Munitions Operations and Distribution Techniques

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Preface

Army Techniques Publication (ATP) 4-35 provides munitions procedures and the mission and organization of ordnance units conducting 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 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 ensure that their Soldiers operate in accordance with the law of war and the rules of engagement. (See Field Manual [FM] 27-10.)

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 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 Support and Doctrine Directorate. Send comments and recommendations on a Department of the Army (DA) Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, United States Army CASCOM, 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@mail.mil.
Introduction

Munitions operations ensure the lethality of the Army throughout unified land operations. This ATP focuses on all phases of 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 unified land operations (Army Doctrine Publication [ADP] 3-0). ATP 4-35 contains five chapters covering a munitions operations overview, the munitions support system, planning for munitions operations, munitions distribution, and safety, environmental stewardship and protection in munitions operations.

Chapter 1 describes the nature of munitions operations as a critical task of the sustainment warfighting function and as the determining factor in successful unified land operations. Next, this chapter describes munitions operations and the Army modular force. The chapter concludes with a discussion of the class V supply process.

Chapter 2 describes the munitions support system as a complex of interconnected agencies, stakeholders, process owners and users. Roles and responsibilities of strategic, operational and tactical level organizations involved in the munitions complex are defined.

Chapter 3 encompasses munitions planning. Phases of munitions operations are presented along with their associated ammunition requirements and allocations. Ammunition planning factors and considerations in munitions planning are also described, as well as the forms of ammunition loads.

Chapter 4 describes the distribution structure of the Army’s munitions support system. Ammunition units to include the ordnance (ammunition) battalion/combat sustainment support battalion (CSSB) headquarters, modular ammunition ordnance company and ammunition sections of the brigade support battalion (BSB) distribution company are discussed. Ammunition support activities (ASA) including the ammunition supply point (ASP) and ammunition transfer holding point (ATHP) are discussed. Finally, distribution enablers including platforms, communications and information systems are presented.

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

ATP 4-35 replaces FM 4-30.1. Key changes include the implementation of unified land operations including the incorporation of the complementary sustainment warfighting function, levels of munitions support operations and their responsibilities, phases of munitions planning and operations to include requirements determination and munitions consumption formulae, force structure revisions and their associated changes to the munitions support and distribution structure, and the portrayal of the munitions information system digital architecture.
Munitions Operations Overview

Munitions operations are fundamental to the discriminate lethality of the Army. Munitions operations require the direct application of integrated planning and operational art and are critical to the sustainment warfighting function. The span of general munitions operations encompasses requirements forecasting at the national industrial base to ammunition expenditure awareness of the Soldier. Munitions operations for commanders and staff focus on awareness of the munitions support system and execution of the operational and tactical levels of sustainment planning and distribution. The protection warfighting function as it relates to munitions is a separate function of ordnance and is discussed in ATP 4-32, Explosive Ordnance Disposal (EOD) Operations.

MUNITIONS IN UNIFIED LAND OPERATIONS

1-1. Unified land operations describes how the Army seizes, retains, and exploits the initiative to gain and maintain a position of advantage in sustained land operations through simultaneous offensive, defensive and stability operations in order to prevent or deter conflict, prevail in war, and create the conditions for favorable conflict resolution (ADP 3-0, Unified land Operations).

1-2. The tenet of lethality is fundamental to Army operations and a persistent requirement for Army organizations. Munitions operations allow commanders to discriminately apply the tenet of lethality to decisive action in unified land operations.

1-3. The sustainment warfighting function is the related tasks and systems that provide support and services to ensure freedom of action, extend operational reach, and prolong endurance (Army Doctrine Reference Publication [ADRP] 3-0, Unified Land Operations). Munitions operations are a function of the Ordnance Corps, executed under the logistics element of the sustainment warfighting function. The Ordnance Corps’ munitions organizations support the logistics element of the sustainment warfighting function by applying the principles of sustainment when executing munitions missions in support of unified land operations. Munitions are one of the Army’s most complex commodities to sustain. In order to execute requirements determination and supply operations, munitions support is a collaborative effort between operational and logistics organizations.

MUNITIONS SUPPLY

1-4. Munitions operations require integration in depth, from the industrial base to the port of debarkation forward to the individual Soldier’s tactical point of need due to their unique characteristics. Munitions are a specialized supply commodity based on their very purpose which is to cause lethal injuries or damage to enemy personnel and equipment. Munitions supply is the most sensitive logistics operation due to criticality of need, inherent hazardousness of materials in handling (to store, survey, reconfigure, distribute, and maintain), requirement for regulatory security in distribution (to receive, transport, temporarily store, issue), and in retrograde (disposal, demilitarization). Munitions supply is always limited based on normative constraints that include their specialized design and purpose, quantities and locations of pre-positioned stocks, and authorization controls which may occur at all levels of command and may also be restricted by applicable regulation and security considerations. Munitions share many of the most challenging aspects of other classes of supply. A selection of further special considerations and distinctive factors for munitions operations includes the following:

- Munitions operations and distribution requires particularly co-dependent action from both supported and supporting forces.
• Munitions operations and distribution requires specialized administrative and technical expertise to conduct.
• Munitions storage and supply activity management becomes more administratively complex and exponentially hazardous as type or quantity of stockpiles increase.
• Munitions distribution methods differ for combat versus training operations.
• Distribution and retrograde (to include ammunition surveillance and demilitarization procedures) are designed around protecting friendly forces from munitions hazards.
• At the user level munitions become accountable items while retaining their sensitive attributes.
• 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 precludes host nation procurement or local purchase opportunity.
• Munitions require shelf-life consideration and prepositioned stockpiles must be meticulously maintained.

1-5. Munitions operations epitomize the sustainment of unified land operations as they necessitate interoperable forecasting, allocation and distribution networks permeating the strategic, operational and tactical levels of warfare through both sustainment units and their supported units. Munitions plans and operations enable offensive, defensive and stability or defense support of civil authorities tasks to be accomplished by providing the appropriate mix of munitions for lethal and nonlethal weapons.

SUSTAINING OFFENSIVE AND DEFENSIVE TASKS

1-6. Offensive tasks are those conducted to defeat and destroy enemy forces and seize terrain, resources, and population centers (ADRP 3-0). Defensive tasks are those conducted to defeat an enemy attack, gain time, economize forces, and develop conditions favorable for offensive or stability tasks (ADRP 3-0). Munitions operations support offensive and defensive tasks by providing anticipatory and synchronized ammunition and explosives support where and when they are required.

SUSTAINING STABILITY TASKS OR SUPPORT TO CIVIL AUTHORITY TASKS

1-7. Stability tasks are those conducted as part of operations outside the United States in coordination with other instruments of national power to maintain or reestablish a safe and secure environment, provide essential governmental services, emergency infrastructure reconstruction, and humanitarian relief (Joint Publication [JP] 3-0, Joint Operations). Defense support of civil authorities is support provided by U.S. Federal military forces, Department of Defense civilians, Department of Defense contract personnel, Department of Defense component assets, and National Guard forces (when the Secretary of Defense, in coordination with the governors of the affected states, elects and requests to use those forces in Title 32, United States Code, status) in response to requests for assistance from civil authorities for domestic emergencies, law enforcement support, and other domestic activities, or from qualifying entities for special events (JP 1-02). Munitions operations continue to support stability tasks in the same manner as support to offensive and defensive operations. Munitions operations in support of civil authority remain cognizant of the applicable United States (U.S.) code, regulations, and rules for the use of force when performing qualifying requested support operations.

SUSTAINING JOINT OR MULTINATIONAL OPERATIONS

1-8. Army ammunition units may support the requirements of other services, other U.S. government agencies, and allied or multinational forces. If authorized, resupply of coalition forces is normally governed by a prescriptive agreement. Planning must be coordinated with the various services and agencies involved to ensure adequacy of personnel, storage requirements, containers, materials handling equipment, accountability procedures, and safety to include explosives safety. Routinely, only small arms munitions and selected pyrotechnic devices are considered appropriate for joint common-user logistics support. Logistics plans and procedures may establish further combined common-user logistics munitions support based upon operational requirements and availability of munitions items. In all cases, extreme care must be
exercised in cross-referencing requisition data to ensure that the correct munitions are requisitioned. For further discussion see ATP 4-35.1, *Techniques for Munitions Handlers*.

1-9. 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. Depending on mission, enemy, time, troops, terrain and civil considerations, the theater sustainment command (TSC) or expeditionary sustainment command (ESC) may maintain control of the munitions element directly or via a sustainment brigade. This unit at a minimum provides operational control over U.S. owned ammunition stocks received, stored, and issued by host nation units to U.S. units.

**THE ARMY MODULAR FORCE**

1-10. The foundation of the Army’s modular munitions construct is the modular ammunition company. The modular ammunition company provides an ammunition support activity that is mobile and flexible. *Ammunition support activities* (ASAs) are locations that are designated to receive, store, maintain, and provide munitions support to Army forces. The concept of a mobile ASA is an evolution in munitions distribution dating back to the necessarily static Revolutionary War powder magazine. The purpose of a modular munitions construct is to allow maximum flexibility in force design and forces allocation to meet the most varied requirements of unified land operations. This flexibility is found in the modular ammunition ordnance company at echelons above brigade and its assigned ammunition platoons, and in the ammunition transfer and holding point section of the brigade support battalion. The *ammunition transfer holding point* (ATHP) is a designated site operated by a brigade support battalion distribution company where ammunition is received, transferred or temporarily stored to supported units within a brigade combat team. The structure and mission of the ATHP will be discussed in chapter 4. For additional information on the modular force see ADRP 3-0 and ADRP 4-0, *Sustainment*.

**CLASS V SUPPLY**

1-11. Supply commodity class V is described as ammunition of all types (including chemical, radiological and special weapons), bombs, explosives, mines, fuses, detonators, pyrotechnics, missiles, rockets, propellants and other associated items (JP 4-09). A munition is a complete device charged with explosives, propellants, pyrotechnics, initiating composition or chemical, biological, radiological or nuclear materials, for use in operations, including demolitions (FM 4-30). Conventional ammunition is an end item, complete round, or materials component charged with explosives, propellants, pyrotechnics, or initiating composition for use in connection with defense or offense (including demolitions) as well as ammunition used for training, ceremonial, or non-operational purposes. This includes inert devices that replicate live ammunition, commonly referred to as dummy ammunition, which contain no explosive materials (Department of Defense Directive 5160.65, *Single Manager for Conventional Ammunition*).

1-12. The munitions supply mission is to provide the correct type and quantity of class V to the force as responsively as possible utilizing the minimum necessary handling and reconfiguration required. Operational and tactical situations may prioritize the supply or re-supply of class V over all other classes of supply. Munitions supply operations conducted during unified land operations requires integrated supported and supporting organizations who both have critical responsibilities in the munitions supply process. Both supported and supporting organizations co-own the process of munitions sustainment. These responsibilities are discussed in Chapter 2, Munitions Support System.

1-13. The central model of munitions supply operations is comprised of four essential actions. These essential actions are forecasting (also known as projection or requirements determination), requisition, distribution and retrograde. Throughout an operation these tasks may be performed sequentially or concurrently as required.

1-14. Each of the essential actions of munitions sustainment require integrated activity from both supported and supporting organizations in conventionally cooperative roles, with prescriptive actions, tasks or requirements to be performed. Supported headquarters normally lead forecasting, while requisition, distribution and retrograde are supporting organization lead actions.
Chapter 1

FORECASTING

1-15. Operational requirements initiate class V sustainment. The weapons system munitions requirement drives the forecasting process.

1-16. The basic computation for determining the quantity of ammunition required is made by subtracting the current amount on-hand 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. This figure is normally expressed in rounds per weapon per day. Munitions forecasting is a critical input in all Army planning methodologies and will be discussed in chapter 3 munitions planning.

REQUISITION

1-17. The physical requisition of munitions is conducted in either analog or digital form. Requisition is the formal ordering of munitions which follows a munitions forecast. Munitions requisition is a methodological process requiring both operational and logistics personnel actions as process owners. Both analog and digital requisition procedures are discussed in chapter 3 munitions planning and are detailed in ATP 4-35.1, Techniques for Munitions Handlers.

DISTRIBUTION

1-18. Munitions distribution operations include receipt, preparation/reconfiguration/packing, transporting, initial issue and resupply/rearming operations and the management of those operations. The Army’s munitions supply architecture and distribution structure is built to enable safe, secure, efficient and effective delivery, storage, maintenance and ammunition surveillance.

1-19. Basic munitions distribution begins with a single Department of Defense Identification Code (DODIC) containerized load or break-bulk munitions shipment from the continental United States (CONUS) industrial base to a theater ammunition supply point where it is subject to reconfiguration and/or issue. An ammunition supply point is an ammunition support activity operated by one or more modular ammunition platoons. Ammunition at the theater ASP must be maintained by shipments from the CONUS or from other theater locations. From there, ammunition may be shipped to other ASPs where it is subject to further reconfiguration and/or issue. Next, the ammunition is transported to an ATHP where it may receive final pallet reconfiguration and/or issue, before moving to a class V section/unit supply section whereupon the munitions are issued to the user.

1-20. Basic munitions distribution is enhanced through the use of ammunition loads and by throughput distribution which is a method of distribution which bypasses one or more intermediate supply echelons in the supply system to avoid multiple handling (ATP 4-11). The munitions distribution structure is discussed in chapter 4, ammunition loads are discussed in chapter 3 of this manual.

RETROGRADE

1-21. Retrograde is an aspect of distribution that is also an essential action of munitions sustainment. Munitions retrograde operations include all facets of munitions disposition. Unexpended and expended munitions materials whether serviceable or unserviceable, requires disposition throughout the entirety of an operation. Materials identified to be disposed of or retrograded (including inert, expended munitions remnants, residual materials or components) are normally expedited to an echelons above brigade ammunition supply point but may require some packaging and handling at an ammunition transfer holding point or within the unit prior to transporting. Proper adherence to retrograde procedures reduces the hazards and inefficiencies of stockpiling. Retrograde will be discussed in chapter 3 munitions planning.

SUMMARY

1-22. Munitions operations bind the strategic, operational and tactical levels of war through the key actions of forecasting, requisition, distribution and retrograde of supply commodity class V, a combined process involving both supported and supporting organizations. Munitions operations are critical to the Army’s
force projection ability by providing lethality to offensive, defensive, stability or defense support of civil authorities tasks and to joint, allied and multinational operations. Through the modular force structure, munitions operations provide responsive and efficient munitions distribution and management.
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Chapter 2
Munitions Support System

The munitions supply mission is to provide the correct type and quantity of class V to the force utilizing 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 strategic, operational and tactical levels of war.

AMMUNITION SUSTAINMENT ARCHITECTURE

2-1. The ammunition sustainment architecture is designed to meet the munitions supply mission through synchronization of all elements and echelons of the munitions complex. Levels of munitions operations are broadly classified under the levels of war as strategic, operational and tactical. Munitions support is accomplished by both sustainment and supported unit headquarters and units at all levels of war.

2-2. The munitions complex consists of the national providers, strategic providers and operational and tactical organizations that both manage and utilize munitions (See figure 2-1). The munitions support

Figure 2-1. Munitions organizations overview
system consists of strategic, operational and tactical headquarters, staffs and technicians whose end purpose is to sustain ammunition operations.

STRATEGIC ORGANIZATIONS AND RESPONSIBILITIES

2-3. Department of Defense organizations interact with the nation’s industrial base to procure munitions for the Army in order to accomplish strategic objectives. These strategic organizations include the Assistant Secretary of the Army (Acquisition, Logistics, and Technology)-Program Executive Office-Ammunition, the United States Army Materiel Command (USAMC), the Joint Munitions and Lethality Life Cycle Management Command, the Joint Munitions Command, the U.S. Army Armament Research, Development, and Engineering Center, the Defense Ammunition Center and the U.S. Army Sustainment Command. The roles of these organizations in munitions operations are discussed in FM 4-30.

