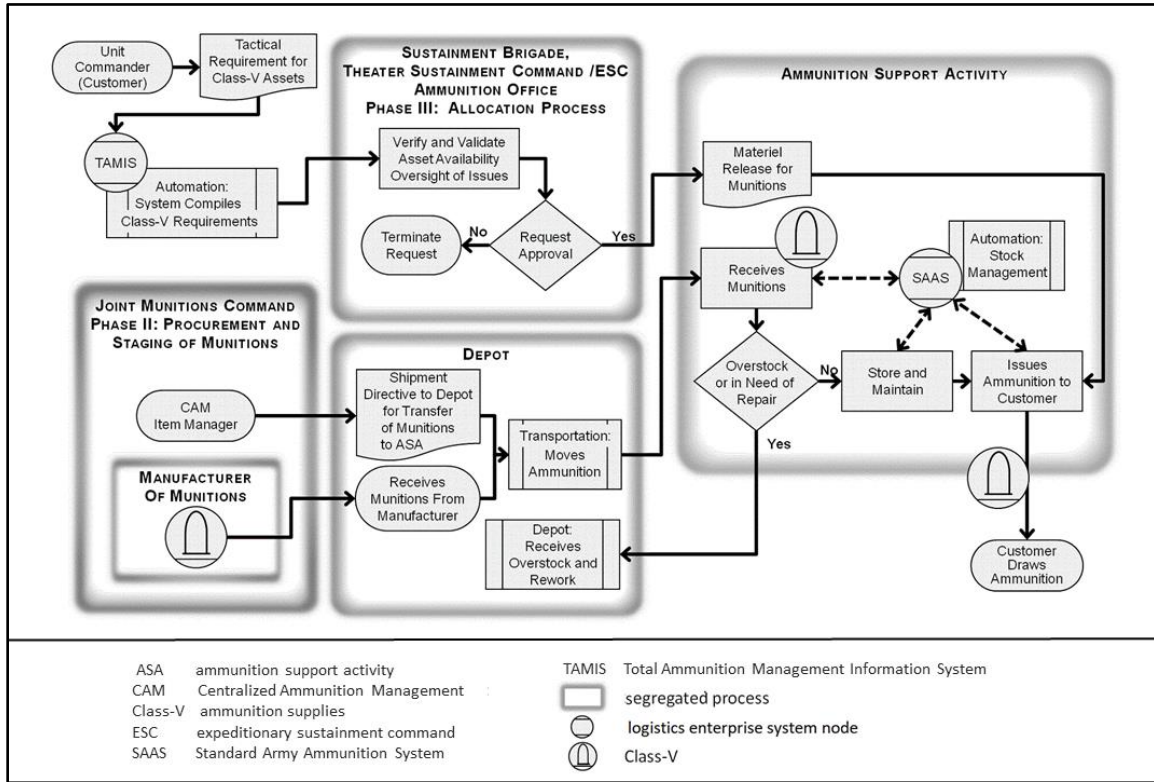


Figure C-5. Munitions receiving, storing, and distribution

NATIONAL LEVEL AMMUNITION CAPABILITY

C-18. NLAC provides a web-based total asset visibility system that receives its data from the Services' ammunition management and visibility systems as well as DOD transportation and document tracking systems. The Army DCS, G-4 Ammunition Directorate, manages the NLAC program.

C-19. NLAC enhances ammunition logistics planning and management by supporting the joint ammunition community to include ammunition users, managers, and planners throughout DOD.

C-20. G-4 Ammunition Directorate personnel view information from the worldwide ammunition stockpile in a number of ways, including by location, serial number, lot number, condition code, Service ownership, and location within the transportation pipeline. In addition, ammunition asset posture and transportation status data are used in conjunction with NLAC's advanced decision support tools, developed to enhance the decision process at the strategic and operational levels and to enhance Service, wholesale, retail, and unit level ammunition operations management functions.