2-4. The Army Deputy Chief of Staff (DCS), G–3/5/7 munitions management office determines the strategic munitions requirements essential to support a strategy, campaign, or operation. The G-3 ensures units provide their munitions requirements for operations, recommends use of munitions resources, (including munitions required for military deception), priorities and sustainment requirements (with the G-4). The DCS G–3/5/7 serves as the release authority for army prepositioned stocks (APS), coordinates munitions resourcing strategies, synchronizes policy, oversees Army weapons training programs and monitors munitions industrial base readiness in conjunction with the Army Staff.

2-5. The Army DCS G-4 is the plans, policy and programming lead for strategic munitions supply requirements and coordinating the requisition, acquisition, and storage of munitions stocks and equipment and the maintenance of records. The Army DCS G-4 ensures that accountability of munitions supplies and equipment are adequate. The Army DCS G-4 coordinates the construction of munitions facilities and installations and ensures that APS are maintained and kept at authorized levels.

2-6. The Army DCS G-8 ammunition division is responsible for developing munitions programming and budgeting requirements.

2-7. The United States Army Combined Arms Support Command validates munitions operational planning factors and conducts capabilities development across doctrine, organization, training and education, materials, leadership, personnel, and facilities. The Army G-4 is the approving agency. The automated operational logistics planner is the official estimation tool for determining munitions planning data at all levels. The operational logistics planner is a web-based, downloadable logistics estimation tool available through the Combined Arms Support Command.

2-8. The Army Chief of Ordnance is the commanding general of the Ordnance Corps and is responsible for training ordnance ammunition Soldiers and leaders in munitions technical skills and common tasks as well as supporting the development of munitions capabilities across doctrine, organization, training and education, materials, leadership, personnel, and facilities.

2-9. A geographic combatant command (GCC) executes munitions operations through its G-4 division. GCC G-4s establish plans, programs, policy and procedures for operational sustainment and logistics infrastructure development; supervise the execution of logistics policy, programs and procedures in support of all land forces in the theater commensurate with Army Service component command Title 10 and Army support to other services responsibilities. The GCC G-4 coordinates and oversees theater reserve and operational stocks. The GCC G-4 division normally includes a munitions branch consisting of a chief of ammunition officer, an ammunition warrant officer and an ammunition non-commissioned officer.

2-10. As a joint organization, a joint munitions office may also be included in the munitions branch organization in the J-4 division. The joint munitions office works in conjunction with the service components, functional components, subordinate commands, service acquisition, and the Under Secretary of Defense for Acquisition, Technology, and Logistics to plan, coordinate, and oversee all phases of ammunition and ordnance support for forces employed or planned for possible employment in the area of responsibility. Joint munitions offices typically have a mix of munitions and logistics planners from each service and 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. Of particular importance to munitions readiness reporting are joint critical munitions with limited inventories that are absolutely essential to
prosecuting required targets, and for which there are no suitable secondary standard munitions alternatives outlined in the operational plan phased threat distribution.

2-11. A geographical combatant command may also include an explosive hazards coordination cell, which is responsible for performing munitions risk assessments and providing munitions risk information during the planning process.

OPERATIONAL ORGANIZATIONS AND RESPONSIBILITIES

2-12. Operational forces are those whose primary missions are to participate in combat, including their integral supporting elements. The operational headquarters which consists of an Army Service component command, corps, division and brigade have the primary role of establishing operational requirements and priorities for ammunition support. The Army Service component command determines unique requirements for download, transportation, and handling of class V, especially upon initial entry operations.

2-13. It is imperative that the supported and sustainment headquarters maintain close coordination and cooperation with each other to ensure complete understanding of the situation, ammunition support priorities and capabilities.

SUPPORTED HEADQUARTERS G-3 OR S-3

2-14. The supported headquarters G-3 or S-3 has the role of establishing munitions requirements and operational priorities based on operational variables. The G-3s or S-3s establish the required supply rate (RSR), which is an estimated amount of ammunition needed to sustain tactical operations, without ammunition expenditure restrictions, over a specified time period (FM 4-30). The RSR is based on mission analysis, historical trends and requirements submitted by subordinate organizations in direct coordination with the G-4 or S-4 and chief of fires or fire support officer and other coordinating staff as necessary. During operations, munitions resupply quantities must constantly be reviewed and adjusted based on historical usage data gathered as the operation progresses. The RSR establishes the ammunition baseline for requesting ammunition. The G-3 or S-3 establishes ammunition distribution priorities of support based on mission requirements. They determine, in coordination with the G-4 or S-4 and the engineer officer, the locations of main supply routes and logistics support areas. In operational units at brigade and below, the G-3 or S-3 is often assisted by a master gunner in determining ammunition requirements.

2-15. Brigade S-3 ammunition responsibilities include—

- Determining brigade ammunition requirements based on input from subordinate battalions and knowledge of upcoming tactical operations.
- Determining the consolidated brigade RSR and submitting it to the brigade S-4.
- Allocating engineer support as required.
- Managing ammunition operations, authorizations, allocations, and related systems.
- Serving as point of contact for ammunition management policy and procedures.
- Manages and reports training ammunition allocations for the brigade.

2-16. At brigade 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’s munitions specific responsibilities include:

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

2-17. Battalion S-3 ammunition responsibilities include—

- Establishing ammunition combat loads for subordinate units.
- Operating the battalion Total Ammunition Management Information System (TAMIS) account.
- Overseeing subordinate unit ammunition managers and their actions concerning ammunition management.
- Monitoring ammunition utilization and expenditure reports from subordinate units and those generated by the battalion S-4.
• Submitting ammunition requirements and reports to the brigade headquarters (in conjunction with the battalion S-4).
• Manages and reports training ammunition allocations for the battalion.

2-18. Company and below level ammunition 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 ammunition support activity standard operating procedures for drawing and returning ammunition and residue.
• Ensuring munitions forecasts are validated to be realistic, feasible and timely, that all issued munitions are utilized properly, and that remaining munitions or their returnable remnants turned-in upon completion of operations or when no longer needed and that training ammunition issues and turn-ins are properly reconciled.
• Forecasting and submitting ammunition requests and expenditure reports to their servicing battalion headquarters.

**Supported Headquarters G-4 or S-4**

2-19. The supported headquarters G-4 and S-4 have the role of coordinating munitions support for the headquarters and subordinate organizations based on the requirements and priorities established by the G-3 or S-3. The G-4 and S-4 manages the distribution of munitions allocations and sustainment priorities based on G-3 or S-3 operations priority. They ensure that accountability and security of munitions supplies and equipment are adequate. G-4s or S-4s calculate and recommend to the G-3 or S-3 combat and sustainment ammunition loads. They monitor distribution, stockage levels, stockage objectives, and requisition or redistribution replenishments. They will have oversight capability, and assist the G-3 or S-3 with producing the RSR. In coordination with the G-3 or S-3 and applicable sustainment headquarters, they will establish the controlled supply rate (CSR) which is the rate of ammunition that can be supported, considering availability, facilities, and transportation (FM 4-30). The G-4 or S-4 recommends command policy for munitions distribution and retrograde to include amnesty programs. They coordinate 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 or S-4 identifies and coordinates for munitions requirements the unit can meet through contracting. The G-4 or S-4 coordinates real property control and facilities management to include areas designated as ammunition support activities.

2-20. The property book officer serves as a coordinating staff officer under the G-4 or S-4 and is integral to munitions accountability. The property book officer’s ammunition duties and responsibilities include—
• Generation of an issue or turn-in document number for combat, operational and sustainment loads.
• Monitors subordinate unit authoritative property system of record ammunition accounts.
• Posts or approves postings of ammunition to the property book.

2-21. Specific brigade S-4 ammunition responsibilities include—
• Coordinating an issue schedule with the support operations (SPO) officer of the BSB, and modular ammunition company ASA.
• Consolidating and forwarding daily ammunition requirements and expenditures to the BSB SPO officer and brigade ammunition officer who is the multifunctional officer assigned to the BSB ammunition officer position within the SPO section and serves as the principal munitions officer for the brigade (FM 4-30).
• Providing a unit issue priority list and forwarding the consolidated unit ammunition requirements to the BSB SPO and brigade ammunition officer.
Munitions Support System

- Providing subordinate battalion S-4s with their allocations of the brigade CSR (This information is also provided to the BSB SPO and brigade ammunition officer so battalion units do not exceed their authorizations when trans-loading at the ATHP).
- Supporting proper accountability of ammunition in subordinate units.

2-22. The battalion S-4 requests munitions based on consolidated user requirements needed to support tactical operations. Companies forward their requirements in a logistics situational report to their battalion S-4. The logistics situational 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.

2-23. Specific battalion S-4 ammunition responsibilities include—
- Consolidating ammunition utilization and expenditure reports from company supply sections.
- Requesting combat load and resupply.
- Providing oversight accountability for ammunition load munitions at the company level.
- Recommending cross-leveling of subordinate company ammunition as necessary.
- Validating or determining resupply requests as routine or emergency.
- Ensuring subordinate unit issue requests are completed correctly; and that they do not exceed a unit’s authorization or available quantities.

2-24. Unit supply section personnel of company and below level responsibilities include—
- Consolidating ammunition utilization and expenditure reports from the field and provide them to battalion S-3s and S-4s.
- Utilizing an authoritative property system of record to account for ammunition basic loads and/or combat load munitions.
- Ensuring proper accountability and physical security of all munitions in accordance with applicable regulation, policy and procedures.
- Coordinating pick-up and turn-in dates with servicing ASA as required.

2-25. The brigade ammunition officer is assigned to the brigade support battalion’s support operations section of the brigade combat team. This officer is responsible for consolidating all ammunition requirements and coordinating munitions resupply operations for all brigade and attached units. The brigade ammunition officer provides mission guidance and communicates priorities for the ammunition transfer holding point located within the brigade support area. The brigade ammunition officer represents the brigade and its battalion commanders on all ammunition-related matters. Requirements for class V are passed by the brigade ammunition officer to the sustainment brigade distribution integration branch in accordance with standard operating procedures.

2-26. The brigade ammunition officer’s mission is to—
- Consolidate ammunition requirements.
- Assist the SPO in preparing plans and procedures for ammunition operations.
- Maintain ammunition visibility through ammunition information systems and reports.
- Manage brigade ammunition operations.
- Validate ammunition requests and monitor the CSR.
- Maintain liaison with the ASAs supporting the brigade and with ammunition staff officers at the sustainment brigade, ESC or TSC.

2-27. The brigade ammunition officer oversees ammunition transfer holding point operations and coordinates daily operations through the brigade support battalion support operations section with the sustainment brigade. Brigade ammunition officer daily operations include the monitoring and coordinating cross-leveling of stocks and the monitoring of supply status data and accountability. The brigade ammunition officer provides technical assistance and monitors ammunition surveillance operations as well as validates ammunition requests.
2-28. The brigade ammunition officer provides input on the proper positioning of the ammunition transfer holding point and ensures it is positioned to most effectively support maneuver elements of the brigade combat team consistent with the current operational situation. The brigade ammunition officer should also provide input to planning development, specifically to those sections or annexes that identify munitions support to maneuver elements.

2-29. The brigade ammunition officer is equipped with a standard Army ammunition system (SAAS) modernization. The SAAS-modernization allows the brigade ammunition officer 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-ammunition supply point or ammunition transfer holding point. The brigade ammunition officer uses the SAAS-modernization to account for all ammunition and to process all ammunition transactions.

2-30. The ammunition logistics non-commissioned officer (NCO) is the principle enlisted assistant to the brigade ammunition officer. The ammunition logistics NCO performs duties as assigned consistent with the responsibilities of the brigade support battalion support operations ammunition office, and may be designated to act on behalf of the brigade ammunition officer in his absence. Additional responsibilities for the ammunition NCO might include—

- Developing an operational standard operating procedure (SOP) for section operations.
- Providing technical assistance, coordination, and advice on ATHP operations.
- Monitoring munitions flow into and out of the ATHP.
- Ensuring ATHP operations comply with SOPs.
- Establishing primary and back-up communication linkages.
- Coordinating with transportation elements.
- Coordinating munitions receipt and handling at the port of debarkation (POD).

2-31. For more information on the BSB refer to ATP 4-90, Brigade Support Battalion.

**ADDITIONAL STAFF WITH MUNITIONS RESPONSIBILITY AT DIVISION AND CORPS**

2-32. There are several staff positions at the division and corps level whose area of interest and scope of responsibility directly influences munitions support and operations.

2-33. The chief of sustainment is the principal staff officer responsible for coordinating all matters concerning the sustainment warfighting function at division and above headquarters. The chief of sustainment has coordinating staff responsibility for munitions operations in the G-4 and G-8 sections. At division level and higher, the chief of sustainment prepares Annex F (Sustainment) to the operation order or operation plan which includes munitions control procedures.

2-34. The chief ammunition NCO is the principal staff non-commissioned officer for ammunition management in the division and corps. This NCO is assigned to the division and 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 theater sustainment command or sustainment brigade normally assists in munitions plans and operations.

2-35. The chief of fires is the principal staff officer responsible for the fires warfighting function at division through theater Army. The chief of fires is responsible for planning and coordinating fire support tasks that includes providing information on the status of field artillery ammunition, requirements, resupply, and re-allocation.

2-36. The air and missile defense officer is responsible for air defense at division through theater Army. The air and missile defense officer determines air defense artillery ammunition requirements, estimates the adequacy of the air defense artillery ammunition controlled supply rate and provides information on the status of air defense artillery ammunition.

2-37. An explosives ordnance disposal officer is authorized at corps and division. The EOD officer is responsible for coordinating the detection, identification, recovery, evaluation, rendering ordnance safe, and final disposal of explosive ordnance. The EOD officer monitors the supply status of and expedites requests for special explosive ordnance disposal tools, equipment, and demolition materials. The EOD
officer will coordinate with the supporting EOD unit to assist with response 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.

SUSTAINMENT HEADQUARTERS AND STAFF ROLES

2-38. Sustainment organizations distribute and manage munitions operations for the Army. The mission command of munitions sustainment produces a unity of effort that enables commanders to build and sustain combat power and maintain an operational tempo that their opponents cannot match.

THEATER SUSTAINMENT COMMAND

2-39. The TSC is the senior sustainment headquarters within an area of responsibility and exercises mission command over all sustainment organizations above the brigade support battalion level. The TSC support operations section plans ammunition replenishment operations. It also monitors and manages ammunition storage and distribution within the theater. The TSC executes its ammunition support through expeditionary sustainment commands, if employed, and sustainment brigades. The TSC has a support relationship with corps and divisions operating within the area of responsibility and must maintain close coordination with the corps and division staffs to ensure understanding of the operational priorities.

2-40. The theater receives munitions from the CONUS or outside the continental United States locations through air and sea ports. From the port, munitions are transported to the appropriate ASA. Several factors determine the quantity of munitions moved forward. These factors are as follows:

- Mission requirements.
- Quantity of munitions on-hand.
- Current and projected consumption.
- Available transportation.
- Available personnel and equipment.

2-41. The TSC (or the ESC if employed as the senior sustainment headquarters) is the interface between the theater and the CONUS sustaining base, which includes the Army Materiel Command, Joint Munitions Command and national inventory control points. If both the TSC and the ESC are in the same area of responsibility, the TSC is senior. The TSC munitions branch within the support operations section is the primary staff element for theater wide munitions management. Support is based on priorities established by the combatant commander through the Army Service component command. The TSC or ESC munitions branch directly assist corps and division munitions personnel in the G-4 section with munitions management and planning support.

2-42. For more information on the TSC and ESC refer to ATP 4-94, Theater Sustainment Command.