C-21. NLAC account holders can access worldwide ammunition asset posture, ITV, Centralized Ammunition and Missile Management-Asset Visibility (Camm-AV), and outside the continental U.S. ammunition operations management, configured load, ammunition reports, and ammunition reference material. NLAC is accessible via the internet. National-level ammunition capability accounts can be requested at the NLAC website. For further information on the NLAC, refer to DA PAM 700-16.

TOTAL AMMUNITION MANAGEMENT INFORMATION SYSTEM

C-22. TAMIS is the DCS G-3/5/7 enterprise information system of record for calculating, prioritizing, and managing ammunition requirements, forecasts, and requests for issue for the Army. TAMIS generates requirements and reports for annual training, operational loads, combat loads, sustainment loads, testing requirements, command stockage objectives, deploying units, readiness assessments, and numerous Army,

joint, and DOD studies. TAMIS is a real-time, web-based enterprise information system that processes data defined by the Army as unclassified but sensitive. TAMIS is the only official Army system for establishing, maintaining, and managing requirements, authorizations, forecasts, requests, and expenditures of ammunition.

C-23. Army commands and other Army organizations use TAMIS to build, prioritize, and sub-authorize (distribute) training ammunition authorizations and to build and establish operational requirements for unit combat loads and sustainment loads.

C-24. TAMIS is a hierarchical based, internet-accessible system available from anywhere in the world. Each command-level organization that has munitions requirements must have a TAMIS account and manager for its organization. Users require a common access card to log into TAMIS.

C-25. The total force uses TAMIS to forecast and approve ammunition requirements, to process and validate requests for both operational and training ammunition, and to report expenditure metrics and ammunition status. For further information on TAMIS, refer to AR 5-13.

C-26. During hostilities, as operational authorizations are consumed, additional authorizations are posted automatically to the using unit's operational account once expenditures are recorded. Requesting units must have a requirement in their TAMIS operational account in order for automatic replenishment of authorizations to occur. See AR 5-13 for additional information.

C-27. TAMIS provides allocation and authorization data for all munitions and explosives items. TAMIS processes requests for munitions on DA Form 581 and sends the data directly to SAAS once approved. The ASA, ASP, ATHP, MATP, or installation storage activity that provides munitions support sends munitions issue and turn-in information to TAMIS.

C-28. ASAs will make every effort to issue the specific DODICs and quantities required by a unit or organization. Command munitions managers must distribute munitions authorizations to their subordinate units in a timely manner. Units without an authorization cannot forecast, request, or receive munitions in support of their validated requirements.

C-29. Each Army unit or organization requesting Army munitions must have an account in TAMIS and must have an authorization in the account to prepare and submit a TAMIS-generated DA Form 581. Units must also establish electronic routing instructions (for the requestor, approver, and validator) for each requirements account type in TAMIS before requesting munitions, and electronically transmitting through command channels to the supporting ASA.

C-30. The requisition process lets the munitions manager requisition munitions, submit follow-up requests, request cancellations, and modify open requisitions. Issue procedures encompass several processes that let the munitions manager record and process the electronic DA Form 581. The process accepts the electronic DA Form 581 through the interface with TAMIS. The munitions manager uses the issue process to record unit information and identify unit munitions requirements.

GLOBAL COMBAT SUPPORT SYSTEM—ARMY

C-31. GCSS-Army is an Army automated information system and the primary tactical logistics enabler to support Army and joint transformation of sustainment using an enterprise resource planning system. GCSS-Army contains the functionality associated with supply, maintenance, property book, and tactical finance. It is an integrated system allowing users access and permissions to perform their missions regardless of their position in the Army structure or location throughout the world. Its core functionality is based upon Army regulations, DA PAMs, field manuals, technical manuals, circulars, bulletins, directives, policies and procedures governing supply support activities, unit supply rooms, shop supply rooms, and property book offices. Materiel management personnel should be familiar with the applicable regulations because these regulations apply in peace, in war, and in an enterprise resource planning environment.

C-32. The system implements tactical financial processes relating to supply and maintenance. GCSS-Army integrates modular and interactive information management operations systems across all combat support and command and control functions currently being used to manage unit munitions combat load authorizations.

C-33. GCSS-Army is used to execute the materiel management functions. Materiel managers must be able to relate each materiel management function with a GCSS-Army system task. Understanding this relationship between the functions and tasks in GCSS-Army is critical to allow successful materiel management in the event of inoperable automated systems or degraded communications.

MUNITIONS HISTORY PROGRAM

C-34. Munitions History Program is a web-based application that supports the Army's ammunition surveillance mission. The surveillance mission ensures the ammunition stockpile is safe to use and store functions as designed. The Munitions History Program collects and stores inspection and test data to track ammunition technical history quality assurance data. All organizations with an ammunition surveillance mission are required to use the munitions history program to maintain their depot surveillance record information where internet connectivity is available.

C-35. Munitions History Program provides ammunition materiel managers at all levels with a universal data management system that is fully deployable. All users must register to access Munitions History Program and submit a request for the functionality needed. A headquarters Joint Munitions Command administrator approves access requests for most modules while the module's owner approves requests for some modules.

C-36. Continual enhancements to the Munitions History Program ensure the program continues to meet the needs of the ammunition community. Munitions History Program provides the following core ammunition business processes:

- Inspection module.
- Ammunition Surveillance Information System module.
- Notices module.
- Ammunition condition report module.
- Worldwide ammunition repository program module.
- Ammunition stockpile reliability program module.
- Defense Ammunition Center application module.
- Joint hazard classification system.

C-37. The Munitions History Program application has an online help module explaining how to use the various modules and functionality within the Munitions History Program. These files are maintained and updated as processes are added and enhanced. Refer to the help files and frequently asked questions under the help menu for specific instructions to use the Munitions History Program. There is also a forum for users to assist other Munitions History Program users with questions regarding the Munitions History Program and to discuss ammunition-related issues. Munitions History Program distance learning training is available through the Army Learning Management System. Register through the Army Training Requirements and Resources System using course number 4E-F64/645-F48. For further information on Munitions History Program, refer to DA PAM 700-16.

JOINT BATTLE COMMAND-PLATFORM

C-38. The Joint Battle Command-Platform is a part of the Army joint capability release and it is a network command and control information system that enables units to share near-real-time friendly and enemy situational awareness information, operational maps and graphics, and command and control messages. Primarily the ammunition stock control specialist and transportation personnel use this system.

C-39. The Joint Battle Command-Platform Logistics capability operates on the unclassified side of the network. Joint Battle Command-Platform Logistics platforms use radio frequency identification tags interrogators to collect and upload cargo data into the radio frequency identification tags in-transit visibility server for near-real-time worldwide visibility. Operational and sustainment commanders can plan, coordinate, and track cargo and sustainment services in near real time, significantly enhancing the overall COP. Logistics vehicles including freight haulers, heavy expanded mobility tactical trucks, and fuel tankers that operate on the battlefield in support of maneuver formations will be equipped with Joint Battle Command-Platform Logistics.

STANDARD ARMY AMMUNITION SYSTEM

C-40. SAAS automates and integrates ammunition management functions between the management centers to the combat users and storage sites. It operates on the web using deployable commercial-off-the-shelf hardware in both tactical and non-tactical environments. SAAS uses a single database with different permissions for the levels of use. It is combined into a single software baseline. It provides total integration of retail ammunition management functions.

C-41. SAAS is used during operations and at home station. It provides an integrated ammunition management and control capability for ammunition support operations providing commanders with tactical ammunition information. SAAS is the Army's system of record for munitions stock status reporting. It provides informational processing support for conventional ammunition logistical support applications at installations, divisions, corps, and echelons above corps.