Distribution Management Center

2-43. The TSC or ESC support operations officer operates the TSC or ESC distribution management center and advises the commander on support requirements versus support assets available. The TSC or ESC support operations officer is the link between the operational and strategic levels of logistics. The distribution management center manages ammunition distribution through synchronization of the munitions branch and the distribution integration branch.

2-44. The munitions branch and the distribution branch of the distribution management center act in tandem during munitions operations. The munitions branch verifies ammunitions requests to be within the RSR and CSR and uses SAAS-materiel management center to determine an ammunition resupply source. The munitions branch generates a materiel release orders directing ammunition shipments. The distribution branch tracks the ammunition in transit. Ammunition arrives in the theater and is configured in the theater ammunition supply point prior to shipment forward as applicable. The distribution management center schedules resupply in accordance with priorities established by the operational commander.

2-45. Duties of the TSC or ESC SPO include:
• 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 making adjustments to meet support requirements.
• Coordinating with other operational and sustainment munitions staff.
• Preparing and distributing the external munitions support SOP that provides guidance and procedures to supported units.

**Munitions Branch**

2-46. In a distribution management center, the munitions branch exercises staff supervision over munitions support operations. These include supply and maintenance operations relating to munitions, missiles, special weapons, and associated repair parts, special tools, and test equipment. The munitions branch responsibilities include the following:

• Advising the sustainment command commander and staff on class V status
• Maintaining stock control visibility of all class V in theater.
• Processing requisitions.
• Reviewing the RSR.
• Directing the storage and distribution of ammunition.
• Coordinating with the distribution management center to integrate ammunition movement requirements into movement programs.
• Recommending CSRs.
• 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 tactical missile systems. Army command staffs may be the final approval authority for their use or issue, and provide detailed instruction in operational orders under CSRs while the theater still obtains its full allocation.
• Coordinating special transportation to include airdrop requirements for munitions in coordination with the distribution integration branch.
• Approving ammunition requests from supported division and corps elements.
• Developing plans and policies involving munitions supply and maintenance.
• Providing staff input for munitions planning.
• Developing munitions surveillance policies.
• Maintaining a running estimate of munitions requirements.
• Conducting munitions statistical analysis and responding to requests for information.
• Coordinating munitions requirements with the corps and theater G-3 and G-4 staffs.
• Establishing ammunition stockage levels based on corps and theater directives.
• Recommending ammunition supply and storage site locations. May coordinate with the U.S. Army technical center for explosives safety for requirements in site planning (for example, explosives licenses, explosives safety site plans, safety submissions, explosives safety certificates of risk acceptance, existing waivers and exemptions) and as appropriate with other agencies as necessary to maximize stakeholder and subject matter expert input.
• Providing technical advice and assistance to ammunition officers in subordinate BSBs and sustainment brigades and ammunition supply units.
• Coordinating with sustainment brigade munitions officers on cross-leveling munitions support personnel and equipment.
• Recommending establishment and movement of ASAs as the situation dictates.
• Reviewing and updating ammunition planning factors to the theater scenario.
• Monitoring ammunition suspensions.
• Recommending adjustments to munitions stockage levels.
Coordinating resupply of munitions stocks for attrite units at regeneration sites.

2-47. The ammunition resupply requests are sent to the distribution management center’s distribution integration branch through the standard army ammunition system. The brigade SPO munitions representatives notify the ATHP of any scheduled ammunition deliveries.

**Distribution Integration Branch**

2-48. The distribution integration branch in a TSC or ESC normally includes an ammunition officer and an ammunition logistics NCO. The major munitions tasks of the distribution integration branch are—

- Maintain asset visibility of all assigned munitions within the area of responsibility.
- Provide conduit to national level provider.
- Coordinate with transportation section to ensure motor and rail assets are available to support class V movement requirements.
- Maintain munitions common operational picture through automated information systems.
- Manage munitions flow within the assigned area of responsibility; coordinates with forward storage areas, and BSBs and sustainment brigades regarding class V munitions being delivered.
- Oversee munitions retrograde operations for munitions sent back to the sustainment brigade from the BSBs and supported units.

**Joint Munitions Board**

2-49. As the senior sustainment organization in a theater of operations, the TSC will participate in or may lead a joint munitions board. A joint munitions board is a recurring meeting of sister services and stakeholder agency personnel to synchronize joint munitions logistics across the participating services. It may identify current and predicted critical munitions shortfalls, set munitions support priorities, provide munitions support guidance, and highlight munitions issues requiring coordination with joint staff, other GCCs or partner nations. Attendees may include representatives from USAMC, United States Transportation Command and the TSC’s munitions branch and distribution branch.

**EXpeditionary Support Command (ESC)**

2-50. In some instances, an ESC will be deployed to a joint operations area (JOA) to serve as the senior sustainment organization for the theater. The ESC will perform the same functions as a theater sustainment command to include coordination responsibilities with supported headquarters but smaller in scale in the assigned JOA. The ESC support operations section monitors and manages ammunition storage and distribution within the JOA. The ESC exercises mission command and executes ammunition support through sustainment brigades.

**Sustainment Brigade**

2-51. The sustainment brigade plans and executes missions as directed by the TSC or ESC. The mission of the sustainment brigade is to provide theater opening, theater distribution, and sustainment support for all commodities and classes of supply. In support of ammunition operations, the sustainment brigade exercises mission command to assigned or attached modular ammunition units. The sustainment brigade has a support relationship with corps and divisions operating within the JOA and must maintain close coordination to ensure understanding of the operational priorities. In some circumstances the sustainment brigade may be required to coordinate directly with the Army Service component command.

2-52. The sustainment brigade contains a distribution integration branch with a munitions branch which is similar in task organization to the theater sustainment command’s distribution management center, munitions branch and distribution integration branch. The sustainment brigade munitions branch directly assists supported brigade ammunition officer(s) in brigade ammunition management and planning.

2-53. Functional ammunition tasks executed through modular ammunition units include the following:

- Operating ASAs in the JOA.
2-54. The sustainment brigade manages tactical ammunition through routine interaction with supported brigade(s) and subordinate combat sustainment support battalions. Each battalion S-4 transmits a request for resupply of ammunition for organic and attached units through the brigade S-4 to the brigade ammunition officer to the sustainment brigade. The brigade support battalion’s brigade ammunition officer coordinates and controls the distribution of class V supplies for the brigade, consolidates the brigade requests, and submits them to the sustainment brigade. The sustainment brigade, in coordination with the TSC or ESC, reviews all requests and balances them against the controlled supply rate. The sustainment brigade issues ammunition in accordance with the controlled supply rate. Some ammunition requirements are prioritized due to scarcity, and some may not be issued due to unavailability. The brigade ammunition officer coordinates for the shipment of ammunition to the designated ammunition transfer holding point for pickup by the requesting unit.

2-55. For more information on the sustainment brigade refer to ATP 4-93, Sustainment Brigade.

**ORDNANCE BATTALION (AMMUNITION) /COMBAT SUSTAINMENT SUPPORT BATTALION**

2-56. The ammunition support mission of the ordnance battalion (ammunition) and CSSB are identical. All references to the CSSB in this manual are interchangeable with that of an ordnance battalion (ammunition).

2-57. An ordnance battalion (ammunition) or a CSSB may provide oversight of modular ammunition units at company and below. These battalions are attached to the sustainment brigade and if assigned an ammunition support mission, will establish and operate ammunition support activities. These battalions provide ammunition support on an area basis, and their ammunition support mission is identical.

2-58. The combat sustainment support battalion serves as the initial point of coordination for ammunition support for units operating at echelons above brigade and within the CSSB’s support area. The CSSB has a support relationship with division and brigade combat team headquarters operating within the area of responsibility and must maintain close coordination to ensure understanding of the operational priorities. In some circumstances the CSSB may be required to coordinate directly with the corps or Army Service component command.

2-59. The CSSB acts in concert with the sustainment brigade staff to accomplish:
- Provision of class V support for joint, U.S. government agencies and/or multinational forces as directed.
- Ammunition inventory and retrograde management.

2-60. CSSB 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.
- Coordination with the sustainment brigade on cross-leveling munitions.

2-61. The CSSB SPO ammunition cell provides oversight of ammunition replenishment and distribution operations and normally consists of an ammunition officer and an ammunition NCO.

2-62. For more information on the CSSB refer to ATP 4-93, Sustainment Brigade.

**ARMY FIELD SUPPORT BRIGADE AND BATTALION**

2-63. Army field support brigades and Army field support battalions are responsible for assisting the theater sustainment command with munitions APS receipt, download and onward movement. Army field support brigades and their subordinate elements positioned worldwide provide on-site management for
munitions APS. Army pre-positioned stocks in most locations are stored, tested, inspected and renovated in facilities managed by theater sustainment commands when outside of the continental United States.

2-64. In reference to Army pre-positioned stock munitions, the Army field support battalion is responsible for transferring accountability to the receiving unit. Activities include conducting a joint inventory of APS, delivering hand receipts to the receiving unit (posting to a unit property book) and ensuring that data transfers result in 100% accuracy. Unit sets are normally transferred from a national provider to an ammunition supply point utilizing SAAS-modernization.

2-65. The Joint Munitions Command logistics assistance representative is the senior ammunition technician to Army field support battalion commander who provides on-site maintenance, assistance for ammunition surveillance, distribution, storage, explosives safety, accountability and disposal of ammunition, guided missiles, and ordnance. They provide the Army field support battalion commander with advice and guidance in analyzing, assisting and training in ammunition logistics.

2-66. The Aviation and Missile Command Life Cycle Management Command logistics assistance representative provides the Army field support battalion commander with technical expertise on individual or multiple mission design series manned and unmanned aviation, air defense and land combat missile systems and related shop test equipment.

2-67. For more information on the Army field support brigade and Army field support battalion refer to ATP 4-91, Army Field Support Brigade.

ADDITIONAL MUNITIONS SUSTAINMENT STAFF ABOVE BRIGADE

2-68. Quality assurance specialist, ammunition surveillance (QASAS) personnel are critical to the munitions complex. USAMC is responsible for fielding QASAS support personnel to Department of Defense activities and commands that receive, store, maintain, issue, use, and dispose of munitions in accordance with Army Regulation (AR) 702-12, Quality Assurance Specialist (Ammunition Surveillance) Program.

MODULAR AMMUNITION ORDNANCE COMPANY

2-69. The modular ammunition ordnance company and its headquarters are discussed in chapter 4 of this manual.

SUMMARY

2-70. Strategic organizations, supported unit and sustainment headquarters must be synchronized in order to execute the Army’s munitions mission. There are many key personnel at all levels of war whose area of interest affects munitions operations and distribution apart from munitions commanders and staff. It is imperative that munitions enterprise-wide visibility is maintained to assure access to ammunition logistics processes, capabilities, resources, and requirements to ensure information required to make effective munitions decisions across the battlefield is readily available.
Chapter 3
Planning for Munitions Operations

The two essential activities of munitions planning are the forecasting of requirements and the distribution of allocations. These planning activities occur in each phase of munitions operations. These two planning activities are fundamental in allowing the Army to prevent, shape and win decisive action operations. 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 allocations dictate the actions of the ammunition planner. Ammunition planning includes determining ammunition requirements, echeloning capabilities and ammunition units, establishing split-based operations where required, pre-configuring ammunition and resupply, and when required, using civilian, contractor, allied, and host nation capabilities.

MUNITIONS PLANNING METHODOLOGY

3-1. Munitions planning utilizes the military decision making process throughout all phases of an operation. Munitions operation planning is critical to all steps in the military decision making process, but exceptionally so during mission analysis. Munitions unit commanders and munitions planners at all levels are fundamental to the development of rates of supply and consumption that are essential to operational plans and orders. The results of mission analysis for all operations must always factor projected ammunition consumption, required supply rates and applicable controlled supply rates.

3-2. Munitions planning follows the basic guideline of determining the munitions requirements, determining the munitions distribution capabilities and then mitigating any shortfalls.

3-3. Throughout munitions operations and planning there are several key components to consider; the overall mission requirements, current tactical situation, operational variables, the capacity of ammunition units to receive, store and issue munitions stocks, and 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.

MUNITIONS PLANNING APPLICATION

3-4. The importance of proper munitions planning cannot be over-emphasized. Munitions planning is an operational issue shaped by logistics. Any operation involving munitions must have a clearly defined mission statement with equally clear objectives. Considerations for munitions planning include:

- 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 the need for 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 controlled supply rate may result in zero-balance conditions in combat.
- 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.
- Improper forecasting leads to overstocking (stockpiling) which is detrimental to munitions operations by decreasing ASA mobility and the overall availability of munitions to the force,
concurrently amplifying risks associated with net explosive weight and excess handling, necessitating an increased demand on the available workforce, and resulting in greater risk of enemy targeting.

**RUNNING ESTIMATES**

3-5. Munitions staff and operational planners keep and update running estimates for munitions planning and management. Running estimates provide information to and compliment the logistics situational report. Munitions information is placed in the ‘arm’ section of typical logistics situational report categorizations of man, arm, fix, fuel, move and sustain. Running estimates for munitions operations should minimally include:

- Ammunition unit task organization (with receipt, storage, and issue capability) by phase.
- Supported unit task organization and projected task organization by phase, to include known or anticipated area support obligations (for example, special operations forces support requirements).
- Current theater geometry by phase to establish lines of communication (distance between units, major nodes and planned support locations).
- Current ammunition requirement, ammunition basic load and unit on-hand balance.
- Stockage objectives and ASA on-hand balance.
- Available ammunition loads and planned loads.
- Current supply rates and unit historical/estimation tool consumption data.
- Known or emerging constraints or limitations to ammunition availability.
- Current available and planned primary, alternate, contingency and emergency distribution means and form of munitions load for each category.

3-6. For more information on running estimates refer to ADRP 5-0, *The Operations Process*.

**PHASES OF MUNITIONS OPERATIONS PLANNING**

3-7. Munitions planning follows a phased construct. The phased construct is utilized in campaign planning to provide intermediate goals in order to accomplish the overall objective of a successful campaign. Phases are distinct in time, space, and/or purpose from each other and represent a natural progression. Though the phases are designed to be conducted sequentially, munitions operations, like other sustainment warfighting activities, may begin in a previous phase and continue into subsequent phases. Munitions operations may also support different phases simultaneously. Munitions handling techniques that occur throughout all phases of munitions operations are found in ATP 4-35.1

**PHASE 0 SHAPE**

3-8. Phase 0 shape activities include those that establish logistics capabilities needed to support phase 1 activities and are inclusive of normal and routine military activities. Munitions operations planning in phase 0 consists of pre-mobilization and exercise munitions support operations.

3-9. Class V is the supply commodity which directly destroys the enemy. Although ammunition operations represent the finality of all preceding sustainment events and commodity management leading up to its use, munitions operations planning begins with training and qualification events prior to combat.

3-10. Ammunition unit leaders are responsible for training their personnel to meet standards set by the combined arms training system and associated manuals in accordance with ADRP 7-0, *Training Units and Developing Leaders*.

**PRE-MOBILIZATION**

3-11. Units are authorized (by AR 5-13, *Total Army Munitions Requirements Process and Prioritization System*) to use conventional ammunition during pre-mobilization readiness for combat activities. This ensures that the Army maintains a combat ready force prepared to mobilize and deploy on short notice, and
to fight and defeat the enemy. The TAMIS provides allocation and authorization data for all ammunition. The TAMIS is the Army’s automated tool for managing munitions requirements, priorities, and forecasts.

3-12. Total ammunition management information system managers must be knowledgeable of their organization’s munitions requirements and priorities. This knowledge is critical in the event authorized quantities of munitions are insufficient to resource all of the unit’s requirements. The DCS, G-3/5/7 munitions management office strongly encourages commanders and munitions managers at all levels to use the wide variety of reports tools in the total ammunition management information system to monitor their requirements, authorizations, forecasts, and expenditures. Large differences between authorizations and forecasts or expenditures may be indicators of readiness shortfalls. For more information on TAMIS refer to chapter 4 and for regulatory information on TAMIS refer to AR 5-13.