C-42. All SAAS processes are controlled by roles and permissions, meaning an operator will see the SAAS application for their current assigned level. The SAAS application menus are tailored for the operational level (materiel management center, ASP, ATHP, and MATP) and the unit mission. SAAS is the system of record for retail-level accountability at the ASP. ATHP and ASP users have the same permissions.

C-43. The materiel management branch manages SAAS at the TSC and sustainment brigade levels in the DMC. The materiel management branch maintains asset visibility within the theater area of operations and requisitions munitions from the national inventory control points. The BSB distribution company uses SAAS to support forces in the BCT area of operations by providing accountability, receipt, storage, and issue capabilities.

C-44. SAAS incorporates the use of automated identification technology and radio frequency identification technologies. SAAS interfaces with TAMIS, the Worldwide Ammunition Report System, and the Munitions History Program.

C-45. ASA users generate requirements through TAMIS. Their chain of command validates requirements, and the user receives authorizations through TAMIS. In a tactical environment, system administrators divide requirements into training, operational, and appropriate ammunition load through the NLAC and TAMIS to the sustainment brigade or materiel manager. Units transmit munitions requests to the installation ammunition manager in TAMIS for forwarding to the servicing ASA as appropriate. An ASA issues munitions against a unit document for accountability. Units maintain accountability through the unit authoritative property system of record. Units return expended training munitions and certain accountable residue and un-spent rounds generated during a training event to the ASA. Units conduct reconciliation against the training ammunition issue document upon completion of the training event. Units transmit operational reconciliation data to the Munitions History Program through TAMIS for statistical analysis. Figure C-6 depicts this process.

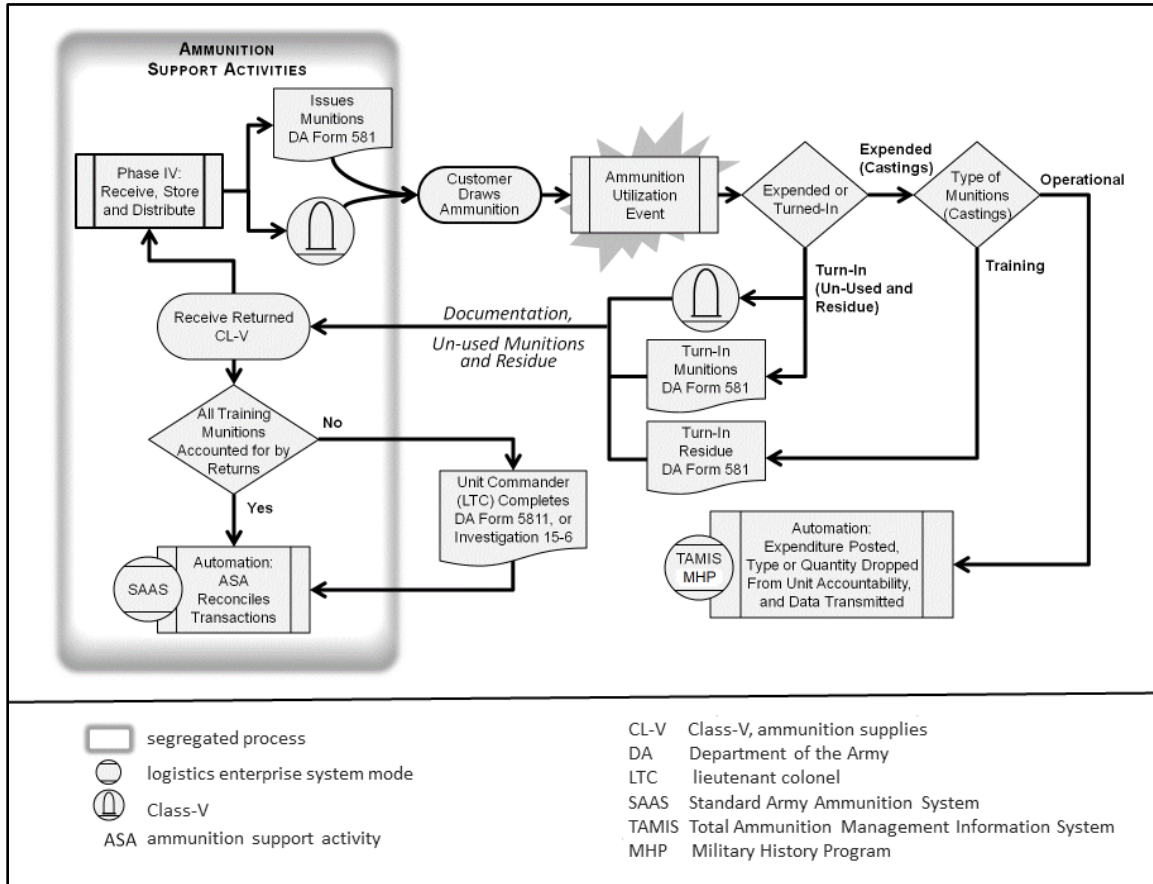


Figure C-6. Munitions draw, use, and turn-in

C-46. Commanders and staff need to train and be prepared to continue operations under periods of degraded communications. A critical factor is the ability to correlate the manual distribution management functions with the functions executed by the automated systems. This allows planners to understand which manual functions must be executed when automated systems are degraded. Planners should coordinate EAB throughput to reduce transportation requirements of limited organic assets.

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Glossary

The glossary lists acronyms and terms with Army or joint definitions. Where Army and joint definitions differ, (Army) precedes the definition. The glossary lists terms for which ATP 4-35 is the proponent with an asterisk (*) before the term. For other terms, it lists the proponent publication in parentheses after the definition.

SECTION I – ACRONYMS AND ABBREVIATIONS

ADP	Army doctrine publication
AFSB	Army field support brigade
AFSBn	Army field support battalion
AOR	area of responsibility
APS	Army pre-positioned stocks
AR	Army regulation
ASA	ammunition support activity
ASA (ALT)	Assistant Secretary of the Army for Acquisition, Logistics, and Technology
ASC	Army Sustainment Command
ASCC	Army Service component command
ASP	ammunition supply point
ATHP	ammunition transfer holding point
ATP	Army techniques publication
BAO	brigade or battalion ammunition officer
BCT	brigade combat team
BSB	brigade support battalion
CCDR	combatant commander
CEA	captured enemy ammunition
CONUS	continental United States
COP	common operational picture
CSR	controlled supply rate
CSSB	combat sustainment support battalion
DA	Department of the Army
DA Form	Department of the Army form
DA PAM	Department of the Army pamphlet
DCS	Deputy Chief of Staff
DMC	distribution management center
DOD	Department of Defense
DODIC	Department of Defense identification code
DSB	division sustainment brigade

DSSB	division sustainment support battalion
EAB	echelons above brigade
EOD	explosive ordnance disposal
ESC	expeditionary sustainment command
FM	field manual
FSC	forward support company
G-3	assistant chief of staff, operations
G-4	assistant chief of staff, logistics
G-5	assistant chief of staff, plans
G-7	assistant chief of staff, training
GCC	geographic combatant commander
GCSS-Army	Global Combat Support System-Army
ITV	in-transit visibility
JOA	joint operations area
JP	joint publication
JPEO-A&A	Joint Program Executive Office-Armaments & Ammunition
MATP	modular ammunition transfer point
MDMP	military decision-making process
MHE	materials handling equipment
NCO	noncommissioned officer
NLAC	National Level Ammunition Capability
OCS	operational contract support
OE	operational environment
POD	port of debarkation
QASAS	quality assurance specialist, ammunition surveillance
RSR	required supply rate
S-3	battalion or brigade operations staff officer
S-4	battalion or brigade logistics staff officer
SAAS	Standard Army Ammunition System
SOP	standard operating procedure
SPO	support operations
TAMIS	Total Ammunition Management Information System
TM	technical manual
TMCE	theater movement control element
TSC	theater sustainment command
U.S.	United States
USAMC	United States Army Materiel Command
USTRANSCOM	United States Transportation Command

SECTION II – TERMS***ammunition supply point**

A retail ammunition support activity where ammunition is received, stored, issued, and accounted for.