3-13. Munitions forecasts are monthly estimates of munitions by Department of Defense identification code, quantity, and location that a unit or organization plans to draw in support of validated non-combat day-to-day operations, training, or testing. These requirements are determined in accordance with current TAMIS forecasting procedures. Refer to AR 5-13 and DA Pamphlet (DA Pam) 710-2-1, Using Unit Supply System for more information.

STANDARDS AND STRATEGIES

3-14. The standards in weapons training commission was established in 1982. Its mission is to determine quantities and types of munitions required for soldiers, crews, and units to attain and sustain weapon proficiency relative to readiness levels. DA Pam 350-38, Standards in Training Commission, is a fully interactive web-based manual accessible as a module in TAMIS. Each chapter consists of a written strategy incorporating use of both training devices and weapons; charts outlining required individual and collective training and weapons training standards. The web-based manual contains ammunition requirements for contingency and deployment exercises, CONUS and outside the continental United States directed exercises and combat training center rotations.

ROUTINE AMMUNITION MANAGEMENT

3-15. Units that request and receive ammunition from an ASA must maintain ammunition management and control documents. The following documents are used to manage ammunition and missile authorizations:

- DA Form 581 (Request for Issue and Turn-In of Ammunition).
- DA Form 581-1 (Request for Issue and Turn-In of Ammunition Continuation Sheet).
- DA Form 2064 (Document Register for Supply Actions).
- DA Form 3151-R (Ammunition Stores Slip).
- DA Form 5203 (DODIC Master/Lot Locator Record).

3-16. The TAMIS monitors each organization’s forecasting accuracy by comparing a unit’s expenditures to its forecasts. TAMIS automatically reports all units’ forecasting effectiveness to their respective Army Command-level munitions managers.

3-17. The TAMIS authorization report is used to maintain a running balance of the annual ammunition authorization by deducting, from the initial authorization, issues from the ASA. The G-3 or installation directorate of logistics usually manages this computer-based report. Refer to the TAMIS end user manual for additional information on the system capability to manage ammunition. Units should continue to plan for all requirements of ammunition when they are deployed to contingency operations.

3-18. The same storage and inventory procedures that apply to ammunition basic load apply to all issued ammunition. AR 190-11, Physical Security of Arms, Ammunition and Explosives outlines construction requirements for ammunition storage rooms and magazines. DA Pam 710-2-1 provides guidance on field storage physical security and inventory requirements as well as use of residue items. See DA Pam 385-64, Ammunition and Explosives Safety Standards for more guidance on establishing field ammunition storage and an ammunition amnesty program.
Chapter 3

AMMUNITION LOADS

3-19. All standard and non-standard supply commodity loads assembled either at the strategic level or within a theater of operations are called support packages. Support packages are supplies packaged to meet the anticipated or actual needs of a consuming unit. They are packaged to allow those items to be delivered to a unit with a minimum of handling and repackaging. Successful implementation of support packages requires situational understanding and the ability to make appropriate forecasts at various points on the planning/time continuum. The intent is to increase throughput, and minimize handling. This maximizes logistic forces and hastens the flow of supplies to the consumer.

3-20. An ammunition load is a support package designed or tailored specifically for munitions operations. Ammunition loads will normally contain only munitions and their associated materials. Ammunition loads include basic, combat, sustainment, operational, combat configured loads and mission configured loads.

3-21. A brigade combat team will normally maintain one basic load (ammunition) per assigned Soldier (issued to and carried by the individual Soldier), one combat load per organic weapons platform (uploaded to the platform), one sustainment load for each battalion maintained by their associated forward support company (uploaded on forward support company (FSC) distribution platoon vehicles), and one sustainment load for the brigade maintained by the brigade support battalion’s distribution company ATHP section.

Basic Load (Ammunition)

3-22. A basic load (ammunition) is the quantity of nonnuclear ammunition that is authorized and required by each Service to be on hand for a unit to meet combat needs until resupply can be accomplished. It is expressed in rounds, units or unity of weight, as appropriate (FM 3-01.7). The term basic load is utilized in joint doctrine and applied to ammunition as the quantity of supplies required to be on hand within, and which can be moved by, a unit or formation. It is expressed according to the wartime organization of the unit or formation and maintained at the prescribed levels (JP 4-09).

Ammunition Combat Load

3-23. A combat load is the standard quantity and type of munitions an individual weapon, crew-served weapon or a weapons platform and its modification table of organization and equipment-designated munitions carriers are designed to hold. Combat loads for bulk munitions (example: grenades, signals, and so forth) are not associated with a weapon or weapon platform. Bulk munitions combat loads are assigned by standard resource code and reflect the quantity of munitions required to give units a realistic level of capability and flexibility (AR 5-13). Combat loads support the initiation of combat operations and are the basic building blocks of army war reserve requirements. For information pertaining to the responsibilities of commanders and munitions planners for combat load management refer to ATP 4-35.1 appendix A.

3-24. Combat loads are established and managed in accordance with AR 5-13. Ammunition combat loads can be further defined as either to accompany troops combat loads or non-to accompany troops combat loads. For information on procedures and accountability for combat loads refer to ATP 4-35.1 appendix A.

3-25. Special operations forces (SOF) units may have weapons that are configured differently than those in non-SOF units. U.S. Army Special Operations Command works with the DCS G-3/5/7 and G-4 to define SOF combat load totals for Army munitions. They use the approved SOF combat loads when determining their requirements for Army-common items in support of joint staff-directed OPLANs or contingency plans. U.S. Army Special Operations Command manages its requirements for SOF peculiar munitions.

Sustainment Load

3-26. A sustainment load is the munitions needed to initiate and support a force’s operation until resupply can be provided (AR 5-13). Sustainment loads are a roll-up of day-to-day operational load requirements or the total sustainment load requirement. They are issued prior to the commencement of combat operations:

- A sustainment load is initially calculated using a combat load or multiples thereof and includes the combat load.
• Sustainment load requirements are calculated only for units that actually will be in the theater of operations prior to establishment of a sea line of communications, in accordance with timelines in an Army Service component command’s most demanding joint staff-directed theater operation plan or contingency plan.

• Ground based army pre-positioned stocks actually in the theater will be available for issue to meet combat load and sustainment load requirements for early-deploying units arriving prior to the opening of the sea line of communication. Further, assume that APS-3 stocks on board Army strategic flotilla ships will be the first source of resupply, contingent upon Joint Chiefs of Staff release authority.

• Once operations commence, sustainment load replenishment quantities are based on the munitions required to support forces until the next scheduled resupply shipment arrives. Expenditures will vary from DODIC to DODIC during operations. Sustainment load replenishment quantities likely will be tailored to reflect numerous variables, including planned missions and forces, previous and planned expenditures, and on-hand supply.

Operational Load

3-27. An operational load is the munitions that Army units require to support or conduct a broad range of day-to-day operational missions; for example, installation explosive ordnance disposal, special reaction team operations, ceremonies, quarry operations, guard missions, force protection, special operations forces, predeployment site surveys, and so forth (AR 5-13).

Combat Configured Load

3-28. 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 (DA Pam 385-64).

3-29. Combat configured loads are those ammunition loads that have been configured to support specific combat units in a theater of operations based on task organization. Combat configured loads are built at the national-provider level based on known task organization and by request. Combat configured loads are reconfigured in theater ASPs as required and delivered as far forward to the using unit as possible in a single lift.

3-30. Use of combat configured loads does not preclude ordering single DODIC loads required for specific missions or contingencies.

Mission Configured Load

3-31. A mission configured load is an ammunition load configured to support specific mission requirements across task forces or organizations. Mission configured loads are built in theater at above-battalion level ammunition supply points and minimally reconfigured in ATHPs as required. Mission configured loads are delivered as far forward as possible to the using unit in a single lift.

ARMY PRE-POSITIONED STOCKS

3-32. Army prepositioned stocks (APS) allow rapid deployment by reducing distribution resources required at the beginning of an operation and allowing time for lines of communication to be established. Munitions APS are critical to the Army’s munitions mission. Army pre-positioned stocks are distributed at the on-set of operations, through the Army field support brigade to the ASA(s). There are four categories of APS: prepositioned unit sets, operational projects; Army war reserve sustainment stocks and war reserve stock for allies. For further information on Army pre-positioned stocks refer to FM 3-35.1.

3-33. Munitions stocks include pre-positioned stocks both in CONUS and afloat and stockage in theater. Sets and projects refer to munitions stocks required to meet training objectives, contingency plans and operational requirements.

3-34. Ammunition APS are positioned as follows:
- APS-1 (CONUS).
- APS-2 (Europe) includes war reserve stock for allies.
- APS-3 (Afloat).
- APS-4 (Pacific and Northeast Asia).
- APS-5 (Southwest Asia).

3-35. Army prepositioned stock ammunition support to a theater of operations is performed by simultaneously committing prepositioned ammunition and other munitions available at the national level. APS ammunition is moved to the area of responsibility where the Army field support brigade ammunition support team, consisting of ammunition managers, quality assurance specialist ammunition surveillance personnel, and contract personnel are then dispatched to survey the port and assure serviceability of ammunition and overall safety of operations. (FM 3-35.1)

### Brigade Sets/APS-3

3-36. APS-3 prepositioned unit sets are multi-apportioned. The DCS G-3/5/7 develops requirements for the authorized brigade equipment sets, in coordination with the Army Service component commands. The DCS G-3/5/7 will calculate one combat load for initiation of operations, plus a sustainment load equal to one additional combat load for all unit sets in APS-3. This planning factor assumes that sea-based sets may not be able to obtain resupply quickly once deployed.

### Operational Projects

3-37. Operational projects are munitions set aside for a specific unit or mission according to AR 7-10-2 (AR 5-13). Operational project stocks require headquarters DA G-3 and G-4 written approval for use. Once approved, a operational project stocks remains at an ammunition supply point or depot and is not issued unless the unit for which the operational project is approved mobilizes/deployes or the appropriate authority directs execution of the mission for which the operational project stock is designated.

3-38. Munitions will not be requisitioned or stocked for an operational project unless it has a valid project code issued. Headquarters DA G-3/5/7 maintains a list of all approved operational projects.

### Army Strategic Flotilla Ships

3-39. Headquarters DA G-3/5/7 will base Army strategic flotilla ammunition ship requirements at a total of 30 days of supply required to support the Army’s most stressful major combat operation. There are approximately 15 days of supply on each ammunition carrying Army strategic flotilla ship to support stability operations.

### APS 1

3-40. APS-1 are CONUS-based munitions that consist of headquarters DA G-3 and G-4-approved operational project stocks for CONUS units; one combat load and one sustainment load equal to one additional combat load for each designated brigade combat team to provide a conventional force early-deployer capability; and 90 days of supply of Army stocks on-hand in designated depots or arsenals. Forces Command in coordination with headquarters DA G-3/5/7 develops the early-deployed munitions requirements.

### Army War Reserve Sustainment Stocks

3-41. Army war reserve sustainment stock munitions are quantities of ammunition either allocated or issued (depending on the Army Command policy) to a unit to sustain and support its operations in combat until it can be re-supplied. They may be located strategically depending on where it is believed they will be needed. War reserve munitions requirements shall be computed by the threat and level-of-effort to achieve targeting, lethality, and post-combat posture objectives approved in Secretary of Defense planning guidance.
War Reserve Stock for Allies

3-42. War reserve stock for allies assets are prepositioned in the appropriate theater and owned and financed by the United States. War reserve stock for allies are released to the proper Army component commander for transfer to the supported multinational force under provisions in the Foreign Assistance Act and under existing country-to-country memorandums of agreement.

PHASE 1 DETER

3-43. Phase 1 Deter may include mobilization, tailoring of forces and other predeployment activities; initial deployment into a theater and the development of mission-tailored logistics requirements to support the commander’s contingency operations, among other activities. For munitions operations planning purposes, this phase consists of deployment planning operations that focus on requirements determination and allocation.

3-44. Units base their ammunition requirements on their projected mission and the supported commander’s concept of the operation and intent. Developing ammunition requirements for using units is the responsibility of their operations section and is normally based on historical experience and accomplished utilizing estimation tools.

3-45. Calculating ammunition consumption and managing ammunition support is the responsibility of munitions sustainment managers and is based on unit basic loads, required supply rates and controlled supply rates applied to planned and current missions.

3-46. Munitions operations phase 1 planning should also consist of plans to encounter enemy stockpiles of munitions that will be encountered during subsequent phases.

FORECASTING OPERATIONAL REQUIREMENTS

3-47. Coordination between supporting unit munitions planners and supported unit G-3 or S-3 and G-4 or S-4 is critical for phase 1 munitions planning.

3-48. Basic ammunition consumption rates for operations may be determined using the operational logistics planner. Caution must be taken when utilizing any automated planning tool which may not provide sufficiently detailed information for accurate munitions consumption rates determination. Basic planning considerations for ammunition consumption rate determination should include:

- Mission objectives and tactical situation.
- Munition components such as propelling charges, fuses and primers for artillery rounds.
- Ancillary individual Soldier ammunition items such as grenades and pyrotechnics.
- Anticipated ammunition changes/modifications based on operational environment to include terrain and weather conditions.
- Preparatory fire ammunition.
- Specialty ammunition including obscurants, illumination, breaching and demolition munitions as well as low-density munitions (rocket, missile).
- Munitions requirements for nonlethal weapons.
- Estimated losses or known increases to weapons system type, configuration and/or quantity.
- At the operational level, consumption rates should be validated both in terms of STs, and in terms of individual rounds.
- Relevant known ammunition availability constraints or limitations prior to mission analysis.

AMMUNITION SUPPORT PLANNING

3-49. Ammunition support planners must anticipate support requirements for operational campaigns by planning for forward logistics bases and extending lines of support. As tactical developments render earlier support plans obsolete, ammunition support planners formulate new ones as a continuously evolving process. Basic planning questions for consideration by munitions planners include:
Does the distribution concept for class V include the capability to distribute rapidly preconfigured ammunition packages and/or loads to operating forces?

What tactical and/or operational level units and capabilities to distribute ammunition will be needed, by phase, to support the operation (A primary, alternate, contingency and emergency resupply plan by phase is required)?

Have critical munitions been identified and are sufficient levels of stocks of critical munitions available in theater? Can they be rapidly moved to theater to meet the forces requirement?

If there are shortfalls of critical munitions, can they be resolved by cross-leveling action between service components, other combatant commands, and multi-national forces?

Is compatibility of cross-leveling candidate items between Service components and delivery platforms known?

Where do class V stocks need to be located to support operations?

Is there a capability to meet surge requirements from strategic or operational level inventories?

Do established class V inventory storage sites meet explosive safety and security considerations?

Are class V transportation arrangements established?

Are return and retrograde capabilities planned to support the repair or redistribution of low-density, high-value munitions or components of munitions?

Are class V transportation bottlenecks identified, such as limited net explosive weight capacity at essential en route airports or host nation safety restrictions?

Are theater organic forces or commercial sector equivalents equipped to handle and transport containerized and break-bulk munitions?

What is the captured enemy ammunition (CEA) projection (from the G-2 or S-2) and plan for each phase?

3-50. Further questions for follow-on munitions units conducting relief-in-place operations include:

What are the current missions, task organizations and forces array of ammunition support activities in the area of responsibility to include maps and graphics and primary, alternate, contingency and emergency resupply plan for all current operations?

Current ASA stockage levels and projections (including CEA if applicable).

What are the ASA requirements and capabilities in the area of responsibility to include mission essential equipment and theater provided equipment if available?

Are there any known special ammunition requirements (for example, 7.62mm match sniper rounds)?

How many and what are the numbers of DODIC’s available at all supporting ASPs?

What is the net explosive weight capability of any supporting ATHP or ASP?

What is the internal and external SOP for receipt, storage, and issue of class V and for providing support to joint/allied/coalition forces?

What is the frequency of munitions resupply convoys?

What are the distances from ASAs to supported units and what are primary and alternate resupply routes?

What are the lessons learned (issues, discussion and recommendations)?

3-51. Retrograde operations must be included during the initial planning of every operation, not when the exercise/operation is drawing to a close. Planning and responsibility for retrograde operations depends on the theater. Based on the mission requirements and characteristics of the force to be supported, responsibility can range from an ammunition group to a platoon. Retrograde operations of munitions are a major logistics challenge. Prevention of soldier casualties from improper handling and repackaging of munitions is a leader responsibility. Leaders enforce discipline during the unpacking, restoration, and reconstitution of ammunition. Refer to phase 5 of this chapter for more information on retrograde operations and planning.
MUNITIONS CONTROL PROCEDURES

3-52. Munitions control procedures are those used to manage finite amounts of munitions against operational requirements. Munitions control procedures include those used in determining rates of munitions supply and in calculating ammunition consumption to determine stockage objectives. The expressions developed through munitions control procedures are essential to all steps of the military decision making process and fundamental to mission analysis.

Rates of Munitions Supply

3-53. Two rates of supply are used in munitions control procedures; the required supply rate (RSR) and the controlled supply rate (CSR). The RSR is an estimated amount of ammunition needed to sustain tactical operations, without ammunition expenditure restrictions, over a specified time period. The CSR is the rate of ammunition consumption that can be supported, considering availability, facilities, and transportation. The ammunition requirements of other services and coalition members must be considered when computing the RSR and the CSR.

3-54. Rates of munitions supply are normally expressed in units corresponding to a day of supply (DOS) which is a unit or quantity of supplies adopted as a standard of measurement, used in estimating the average daily expenditure under stated conditions. It may also be expressed in terms of a factor, e.g., rounds of ammunition per weapon per day.

Determining the Required Supply Rate

3-55. To sustain tactical operations for specific periods, units determine their munitions requirements by DOS and submit an RSR. The RSR is the amount of ammunition that a commander estimates will be needed to sustain tactical operations without ammunition expenditure restrictions over a specified time. The RSR is expressed as rounds per weapon per day, or as a bulk allotment per day or per mission.

\[ \text{RSR} = \text{Weapon density} \times \text{Expenditure rate} \times \text{DOS} \]

3-56. RSR computations and routing are performed by unit G-3s or S-3s with participating master gunners where applicable. The G-4 or S-4 assists in the process. RSRs can be computed using manual or automated procedures based on historical experience and utilizing estimation tools. Judgment must be applied to any automated estimates. Weapon density and mission are essential to determining the RSR.

3-57. RSR estimates consider 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 what types of rounds will engage these targets?
- When will the RSR significantly increase or decrease?
- What is the prioritization of engagement for identified targets?

3-58. For a concise example of platoon level basic ammunition requirement calculation, refer to FM 3-21.8 Appendix A and figure A-20.

3-59. RSRs are developed by commanders and 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 or per operation). High-value, low density munitions will continue to be expressed in terms of individual rounds. These figures will generally include packaging which will contribute to total weight and cube when determining transportation requirements.

Determining the Controlled Supply rate

3-60. A controlled supply rate is expressed when the RSR exceeds the capability of the munitions support system. Several factors limit the amount of ammunition available for an operation such as stockage or lift capabilities. Other considerations for enacting CSRs are for the priority weighting of main and supporting
efforts, economy of limited resources and the reduction of the hazards of stockpiling. Accordingly, ammunition issues are controlled by CSRs. The Army Service component command determines the CSR by comparing the total unrestricted ammunition requirements against the total ammunition assets on hand or due-in. The Army Service component command establishes the CSR, which is based on the amount of munitions available for issue. When a munitions item is in short supply, the CSR is low. The commander determines who receives the ammunition based on mission priorities. CSRs are normally expressed in rounds per weapon system per day.

\[ \text{CSR} = \text{RSR} - \text{Resupply capability} \times \text{DOS} \]

3-61. The Army Service component commander gives subordinate commanders the CSR for each ammunition item. The CSR may vary from unit to unit based on the mission objectives, priorities, the projected threat, and ammunition availability. Each combat commander gives the CSR to each subordinate combat commander. Commanders making CSR allocations to subordinate units should retain a portion of the CSR to meet unforeseen contingencies.

3-62. The CSR is disseminated to units through the operation order. The CSR appears in the operations order in paragraph 4, or in the service support annex (Annex F) of the operations order for both Army and joint operations. CSR information may also be placed in the fire support and engineer annex.

3-63. A unit may not draw ammunition in excess of its controlled supply rate without authority from its next higher headquarters.

3-64. Early expression of a CSR may be required prior to calculating a required supply rate when the availability of a munition is already a known constraint or limitation, or a munition is expected to be in high demand.

**Calculating Ammunition Consumption**

3-65. 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.

3-66. 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 (AR 5-13). Properly calculating and adhering to stockage objectives enables freedom of action, reduces the hazards of stockpiling and economizes limited resources.

3-67. Planning factors required for determining ammunition consumption include the ammunition basic load, daily estimated expenditure rate or RSR, and resupply capability or CSR within the context of the proposed or ongoing operation and operational timeframe.

3-68. The estimated daily expenditure rate for the operation (the RSR) is subtracted from the projected resupply capability expressed as a CSR. The on-hand balance is added to the result in order to determine the projected balance. This calculation is utilized 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.

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

**Operation Plan Requirement**

3-69. The operation plan requirement is the total quantity of munitions required to execute an Army Service component command’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.

3-70. Operation plan requirements will include the following:

- The sustainment load roll-up.
- The remainder of the operation plan requirement.
- A roll-up of the total operation plan requirement.
- A break out of the requirement for the first 30 DOS of the Army Service component command’s most demanding joint staff-directed operation or contingency plan.
Strategic Munitions Planning

3-71. The Army develops munitions requirements biennially. The munitions requirement process is a deliberate planning process utilized by the Army Staff to develop the total Army munitions requirement. The munitions requirement process supports long-range planning and investment. The quantitative war reserve requirements for munitions process is part of the munitions requirement process and is utilized to develop war reserve and operational requirements for the entire Army.

3-72. 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.

3-73. The munitions requirement process takes quantitative war reserve requirements for munitions requirements combined with projected training and testing requirements to produce the total Army munitions requirement.

3-74. Immediate operational needs are addressed through the Army requirements and resourcing board via operational needs statements.

DEPLOYMENT

3-75. 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 basic load.

3-76. Early in an operational deployment and during the theater opening phase, the ability to deliver ammunition may be constrained. Prioritization of ammunition by type and quantity for distribution during early phases of a deployment is essential.

3-77. The urgency of the deployment and the requirement for decisive action may dictate initiating combat operations immediately upon POD roll-off or airborne insertion in a JOA, without waiting for offloading, forward staging, positioning, and distribution from the POD to the ammunition transfer holding point. This roll-off combat capability requires that the unit deploy with an uploaded combat load of munitions.

3-78. While an uploaded deployment provides capability for immediate mobility and lethality, it requires an assessment to determine the impact on maximum on the ground capacity at the POD. Additional weight of uploaded combat vehicles and increased safety risks may negatively impact airflow and ultimately impact the deployment timeframe. International clearances and waivers must be carefully preplanned for an uploaded deployment.

3-79. Capacity of ports of debarkation 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.

3-80. Units will deploy with the required ammunition to self-sustain for three days of combat operations. Resupply will occur at the sustainment replenishment site in accordance with the unit 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 Ammunition

3-81. Attention must be made to the availability of ammunition designated for protection during deployment operations; commanders and staff must ensure their forces retain an adequate amount of ammunition for protection based on the current mission and tactical situation throughout the deployment process. This portion of the ammunition basic load is normally referred to as to accompany troops ammunition basic load. Munitions not approved to accompany troops or not authorized to be pre-positioned, but required for initial operations must be considered in deployment planning. See later portions of this chapter for ammunition basic load information and Chapter 5 for more information on protection ammunition.
Ammunition Unit Deployment Planning

3-82. The warning order for deployment normally includes the general location of the area in which 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.

3-83. Many deployment decisions are made based on answers to critical questions. For munitions units and planners, these questions are frequently grouped into the ‘arm’ category of logistics concerns. More specific questions can be formed 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?
- Will the deployment be as a unit, and will advance, main, and rear parties be required?
- 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?
- What is the theater situation? Forced or permissive entry?

3-84. 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 NCOs understand the transition process, and that unit training is given priority. This understanding and training prepare the unit to deploy to its assigned area, and perform its mission effectively and efficiently. During deployment, units must continue to execute contingency plans and tactical operations.

3-85. When a deployment is to be made, the following must be considered:

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

3-86. Rapid, efficient deployments are subject to the detailed contingency planning and preparation of simplified field SOPs. To ensure a successful move under stressful conditions, unit training must employ these contingency plans and SOPs, making adjustments as necessary, until procedures are understood thoroughly by all unit personnel. It is probable there will be a continuing need to forecast and manage all types of ammunition effectively.

3-87. The unit commander must identify the logistics support structure in which the unit will operate. This type of contingency planning must be established 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 basic 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 mission command 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.

PHASE 2 SEIZE INITIATIVE AND PHASE 3 DOMINATE

3-88. Phase 2 seize initiative, focuses on applying the appropriate force capabilities at the earliest possible time, while Phase 3 dominate, focuses on breaking the enemy’s will to fight or for control of the operational environment. For munitions operations planning, these phases may be planned for simultaneously.

CURRENT OPERATIONS

3-89. 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, which is discussed in detail in chapter 4 of this manual.

3-90. Current munitions operations begin at the point of need with ammunition expenditure awareness of the Soldier. Ammunition expenditure reports are consolidated by unit supply specialists and forwarded to the battalion S-4. The battalion S-4 shares ammunition consumption reports with the battalion S-3 and special staff (for example, battalion fires officer, battalion master gunner) as appropriate. The battalion S-4 requisitions ammunition replenishment utilizing available munitions requisition and information systems according to SOP (information on munitions information systems and requisition procedures are contained in chapter 4 of this manual). Requests for munitions replenishment are routed through the servicing forward support company or echelons above brigade ammunition unit for action. Concurrently, G-3 or S-3 and other staff process munitions stock status reports throughout their established support structure in order to ensure a common operational picture is maintained. Sustainment staff process both munitions stock status and requisition reports throughout their established support structure, maintaining a common operational picture as well as executing the munitions requisition and distribution operation though the operation order process. Sustainment organizations share munitions stock status, requisition and distribution status with interested organization counterparts (for example, the battalion S-4 and the FSC commander, the operational brigade S-4 and brigade support battalion SPO officer, the division G-4 and the sustainment brigade SPO officer) (See table 3-1).

<table>
<thead>
<tr>
<th>Supporting organization</th>
<th>Action</th>
<th>Supported organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theater sustainment command or expeditionary sustainment command (TSC or ESC) distribution management center munitions branch</td>
<td>Shares munitions stock, requisition and distribution status with:</td>
<td>Army Service component command or Corps G-4 munitions section</td>
</tr>
<tr>
<td>TSC or ESC G-3 plans section</td>
<td>Concurrently plans munitions operations with:</td>
<td>Army Service component command or Corps G-3 plans branch</td>
</tr>
<tr>
<td>TSC or ESC G-3 current operations section</td>
<td>Monitors, updates and shares munitions common operational picture with:</td>
<td>Army Service component command or Corps G-3 current operations branch</td>
</tr>
<tr>
<td>Sustainment brigade support operations (SPO) officer and distribution integration branch-munitions</td>
<td>Shares munitions stock, requisition and distribution status with:</td>
<td>Division G-4 and Division G-3</td>
</tr>
</tbody>
</table>

Table 3-1. Munitions operations status reporting
Table 3-1. Munitions operations status reporting (continued)

<table>
<thead>
<tr>
<th>Supporting organization</th>
<th><em>Action</em></th>
<th>Supported organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brigade support battalion SPO or combat sustainment support battalion SPO and brigade ammunition officer</td>
<td>Shares munitions stock, requisition and distribution status with:</td>
<td>Brigade S-4 and Brigade S-3</td>
</tr>
<tr>
<td>Forward support company commander</td>
<td>Shares munitions stock, requisition, distribution status with, concurrently plans munitions operations with as well as monitors, updates and shares munitions common operational picture with:</td>
<td>Battalion S-4 and Battalion S-3</td>
</tr>
</tbody>
</table>

*All organizations report vertically through their appropriate chain of command in addition to the actions noted in the table.*

3-91. Sustainment munitions are provided to the brigade from echelons above brigade support activities. Requirements are determined in coordination with the BSB support operations officer, S-3, and the brigade 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 controlled supply rates), the brigade ammunition officer determines the type and numbers of ammunition load supply packages, then submits these requirements to echelons above brigade support activities.

3-92. Ammunition load configurations continue to flow until they are changed in type and/or quantity. These munitions may be configured in CONUS, an intermediate staging base, or other location(s). The ammunition transfer holding point has very limited configuration capability based on available materials handling equipment (MHE) and personnel. Typically, munitions would be configured as required, documented, loaded, and organized on ready-to-deploy containerized roll-on and off platforms, flat racks and 463L pallets that can be moved forward quickly via strategic or intra-theater transportation to the designated port of debarkation. Procedures for transportation, handling, and accountability of follow-on munitions once they arrive at the POD and ammunition transfer holding point are essentially the same as for the receipt of initial munitions. Ammunition support activities build configured loads, combining pre-packaged loads received from designated distributors. These ammunition loads are combined with bulk as appropriate. All loads are throughput as far forward as possible.

3-93. The battalion S-4 determines ammunition resupply requirements based on information provided in the unit logistics situational report and guidance received from the battalion commander and S-3. The S-4 consolidates the entire 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 brigade support battalion SPO officer. The support operations officer directs the brigade ammunition officer to order ammunition from the sustainment brigade to be shipped according to the concept of support or according to where it is required based on the logistics common operating picture.

3-94. The brigade ammunition officer validates the brigade ammunition requests by comparing the amount of ammunition requested against the controlled supply rate and the on-hand stocks, as available, in the brigade support battalion’s ATHP. Then the brigade ammunition officer considers the current mission posture, scheduled/future mission posture, and operational guidance. After all of these factors are analyzed, the brigade ammunition officer either validates the request or adjusts it to meet the situation in coordination with the brigade S-4 and supported units. The brigade ammunition officer determines, based on current mission, tactical situation, and transportation availability, whether the ammunition resupply will be throughput to the appropriate ammunition transfer holding point or to a forward logistics release point.

3-95. At the appropriate forward ATHP or logistics release point, a record is maintained of the ammunition issued. The record of issued ammunition is maintained in accordance with command policy and procedure.

3-96. Ammunition unit leaders and munitions staff continue to refine operations as they occur. Munitions personnel should be aware of historical friction points in ammunition operations. Munitions leaders must
ensure that proper measures of effectiveness and measures of performance are in place in order to effectively assess operations. Areas to consider during operations include:

- Is adequate liaison being maintained between the issuing ASA and the using units?
- Are ASAs within reasonable distance of the using units?
- Are ASAs receiving excessive amounts of unforecasted ammunition requests?
- Are ASAs turning away using units when issues are scheduled? If so, how often and what are the causes?
- Are SOPs updated, useful and adhered to?
- Is downtime excessive (elapsed time between the arrival and the departure of trucks)?
- Is risk management utilized? What are the results of accident analysis?
- Where are the principle process losses, energy, time wastes and mistakes occurring? In reporting, receipt, issue, handling, storage, retrograde, and so on?