***ammunition support activity**

Locations that are designated to receive, store, maintain, and provide munitions support to Army forces.

***ammunition transfer holding point**

A designated site operated by a brigade support battalion distribution company, where ammunition is received, temporarily stored, or transferred to supported units within a functional or multifunctional brigade.

ARFOR

The Army component and senior Army headquarters of all Army forces assigned or attached to a combatant command, subordinate joint force command, joint functional command, or multinational command. (FM 3-94)

common operational picture

(Joint) A single identical display of relevant information shared by more than one command that facilitates collaborative planning and assists all echelons to achieve situational awareness. (JP 3-0)

common-user logistics

Materiel or service support shared with or provided by two or more Services, Department of Defense agencies, or multinational partners to another Service, Department of Defense agency, non-Department of Defense agency, and/or multinational partner in an operation. (JP 4-09)

controlled supply rate

The rate of ammunition consumption that can be supported, considering availability, facilities, and transportation. It is expressed in rounds per unit, individual, or vehicle per day. (ATP 3-09.23)

in-transit visibility

The ability to track the identity, status, and location of Department of Defense units, and non-unit cargo (excluding bulk petroleum, oils, and lubricants) and passengers, patients, and personal property from origin to consignee or destination across the range of military operations. (JP 3-36)

***mission configured load**

An ammunition load configured to support specific mission requirements across task forces or organizations.

munition

A device with explosives; propellants; pyrotechnics; or chemical, biological, radiological, or nuclear material for use in operations including demolitions. (JP 3-42)

planning

The art and science of understanding a situation, envisioning a desired future, and determining effective ways to bring that future about. (ADP 5-0)

redeployment

(Army) The transfer of forces and materiel to home and/or demobilization stations for reintegration and/or out-processing. (ATP 3-35)

required supply rate

The amount of ammunition expressed in terms of rounds per weapon per day for ammunition items fired by weapons, in terms of other units of measure per day for bulk allotment, and other items estimated to be required to sustain operations of any designated force without restriction for a specified period. (ATP 3-09.23)

stability operation

An operation conducted outside the United States in coordination with other instruments of national power to establish or maintain a secure environment and provide essential governmental services, emergency infrastructure reconstruction, and humanitarian relief. (ADP 3-0)

sustainment preparation of the operational environment

The analysis to determine infrastructure, physical environment, and resources in the operational environment that will optimize or adversely impact friendly forces means for supporting and sustaining the commander's operations plan. (ADP 4-0)

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Index

Entries are by paragraph number.

A

aerial resupply, 2-63
ammunition consumption, 2-96
ammunition supply point, 2-32,
3-163
ammunition transfer holding point,
2-105, 4-47

B

brigade support battalion, 4-20

C

combat configured load, 1-18,
2-118
controlled supply rate, 1-18, 2-86,
2-92

D

distribution company, 4-38

distribution integration branch,
3-75, 3-94, 3-109
distribution management, 1-28,
2-12
distribution management center,
3-61, 3-91
division sustainment brigade,
3-136

F

forward arming and refueling point
(FARP), 4-78

M

modular ammunition company,
3-150
modular ammunition platoon,
3-155
modular ammunition transfer
point, 4-49

Q

quality assurance specialist,
ammunition surveillance
(QASAS), 3-26, 3-170

R

required supply rate, 1-18, 2-86

S

stockage objective, 2-99
sustainment brigade, 3-104

T

Total Ammunition Management
Information System (TAMIS),
2-24, 3-17, C-22

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ATP 4-35
31 January 2023

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