3-97. As principally warehousing and distribution activities, ammunition units and munitions staff should consider closely all means available to reduce both manpower requirements and reliance on material handling equipment when establishing ASAs and conducting munitions operations throughout all phases of operations. As operations progress, possible considerations for reducing demand on equipment while increasing productivity include the use of gravity feed roller/ball conveyor systems, pallet jacks, work station ergonomics that reduce waste motion, and task assignment to skill set matching.

MUNITIONS STORAGE PROCEDURES

3-98. Munitions storage occurs during all phases of the operation, with emphasis during phases 2 and 3. Munitions storage is a link in the distribution process whose goal is to provide safe and efficient long and short-term field storage in all operational environments. Munitions field storage at some level is executed by nearly all military units. Most defensive operations require prepositioned supplies, including Class V. Munitions units operate ammunition support activities. Class V 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 regulatory requirements and generally depends on the following factors:

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

3-99. For a discussion of munitions distribution refer to chapter 4. For further discussion of munitions storage area planning to include site selection, safety, compatibility groups and quantity distance factors, unserviceable, suspended, CEA, salvage and ammunition package storage, refer to ATP 4-35.1 and DA Pam 385-64.

STOCKAGE OBJECTIVE

3-100. 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.

3-101. When determining a stockage objective, units will take logistics factors such as storage space and transportation capabilities into account.

3-102. Headquarters DCS G-3/5/7 validates proposed theater stockage objectives. The DCS G-4 fills stockage objectives based on DCS G-3/5/7 priorities and supply availability. 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. In the case of preferred munitions (for example, missiles) and low-density specialized items for which the army needs a capability less than a full combat load for every unit (for example, nonlethal capability sets, anti-personnel canister rounds, select mines and counter-mine munitions, and so on.), The DCS G-3/5/7 may retain most or all of those stocks in CONUS depots in order to preserve maximum operational flexibility to meet emerging requirements worldwide. Army Service component commands, in coordination with Forces Command, USAMC, or other applicable organizations, must coordinate...
movement of such munitions in support of deploying forces, in accordance with separately published
guidance.

3-103. A routine ASP stockage objective considers—

- Munitions in accordance with approved resourcing strategies in DA Pam 350-38.
- Operational load requirements.
- Operational project stocks requirements.
- Army pre-positioned stocks requirements.

3-104. For more information on stockage objectives refer to AR 5-13 and for asset reporting refer to DA
Pam 700-19, Procedures of US Army Munitions Reporting System.

ARMING AND REARMING

3-105. Arming and rearming units is one of the largest and most time-sensitive of the tasks of
sustainment. Arming and rearming the force is done utilizing routine resupply or emergency resupply
procedures. Aerial resupply can be either routine or emergency. In all operations, a vetted primary,
alternate, contingency and emergency plan for resupply must be in place prior to commencement.

3-106. Aerial resupply is a prevalent and essential munitions sustainment operation. Aerial delivery
supports units in various operational environments where terrain and/or enemy threat limits access. Aerial
ammunition resupply is conducted in sling-load, air-drop (via high or low velocity parachute airdrop and
freedrop [also known as speed ball]) and air-land procedures. For more information on aerial resupply see
ATP 4-48, Aerial Delivery.

3-107. Munitions planners must be aware of the tolerance of certain ammunition for different types of
aerial resupply methods. Some munitions cannot be distributed by freedrop, and/or may have a low
tolerance level for sling-load or parachute airdrop delivery.

Routine Munitions Resupply

3-108. The preferred method of munitions resupply is to deliver as far forward as possible. Ammunition
containers are shipped only to the theater ASP. There they are unpacked and the ammunition configured
into ammunition loads is sent to forward ammunition supply points and ATHPs. If the situation requires or
transportation assets are available, munitions may be throughput as close to the unit as possible.

3-109. The sustainment brigade distribution integration branch determines whether the munitions
resupply will come from the ASP. If the munitions are coming from the ASP, the distribution integration
branch prepares a materials release order directing the munitions shipment. After ammunition has been
loaded, the radio frequency tags are verified along with the correct cargo and destination. All ammunition
shipments are tracked through available automated shipment tracking systems. The delivery coordinates
and time are forwarded to the receiving unit or activity, with information copies furnished to the brigade
ammunition officer, the BSB support operations officer, and the S-4. If an ammunition shipment must be
diverted within the brigade, the brigade commander, or designated representative, retains sole authority to
do so. This is accomplished through the BSB support operations officer.

3-110. 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.

3-111. Upon arrival at the POD, pallets are received and trans-loaded onto containerized roll-on and off
platforms, flatbeds or flat racks as required. Munitions may have to be staged or spotted and held briefly at
a munitions holding area prior to transportation to the ammunition support activity. It is essential that
appropriate MHE be available at the port and the holding area to conduct the receipt, offloading and
staging, and transportation missions.

3-112. General considerations for munitions resupply operations include:

- 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 effects ammunition load building.
Planning for Munitions Operations

- Ammunition shipments must comply with applicable safety and hazardous materials transportation regulations, which may affect current operations or course of action planning (For more information refer to ATP 4-11, Army Motor Transport Operations).
- Certain categories of chemical munitions require qualified technical escorts during shipment (For more information refer to AR 50-6, Chemical Surety).
- Resupply routes should minimize exposure to congested areas. For more considerations in operational security during munitions distribution refer to chapter 5.

Emergency Aerial Munitions Resupply

3-113. Emergency aerial resupply requests for ammunition should be for immediate consumption to continue the fight or a mission above normal operation or tempo. Emergency resupply requests should not be used as a means to circumvent normal supply procedures. There are two means of requesting an emergency aerial resupply. One method uses the unit (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, because in many cases cross-leveling can be accomplished sooner than the approval and movement of ammunition to the unit could occur. Normally, an emergency ammunition request exceeds the RSR or CSR and to exceed RSR or CSR requires Army Service component command approval through the TSC or ESC.

3-114. Pre-rigged loads of standard resupply packages may reduce response time for emergency air resupply (For more details on rigging ammunition for airdrop, see FM 4-20.153, Airdrop of Supplies and Equipment: Rigging Ammunition).

Emergency Aerial Munitions Requests

3-115. Procedures for emergency aerial munitions operations are as follows. The requesting unit forwards an emergency resupply request to the brigade ammunition officer. The BSB support operations officer validates the request and forwards it to the sustainment brigade, who forwards the request to the ESC or TSC. Upon validation, the sustainment brigade submits the request to the ammunition supply point. The brigade ammunition officer forwards a copy to the sustainment brigade distribution integration branch. Once the request is approved, the TSC or ESC will inform the division/corps/brigade G-4 and the ammunition supply activity of the approval, and the distribution integration branch is instructed to release the ammunition. The division, corps or brigade G-4 informs the G-3 and the G-3 tasks the combat aviation brigade to conduct the mission. The brigade support battalion must provide the equipment to perform the sling load operation. The aviation brigade through coordination of the movement control officer will receive the equipment from the BSB and fly to the ammunition supply point and provide the equipment to the ASP personnel to prepare the ammunition for sling load. Once the ammunition departs the ammunition supply point, the sustainment brigade distribution integration branch will notify the brigade support battalion support operations section. The BSB will recover the sling load equipment once the resupply has taken place.

3-116. If brigade lift assets are unavailable, the division G-3 forwards the request to corps. The corps G-3 approves emergency requests and tasks an aviation brigade to perform the mission. Simultaneously, the G-4 coordinates with the TSC or ESC so it can task the appropriate ammunition support activity to prepare the shipment. A liaison officer from the aviation brigade coordinates with the movement control officer and the requesting unit. When the corps G-4 validates an emergency resupply to an organization using corps air assets, the supporting ASP is responsible for providing the equipment (sling load equipment, cargo nets and so forth) to transport the ammunition to the organization. An agreement on how the sling load equipment will be returned must be formalized prior to the mission.

Irregular Warfare

3-117. Munitions planning for operations during irregular warfare must consider that units involved are often dispersed and geographically separated from support bases in austere environments where routine resupply can be greatly affected by developing situations such as enemy action and civil protests as well as weather changes. Basic planning factors for irregular warfare include:
- Units may draw supplementary or modified equipment to include lethal and nonlethal weapon systems which must be considered while building ammunition load support packages.
- Some irregular warfare operations can consume uncharacteristically high quantities of munitions due to combined defensive and offensive actions.
- Munitions storage procedures in constrained/austere environments must be considered.
- 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.

3-118. For further information on irregular warfare sustainment considerations refer to FM 3-24 Insurgencies and Countering Insurgencies.

Captured Enemy Ammunition

3-119. Captured enemy ammunition (CEA) is all ammunition products and components produced for or used by a foreign force that is hostile to the United States (that is or was engaged in combat against the United States) in the custody of a U.S. military force or under the control of a Department of Defense component (DA Pam 385-64). CEA may also include North Atlantic Treaty Organization or U.S. manufactured munitions that may not have been under U.S. custody or control. U.S. Army policy for the handling of CEA is outlined in DA Pam 385-64 and AR 381-26, Army Foreign Materiel Exploitation Program. Further discussion can also be found in ATP 4-35.1.

3-120. Enemy ammunition found is considered excess and treated as such. AR 381-26 requires that one of three options be taken when there is excess ammunition on the battlefield: use, destroy, or secure and retrograde. Except for use, all of these options apply to captured enemy ammunition. CEA includes all types of munitions. The ammunition company will require close support of EOD prior to any captured enemy ammunition handling operation to ensure safety of munitions personnel in accordance with ATP 4-35.1.

3-121. Captured enemy ammunition when stored must be kept separate from U.S. munitions; however, it must be accounted for, stored, and guarded using the same criteria that applies to U.S. munitions. During retrograde operations that include CEA, leaders must ensure U.S. munitions standard safety policies and procedures are carefully observed.

3-122. When an enemy ammunition cache is found or captured, the commander must notify explosives ordnance disposal personnel. When the on-scene commander notifies EOD, he must provide 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.

3-123. 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.

3-124. 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. Intelligence gathered from the scene is processed through the EOD chain of command and disseminated to the intelligence community. Also, 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). All hazardous enemy ammunition should be segregated and disposed of by trained personnel.
3-125. If the cache is to be retrograded, modular ammunition units are tasked to provide the means to inspect, segregate, and load the captured stocks. Echelons above brigade transportation assets are tasked to move the captured enemy ammunition. Working together, these echelons above brigade assets load and transport the CEA to the designated ammunition support activity. Once the captured enemy ammunition arrives at the ASA, it is stored 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.

3-126. CEA certified or cleared by explosive ordnance disposal personnel, QASAS, or military munitions inspectors must be receipted, inspected, and accounted for in the same way as U.S. munitions. Once the CEA is identified as accurately as possible, it is entered into the appropriate SAAS-modernization for accountability and control. This procedure must be performed as soon as possible after receipt. Reporting and disposition instructions for captured enemy ammunition are the same as for friendly munitions. Close control of CEA is required.

3-127. Positively identified and serviceable captured enemy ammunition may be compatible for use in U.S. or allied forces weapon systems. These munitions can greatly ease the burden on the ammunition supply system. Also, CEA can be used as a substitute for bulk explosives during demolition operations. If authorized and utilized for operations, CEA must still be kept separate from U.S. munitions. See ATP 4-35.1 for more information.

Physical Security

3-128. Upon departure from the ammunition support activity, 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 is 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.

3-129. 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.

3-130. 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.

3-131. Any item assigned a controlled inventory item code in accordance with AR 708-1, Logistics Management Data and Cataloging Procedures for Army Supplies and Equipment, other than a ‘U’ or a blank is considered sensitive, controlled or pilferable. Associated risk categories for items are assigned in accordance with AR 190-11. Category I and II munitions items require special consideration. Category I items include non-nuclear missiles and rockets in a “ready-to-fire” configuration. 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. See chapter 5 for more information regarding regulatory requirements for munitions physical security, and see AR 190-11.
PHASE 4 STABILIZE

3-132. Phase 4, stabilize, is required when there is no fully functional, legitimate civil governing authority present, and involves comprehensive effort to stabilize states in crisis and to build the capacity of fragile states. It also calls for the planning of rotational deployments as required.

3-133. Munitions planning in phase 4 consists of the full range of munitions operations with emphasis on munitions disarmament, maintenance, ammunition surveillance and ammunition reintegration/return of CEA to host nation control as appropriate.

DISARMAMENT, MAINTENANCE, AMMUNITION SURVEILLANCE AND REINTEGRATION

3-134. 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.

3-135. Munitions maintenance and ammunition surveillance occurs during all phases of an operation. Additionally in phase 4, seized ammunition may require maintenance. Reintegration of former combatants may include the return of CEA to host nation control.

Disarmament

3-136. Planning for CEA must be an analytical process based on known enemy resources and facilities. Friendly forces requirements for the disposition of CEA can be extensive enough to exceed the capabilities of munitions units.

Destruction of Ammunition

3-137. The two categories of ammunition destruction are “routine” and “emergency.” The method of destruction used is based on the current tactical situation. However, a general plan for the destruction of unserviceable ammunition and a cost effective analysis must be prepared 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 see ATP 4-35.1. Technical Manual (TM) 43-0002-33, Destruction of Conventional Ammunition and Improved Conventional Munitions to Prevent Enemy Use, provides guidance on emergency destruction of ammunition.

3-138. Emergency destruction of ammunition, as outlined in TM 43-0002-33, prevents ammunition (both friendly and CEA) from being utilized by enemy forces. Commanders have the authority to order the emergency destruction of ammunition. This authority may be delegated to subordinate commanders. If it is necessary to conduct emergency destruction operations, the ammunition must be rendered unserviceable. When possible, emergency destruction should be planned and conducted to 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.

3-139. Commanders must follow applicable environmental regulations when destroying munitions. Failure to obey environmental laws and regulations may subject commanders to fines and/or imprisonment. AR 200-1, Environmental Protection and Enhancement, provides detailed information on environmental laws and guidelines that must be followed by commanders and their subordinate personnel. Munitions that have delay devices or anti-disturbance mechanisms are sometimes used and could cause incidents. These munitions include—

- Unexploded bombs, shells and other devices.
- Improvised munitions.
- 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.
• Unexploded missiles and sabotage devices.
• 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.

3-140. Ammunition personnel must receive permission from their chain of command before destroying unserviceable ammunition. For information on the emergency destruction of storage sites, see ATP 4-35.1 and TM 43-0002-33. At the segregation area, unexpended ammunition is identified and segregated by type and lot number, checked for non-standard or hazardous conditions, and repacked or palletized and stored in accordance with distances outlined in established theaters of operations.

AMMUNITION MAINTENANCE

3-141. Ammunition maintenance operations occur throughout all phases of the operation. Ammunition maintenance operations include minor packaging and preservation operations. Munitions maintenance may also include major operations, such as complete renovation. The two levels of maintenance are field and sustainment maintenance. For more information on the two levels of maintenance see FM 4-30. In phase 4, ammunition maintenance may include those carried out on CEA. Further information on munitions maintenance is contained in ATP 4-35.1.

3-142. Ammunition field maintenance is performed by ammunition units at ammunition support activities. Ammunition field maintenance includes ammunition surveillance activities associated with this level. Field maintenance focuses on preventing deterioration of ammunition due to rough handling and exposure, as well as returning ammunition to a serviceable condition. Field maintenance is not required or intended to perform major repair of components, disassembly and reassembly of ammunition. Field maintenance operations are accomplished primarily 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.
• Removal of rust and corrosion.
• Painting and stenciling of ammunition items to include containers.
• Repairs and fabrication of boxes, containers and crates.
• Submission of ammunition condition reports.
• Demilitarization as directed.
• Replacement of readily removable external parts and components such as, but not limited to, fuses of artillery and mortar ammunition, grommets, and nose plugs, humidity indicator housing/cards.
• Return munitions inspection.
• Receipt inspection.
• Pre-issue inspection.
• Inspect packaging and loading during shipment (retrograde) process.
• Certification of ammunition residue to be explosive free.
• Periodic inspections.
• Assign local lot numbers for small arms ammunition.
• Determine and assign condition codes.
• Check for suspension/restrictions on all ammunition assigned to brigade.
• Maintain depot ammunition surveillance cards on locally stored/managed ammunition.

3-143. Sustainment munitions maintenance is generally performed by USAMC munitions activities. They can be deployed forward to the army service area to perform certain tasks. Sustainment maintenance units are responsible for accomplishing that portion of the maintenance mission that is beyond the capability or capacity of the ammunition company. Specifically, sustainment maintenance consists of but is not limited to—
• Removal of extensive rust and/or corrosion; painting and stenciling class V materials; and major repairs to or fabrication of boxes, containers and crates.
• Renovation/modification comprising the replacement of either internal or external components which require the use of operational shields or barricades.
• Sustainment maintenance is performed at or in a depot level environment. Specific depot level capabilities can be deployed forward, as required, to the Army service area to perform certain tasks.
• Inspection and maintenance is a joint effort and performed under the direction of QASAS, military occupational specialty code 890A warrant officers, 89B NCOs (senior 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. All maintenance operations are performed under the supervision of a qualified ammunition inspector as approved by the commander.
• Ammunition units will perform maintenance operations as required preventing further ammunition deterioration. All units that have ammunition on-hand, including using units, perform organizational maintenance with technical assistance from ammunition units.

AMMUNITION SURVEILLANCE OPERATIONS

3-144. Ammunition surveillance operations are conducted throughout all phases of an operation. 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 using statistical sampling techniques and procedures accomplish inspections. The program identifies items for timely maintenance, disposal, priority of issue, and restricted use. For more information see Supply Bulletin 742-1, Inspection of Supplies and Equipment Ammunition Surveillance Procedures.

3-145. Ammunition surveillance activities are controlled by QASASs; they inspect and classify ammunition and its components during movement, storage, and maintenance operations. Also, they inspect equipment, facilities, and operations. An ammunition warrant officer, 89B NCO (staff sergeant or above) or a QASAS, visually inspects all opened ammunition, and determines the serviceability of both the ammunition and its containers. Also, inspectors must check for compatibility and ammunition in a hazardous condition. Further discussion of ammunition surveillance operations, functions, inspections, standards, records and reports can be found in ATP 4-35.1.

REINTEGRATION AND RETURN OF CAPTURED ENEMY AMMUNITION

3-146. 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, stored CEA may be issued to stabilized local national forces.

PHASE 5 ENABLE CIVIL AUTHORITY

3-147. Phase 5 enable civil authority is characterized by support to legitimate civil governance in theater. Munitions operations planning in phase 5 consists of the full range of munitions operations, with emphasis placed on retrograde and redeployment.

RETROGRADE AND REDEPLOYMENT PLANNING

3-148. 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 operations, munitions units continue to provide munitions to security forces while relocating the excess to a theater ASP.
Retrograde

3-149. Retrograde is an Army logistics function of returning materiel from the owning or using unit back through the distribution system to the source of supply, directed ship-to location, or point of disposal (ADRP 1-02).

3-150. 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 the operation ends. Personnel, time, equipment, and materials become more important when the main effort is directed at returning personnel and equipment to CONUS, or other theaters, as quickly as possible.

3-151. Apart from the ammunition itself, ASA operating equipment and materials must be considered in retrograde planning. ASA operating equipment and materials can be placed into the following categories:

- Organizational property that a unit owned on its property book and brought to theater.
- Theater-provided equipment left by redeploying units for follow-on rotational units, including materials handling equipment, containers and packing materials, and communications systems.
- Contractor-acquired/government-owned equipment comprising mostly materials for establishing and operating ASAs including containerized housing units, air conditioning units, and generators.
- Contractor owned equipment that has been left behind.

3-152. All such materials and equipment should be sorted into disposition subcategories of retain (return, remain, or redistribute) or divest (sell, transfer, or dispose).

3-153. At a minimum, planners should consider the following:

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

3-154. For planning purposes, assume the following about the condition of munitions in the unit’s or Soldier’s possession:

- Munitions have been removed from original packing.
- Packing materials have not been retained by the users.
- Munitions will require a serviceability or classification inspection.

3-155. At all levels, plans must incorporate retrograde operations. These plans should include—

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

3-156. During the various stages of build-up and actual conflict, arrangements must be established for the recovery and storage of packing materials. These materials can occupy an extraordinary amount of space. Plans must be implemented to backhaul packing materials to a central location or they must be stored in a separate area near an ASP, or in any other area having the capability and capacity. The following factors should be considered before actual retrograde operations begin:

- Existing logistics support: facilities, transportation assets, road networks, communications requirements, and so forth.
- Shipping point from theater.
- Available host nation support.
- Available contract support.
3-157. Visibility and accountability must begin at the returning unit level using the appropriate sustainment information system. If the ammunition is not accounted for in an automated system, accountability must begin at the ammunition support activity level. This is particularly true with controlled and serial-numbered items. Accountability problems increase during war; however, as much as possible, the accountability of packing materials must be maintained. If this is done successfully, shortages will be easier to identify and correct.

3-158. Generally, packing materials used by opposing forces should not be used; they can be misidentified and usually are not of the proper size or quality assurance for U.S. items. However, they can be used for retrograde of captured enemy items. A QASAS or other qualified person must make condition code decisions. Munitions must be inspected to determine their serviceability, and every effort should be made to provide packing materials as early as possible in the retrograde process. If the munitions are in serviceable condition but have no lot number, a local lot number may be assigned. These munitions are considered as serviceable. During retrograde operations, unserviceable munitions are typically destroyed. The responsible ammunition company must request disposition instructions through their sustainment brigade before destroying the munitions.

3-159. Using units normally return munitions identified for retrograde to the ASA that provides their ammunition support. However, because of the changing requirements of the modern battlefield, units may be directed to turn in the identified ammunition and explosives to the nearest ASA. Ammunition support activities collect, consolidate, and ship this ammunition as directed.

Redeployment

3-160. Redeployment is the transfer of forces and materiel to support another joint force commander’s operational requirements, or to return personnel, equipment, and materiel to the home and/or demobilization stations for reintegration and/or out-processing (JP 3-35). Redeployment is one of the major missions of ammunition support units, following completion of operations is the return of class V materials and components. The same amount of detail given to transitioning to deployment operations should be given to redeployment operations. Command emphasis must be given to training for transition to and from combat operations.

3-161. Issued ammunition must be returned to a serviceable condition upon termination of a conflict. Before the operation ends, leaders must develop plans outlining redeployment procedures. These plans must identify the tasks required to return ammunition to its original packing configuration as required.

3-162. Upon completion of combat operations, issued munitions must be identified, prepared, repackaged, collected, loaded, and shipped. These tasks constitute the redeployment process and coincide with the munitions retrograde program within the ammunition supply system.

3-163. When transporting or storing ammunition and explosives for redeployment, follow the same precautions and procedures used for munitions during the theater build-up phase and during continuous retrograde operations.

3-164. Units must plan for any rotational follow-on unit relief in place, ensuring ammunition basic load designated to accompany troops and those not designated to accompany troops is accounted for and transferred properly.

3-165. Commanders and staff must plan for adequate protection ammunition to be available to the force throughout the duration of a redeployment.

3-166. Amnesty point operations may become prevalent during redeployment. Additionally forward operating bases having elements that use military munitions will establish an ammunition and explosives amnesty program. For more information on establishing ammunition amnesty point operations see DA Pam 385-64.

SUMMARY

3-167. Combat operations and stability and defense support of civil authorities operations require detailed munitions support planning consistent with Army doctrine, logistics characteristics, and support
considerations. Support planners must adapt quickly to changing requirements as a result of tactical successes. Combat stability and defense support of civil authorities operations and post-combat, stability and defense support of civil authorities operations transitions are major missions of munitions units, and munitions commanders and staff must utilize all applicable tactics, techniques and practices to ensure successful ammunition operations.
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Chapter 4

Munitions Distribution

Munitions distribution allows commanders to build and sustain combat power and maintain an operational pace that the enemy cannot match. Baseline munitions distribution in a theater of operations begins with the emplacement of an ammunition support activity. Munitions distribution operations expand or contract thereafter as determined by the tactical situation. Line haul, local haul, aerial delivery and waterway distribution factors are critical to the emplacement, configuration and operation of ammunition support activities. Munitions distribution includes organization, alignment, activities, enablers and digital systems.

Ammunition Unit Organization

4-1. Ammunition units and units designed to distribute ammunition are organized to meet munitions mission support requirements. Each unit has the appropriate mix of personnel, skills, tools and equipment to accomplish assigned missions.

4-2. 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. The receiving unit then moves the supplies to its own area using its own transportation. (FM 4-40).

Modular Ammunition Ordnance Company

4-3. The modular ammunition ordnance company is attached to the ordnance battalion (ammunition) or the CSSB. This company provides modular ammunition operations on an area basis within the theater area as required. Under the ammunition modularity concept, only the number of companies and platoons needed to support the force is deployed. Generally, one modular ammunition company is required to support a division. This unit is dependent upon appropriate elements within the theater to provide religious, legal, force health protection, finance, communication, automation and electronic warfare support, personnel and administrative services. The modular ammunition ordnance company will also require augmented security assets in most environments. This company consists of a headquarters platoon and normally three modular ammunition platoons with the mission command capacity to expand to five. The modular ammunition ordnance company also includes a modular ammunition rough terrain container handler (RTCH) augmentation team which also may be expanded as required. One or more RTCH augmentation teams are required in order to operate a theater ASP. In addition to echelons above brigade units, the modular ammunition ordnance company will provide class V support to the brigade support battalion as necessary.

4-4. 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, field feeding, fire-fighting, 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 fire-fighting and field maintenance sections will often task organize under and co-locate within the modular ammunition platoon(s) ASP(s).

4-5. Modular ammunition ordnance platoons receive, configure, inspect, manage, issue, ship and retrograde class V stocks utilizing distribution enablers. It will also perform munitions field maintenance, 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 and provides the appropriate distribution management center with transaction and inventory management data. Modular ammunition platoons are employed within a theater to operate ammunition support activities. The modular ammunition platoon normally consists of a platoon leader, ammunition warrant officer, chief ammunition NCO, ammunition inspectors, ammunition stock control NCO, and ammunition handlers with associated equipment. The modular ordnance ammunition platoon provides a storage capacity of the designated level of a theater class V stockage policy. The modular ammunition platoon may operate in conjunction with other modular ammunition platoons and RTCH augmentation teams.

4-6. Modular ammunition RTCH augmentation teams receive, issue, ship and retrograde containerized class V munitions stocks. This team augments the modular ammunition platoon in munitions inspection, ammunition field maintenance and in packing, unstuffing, loading and unloading containers.

4-7. Modular ammunition platoons and RTCH augmentation teams are capable of deploying separately from their parent company and may be attached to a sustainment company headquarters, normally within a combat sustainment support battalion, to provide echelons above brigade ammunition support. A modular ammunition platoon may support a brigade under most conditions. If deployed separately from the modular ordnance ammunition company, this unit is dependent upon appropriate elements within the theater to provide religious, legal, force health protection, finance, communication, automation and electronic warfare support, personnel and administrative services, and upon a company level headquarters organization for field feeding, supply, construction, fire-fighting, field maintenance, chemical, biological, radiological, and nuclear defense, personnel and administrative support. When operating an ammunition support point, the modular ammunition platoon may also require additional security elements beyond the ability of the platoon to provide. The number of munitions units and or platoons that will be committed to any operation should be determined during planning. The initial deployment of modular ammunition units to a theater will consist of one or more platoons with the ability to effectively execute the required mission. Modular platoons are capable of loading and moving 20-foot containers only when assigned a rough terrain container handling augmentation team 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. The modular ammunition platoon must maintain close coordination with all supported units.

ARMY FIELD SUPPORT BRIGADE/BATTALION

4-8. The Army field support brigade/battalion may deploy ammunition support teams that establish a point where they can coordinate the off-loading and distribution of stocks either to storage areas or for direct issue to units from the ports of debarkation.

4-9. The ammunition support teams deploys with the necessary accountable records and QASAS support. The ammunition support team provides technical expertise and assistance in maintenance, ammunition surveillance, demilitarization, transportation, explosives safety, supplies, and accountability.

ATHP SECTION, BRIGADE SUPPORT BATTALION (BSB) DISTRIBUTION COMPANY

4-10. A class V (ATHP) section is organic to the brigade support battalion’s distribution company in the brigade combat team. The class V section of the BSB distribution company operates the ATHP. The brigade ammunition officer representatives from the support operations section of the brigade support battalion manage the ATHP when employed.

4-11. The ATHP in the brigade support battalion distribution company provides munitions support to its assigned brigade combat team. This company may independently deploy an ammunition transfer holding point team to establish an ATHP. The ATHP team normally consists of an ammunition warrant officer, chief ammunition NCO, ammunition stock control NCO, and ammunition handlers with associated equipment.

4-12. The ATHP is dependent upon headquarters elements within the brigade combat team to provide religious, legal, force health protection, finance, personnel and administrative services, communication, automation and electronic warfare support, and upon a company level headquarters organization for field feeding, supply, construction, fire-fighting, chemical, biological, radiological, and nuclear defense, field
maintenance, personnel and administrative support. When operating an ATHP, the ATHP team may also require additional security elements beyond the ability of the ATHP team to provide.

**CLASS V SECTION, DISTRIBUTION PLATOON, FORWARD SUPPORT COMPANY**

4-13. The distribution platoon in the forward support company of a maneuver battalion provides direct transportation support to include management and distribution of class V to their supported battalion. The FSC distribution platoon is responsible for transporting class V from the brigade support battalion’s distribution company ATHP to the supported battalion and to supported units as appropriate. The forward support company distribution platoon normally includes an ammunition non-commissioned officer who is supported by transportation branch Soldiers and associated equipment.

4-14. 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.

**AMMUNITION UNIT ALIGNMENT**

4-15. Ammunition units are aligned to expeditiously distribute and retrograde munitions (see figure 4-1 on page 4-4). Ammunition distribution follows general supply operational procedure throughout the levels of war. Strategic munitions are items under the control of the USAMC and life cycle management commands. Operational munitions are theater items positioned to replenish tactical stocks when strategic replenishment is not feasible. These munitions are considered inventory in motion and are part of the distribution system. Tactical level munitions are those provided to and carried with each brigade to sustain operational endurance and those munitions held by sustainment brigades to provide area support at each level.

4-16. Ammunition units are primary aligned in theater to support throughput distribution. Throughput ammunition distribution is foremost based on local haul and line haul ground transportation factors.

4-17. Ammunition units are secondarily aligned in theater to execute supply point distribution if throughput distribution is not feasible.
Chapter 4

Figure 4-1. Notional ammunition unit alignment in a theater of operations

AMMUNITION SUPPORT ACTIVITIES

4-18. Ammunition support activities are locations that are designated to receive, store, maintain, and provide munitions support to Army forces. There are two types of ammunition support activities in the theater, the ASP and the ATHP. The ammunition support activity mission is to receive, store, issue, and maintain conventional ammunition stocks. Industrial base depots, arsenals, munitions plants and centers are not considered ASAs. Ammunition supply points can be field, semi-fixed or permanent storage areas of various sizes. Ammunition transfer holding points are small, temporary holding areas. Some ammunition support activities may have a greater storage and handling capacity than others, as is normally the case for the ammunition supply point determined to be the theater ASP. Smaller ASPs and ATHPs may be limited in their capability for load reconfiguration. Ammunition supply points configure ammunition into ammunition load support packages. Once configured, ammunition load support packages are shipped forward to ATHPs for issue to combat units.

Ammunition Supply Point

4-19. The ammunition supply point is the primary ASA at echelons above brigade. The ASP may be located throughout a joint operations area to include ports of debarkation, at in-land locations providing theater distribution or in close proximity to supported brigade combat teams. The ASP provides support to tactical brigade ammunition transfer holding points and units not supported by an ATHP. Ammunition supply points receive, store, issue, and maintain a one-to-three day supply of ammunition to meet a routine surge and emergency requirements for supported units. ASP stockage levels and size are variable and largely based on tactical plans, availability of ammunition and facilities, the threat to the resupply operations, and other operational variables. Ammunition supply point site planning, design and layout must
Munitions Distribution

include careful consideration of the enemy threat. Refer to chapter 5 of this publication for protection considerations and for general tactical site selection and layout considerations refer to ATP 4-35.1.

4-20. Each ammunition supply point is operated by one or more modular ammunition platoons. 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 ammunition supply point 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. Ammunition supply points should be laid out so that vehicles can enter and leave any one area without crossing any of the other areas (see figure 4-2).

Figure 4-2. Notional layout of an ammunition supply point

4-21. An ammunition supply point may receive all of its munitions requirements in quantity and delivery from a supporting theater ASP. Once in the ammunition supply point, the ammunition is issued in configured loads as appropriate.
4-22. The theater ammunition supply point is usually the largest munitions storage facility in the theater. It is operated by a modular ammunition company in the sustainment brigade with assigned modular munitions units. The theater ASP is located near a POD with ready access to highway, rail, air and port facilities for distribution. A theater ASP receives ammunition as determined by the theater sustainment command or expeditionary sustainment command, which normally includes theater reserve munitions. The theater ASP will also receive retrograde ammunition for return to CONUS or transfer to another theater or joint operations area. The theater ammunition supply point must be augmented with container handling equipment and platforms as it receives 100% of inbound munitions originating from the port of debarkation and stores and retrogrades a majority of containerized ammunition. A theater ASP may utilize an area as large as 40 square kilometers. A theater ammunition supply point will normally maintain a higher initial and final stockage objective than other ASPs. A theater ASP may locate inside a logistics support area and will normally stock high tonnage, low-density munitions such as those utilized by air defense artillery units.

4-23. During initial entry or phases 0-2, the theater ASP may reconfigure sustainment loads into combat or mission configured loads for distribution. In a mature theater or phases 3-5, the theater ASP may distribute a majority of sustainment loads to forward ammunition supply points for reconfiguration in order to economize resources and speed forward shipments.

4-24. Containers received at the theater ASP must be efficiently managed by munitions and transportation personnel. Container management is the process of establishing and maintaining visibility and accountability of all cargo containers moving within the Defense Transportation System (ADRP 4-0). Refer to ATP 4-12, Army Container Operations for more information.

**Ammunition Transfer Holding Point**

4-25. The ammunition transfer holding point is established and operated by the ATHP section of the brigade support battalion distribution company. The ATHP is an operation established to facilitate the receipt and transfer of all types of ammunition from echelons above brigade ammunition storage activities to units within a brigade. Under most circumstances the ammunition transfer holding point is a temporary operation located in the brigade support area to facilitate rapid receipt and issue of ammunition to the users (see figure 4-3). The functions of the ATHP include ammunition receipt, issue, holding and storage, trans-load and operation of SAAS-ammunition transfer holding point.

4-26. For general tactical site selection and layout considerations refer to ATP 4-35.1
ATHP Operations

4-27. The ATHP is used in the most forward operating locations. Ammunition transfer holding points receive their ammunition from ASPs. Ammunition is normally delivered on flat racks utilizing a load handling system or trucks with trailers from ASPs. Ammunition transfer holding point(s) supporting battalions may receive a portion of their ammunition from echeloned ammunition supply point(s) and a portion as configured items from the theater ASP. Once in the ammunition transfer holding point, the ammunition is issued in single DODIC sets or configured loads as necessary.

4-28. Transporting the ammunition to the units can be done in two ways. Primarily, the ammunition is pushed to the FSC using the brigade support battalion distribution company. Alternatively, the FSC can pick up ammunition from the ATHP utilizing their distribution platoon. The forward support company distribution platoon conducts ammunition resupply to their supported units. The requesting unit submits the request through the battalion S-4, who approves the request and either forwards it to the brigade ammunition officer or has the unit hand-carry it to the brigade S-4 for approval. The brigade ammunition officer confirms the request prior to issue.

4-29. Forward support companies arrive at the ATHP to pick up ammunition, drop off empty or partially empty ammunition flat racks, and receive fully loaded flat racks. Ammunition transfer holding point personnel assist the FSC loading the ammunition. The ATHP section reconfigures loads to meet mission requirements on a limited basis only. The flat racks are normally issued as shipped. If partially empty flat racks are returned and the returned ammunition is required within the brigade, the ATHP section may consolidate the ammunition from the partially empty flat racks and make full loads for issue within the brigade. All empty flat-racks are shipped back to the ammunition supply point as soon as possible. If the forward support company has a heavy expanded mobility tactical truck load handling system in their distribution platoon, they can enter the ammunition transfer holding point, and be directed to the

Figure 4-3. Notional layout of an ammunition transfer holding point
appropriate “rack” for pick-up. Some ammunition loads configured at the ammunition supply point exceed the capability of the forward support company’s organic load handling systems. Care must be taken to ensure that configured loads destined for further transportation by the forward support company do not exceed their capabilities to distribute.

4-30. Coordination on the location, amount, and type of ammunition received at the ATHP is determined by the brigade ammunition officer along with input from the supported brigade S-3 and S-4 staff. Ammunition amount is based on requirements determined by the brigade S-3, S-4 and sustainment staff. Ammunition transfer holding point personnel will interrogate radio-frequency tags of arriving load handling system shipments to gain immediate visibility of the shipment and destination. The brigade ammunition officer notifies the ATHP section of a pending resupply mission and identifies the required type of ammunition load and quantity. The forward support company is tasked to move munitions and dispatches a load handling system to the ammunition transfer holding point. Loaded load handling system flat racks are dropped 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/equipment assets to re-arm. The brigade ammunition officer determines if on-hand stocks in the ammunition transfer holding point are sufficient to meet requirements or if munitions from an echelons above brigade support activity will be required.

4-31. The ammunition transfer holding point representative reports all issues and turn-ins to the BSB support operations section. Transportation assets used to deliver ammunition resupply pick up the unit turn-ins and deliver them for immediate retrograde. When time and equipment permit, the ATHP 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 transfer holding point maintains the ammunition stocks it can transport. The brigade ammunition officer, in coordination with the brigade support battalion SPO officer, are responsible for monitoring ammunition status of weapon systems, coordinating cross-leveling activities within the brigade, and coordinating with the sustainment brigade for ammunition resupply activities. Should the need arise, ammunition can be prepared for aerial delivery directly into the operational area utilizing throughput distribution. Weapon system crews will be responsible for conducting self trans-loading from the ground to the weapon system.

4-32. Upon arrival at the ammunition transfer holding point, munitions accountability is established through the SAAS. The ATHP section inventories and signs for the shipment. A copy of the shipping document is returned to the originating ammunition support activity. The ammunition transfer holding point accountable officer’s representative receipts the ammunition in SAAS-ammunition transfer holding point and sends transaction data to the worldwide ammunition reporting system (WARS), TAMIS and all distribution management centers that provide management oversight via very small aperture terminal systems. Munitions are segregated into battalion and unit sets and held at the ammunition transfer holding point until called forward. Munitions must be periodically inspected to ensure serviceability and safe storage. The safety guidance in DA Pam 385-64 should be used to develop SOPs.

4-33. When supported units arrive at the ammunition transfer holding point, they submit ammunition requests that have been authenticated by the battalion S-4. Before a unit is issued ammunition, the brigade ammunition officer validates the requirements and notifies the accountable officer at the ATHP. Once ammunition is issued to a unit, the unit assumes accountability and uses its transportation assets to move the ammunition forward. If automation is present all request for issue documents should be processed through TAMIS on electronic (e) DA form 581.

4-34. Ammunition may also be issued against a unit document from an echelon above brigade ammunition support activity and temporarily held at the brigade support battalion ATHP until it can be distributed to the supported unit. Accountability is maintained through the unit property book officer.

4-35. When operating for long periods in a static environment such as during stability operations, the ATHP section may be required to store quantities of ammunition for extended or indefinite periods of time. In this situation the ammunition transfer holding point operation must assume responsibilities and operations similar to an ammunition supply point but smaller in scale. Actual quantities can vary widely and, as such, the ATHP section must be prepared to receive, store, and issue quantities of ammunition that exceed the sections capability. Transforming an ATHP into the role of a more permanent ammunition
support activity requires augmentation in the areas of inspection and ammunition surveillance, as well as augmented security and protection efforts. The need to transition to an ammunition supply point operation must be determined through analysis by the sustainment brigade, supported brigade and BSB commander and supporting staff, as it will likely require relief in place by one or more modular ammunition platoons.

**Automation**

4-36. The ammunition transfer holding point section is equipped with a SAAS hardware suite. Ammunition transaction data is made available to the supporting theater distribution management center, which provides echelons above brigade visibility of what the brigade has received, and facilitates the anticipatory logistics process.

4-37. When the brigade ammunition transfer holding point is augmented or relieved by a sustainment brigade ammunition element (modular ammunition platoon), the ATHP may pass off their data to the inbound element platform. The ammunition transfer holding point can then re-establish their system as a SAAS-ammunition transfer holding point platform elsewhere and resume its role as a brigade ATHP.

**Displacement**

4-38. The brigade support battalion organizes convoy support and security for movement of the ammunition transfer holding point. Movement operations depend on the tactical requirement for uninterrupted munitions support. If continued support to the brigade is required, the brigade ammunition officer establishes an advanced element at the new site and coordinates the arrival of MHE, personnel, and munitions. Echelons above brigade munitions support structure begins shipment to the new site as required. On arrival at the new site, the brigade ammunition officer and ammunition transfer holding point section establish operations and ensure all required equipment, personnel, and stocks have been relocated.

4-39. Ammunition transfer holding points relocate in unison with the movement of the supported brigade. The ATHP provides dedicated support to users as far forward as possible. Since the ammunition transfer holding point does not possess the organic equipment to move ammunition stacks that are not uploaded, all effort should be given to maintaining levels of ammunition that can remain uploaded. If ammunition quantities do exceed what the ATHP can transport, brigade and echelons above brigade transportation assets are used to relocate the ATHP section. The ammunition transfer holding point moves as the force maneuvers. In a combat scenario, the ammunition transfer holding point should be prepared to establish smaller issue locations every 24 hours for security reasons or when it is unable to support operations from its location. In a stability operation or defense support to civil authorities operation, there may be little or no requirement for movement. When it does have to move, the ATHP requires external transportation support. Detailed plans should be established to allow for quick, orderly movement under pressure. During displacement the BSB support operations officer and the brigade ammunition officer must communicate with using units and echelons above brigade munitions support structure to ensure the flow of munitions is not disrupted.

4-40. Evacuation and emergency destruction priorities and SOPs should be established for all ammunition support activities for the most critical munitions, dependent on operational variables.

**FORWARD ARMING AND REFUELING POINT**

4-41. The forward support company of the aviation support battalion operates forward arming and refueling points (FARP) for their supported squadron/battalions in the combat aviation brigade as required.

4-42. A FARP is a temporary location, event, or mission that is organized, equipped, and deployed as far forward, or widely dispersed, as tactically feasible. The FARP provides fuel and ammunition necessary for the sustainment of aviation maneuver units during decisive operations. The general support aviation battalion FSC is responsible for accomplishing the FARP mission.

4-43. FARPs are normally employed in support of aviation operations when the distance covered or endurance requirements exceed normal capabilities of the aircraft. FARPs may be employed during rapid advances when field trains are unable to keep pace. For more information on FARPs refer to ATP 3-04.94, Forward Arming and Refueling Points.
DISTRIBUTION ENABLERS

4-44. Munitions distribution enablers include material handling systems, associated container and packing materials and equipment and automatic identification technology. The integration of distribution enablers allow sustainment units to provide rapid munitions support in a timely manner.

4-45. Modular ammunition platoons and ammunition transfer holding point teams require augmentation to displace ammunition stocks. Rough terrain container handler augmentation teams are not mobile utilizing organic assets. RTCH augmentation teams must coordinate unit movement through their supporting higher headquarters. For information on motor transportation request procedures, see ATP 4-16 Movement Control.

MATERIAL HANDLING SYSTEM

4-46. Modular force operations require a logistics system with timely, rapid, and pulsed delivery of supplies. Incompatibilities between transportation modes, materials handling equipment, and cargo platforms force re-handling of supplies by soldiers and 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 operational environment, and improve the efficiency of the distribution system. Materials handling systems were developed to addresses particular problems within the distribution system. Benefits derived from the implementation of materials handling systems, like the palletized load system (PLS) and the load handling system include the following:

- 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.

4-47. In distribution operations, numerous types of MHE are required to either transfer cargo platforms between transportation modes or to reconfigure loads on the platforms. Manning and maintaining MHE adds to the logistics footprint at each distribution node. Additionally, personnel spend numerous hours determining safe and stable cargo configurations for shipment on flat racks or containerized roll-on and off platforms. PLS and load handling system components help to reduce the personnel and equipment requirements.

4-48. Effective and efficient use of intermodal platforms requires that all aspects (for example, loading, deployment, reception, onward movement, unloading, distribution, and associated force structure) of intermodal operations be factored into support plans developed from the operational contingency plans. Intermodal platforms are finite in number, and their use should be prioritized during planning processes. Pre-designating containerships as well as establishing priority use and return of containerized ammunition distribution system or other special containers for ammunition movement are two examples of planning actions aimed at ensuring the effective and efficient use of intermodal platforms.

4-49. The rationale of the PLS and load handling system platform is to minimize MHE required, Soldier exposure required and enhance Soldier protection while reducing the logistics footprint. These materials handling systems leverage configured packaging and platform-embedded materials handling and lift, for rapid, accurate, and agile resupply that minimizes demand on Soldiers. This speeds sustainment replenishment “pit stop” operations and rapidly returns combat platforms to the fight.

4-50. A flat rack control point may be established at or near an ASP to facilitate seamless flat rack exchange and accountability. The flat rack control point may be administered by a modular ammunition platoon.

4-51. Incompatibilities require numerous interface devices for cargo platforms, such as PLS 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, thus creating a larger logistics footprint in terms of the soldiers required to perform these extra steps.

4-52. Examples of these enhancing interface devices include the following:
- Container handling unit for the PLS and load handling system.
- Load handling system ability to carry international standard organization containers.
- Roller platform for air deployment for international standard organization 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/unloading the wider flat rack.

4-53. Munitions commanders and planners recognize strengths and inherent incompatibilities in materials handling equipment 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.

CONTAINERS AND PACKING MATERIALS

4-54. Ammunition support activities normally are the primary consolidation hubs for turned-in or backup ammunition storage containers and packing materials. Also, materials for building or repairing pallets and storage containers are consolidated at ASAs. Therefore, care must be taken to ensure compliance with applicable policy and procedure for the management of containers and packing materials within the ammunition support activity.

4-55. There are various categories of containers that are 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, leasing off hire costs, and so on. Ammunition support activity managers must be familiar with all of the 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, destroyed).

4-56. Containers storing ammunition may move forward of a theater ASP as containerized throughput when an echeloned ammunition support activity has been established with container handling capability.

4-57. 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 in-transit visibility and storage tracking. Refer to ATP 4-12 for more information.

MUNITIONS INFORMATION SYSTEMS

4-58. Ammunition units must have reliable communications to accomplish their mission. Effective communications networks must be established to ensure the success of ammunition support in the theater of operations. These networks must relay accurate and timely information between supported and supporting units and staff.

4-59. Improved situational understanding gained through the use of logistics automation systems allows distribution managers at all levels to monitor the logistics distribution system from the national provider level to the using unit. Logistics operations depend on requirements generated by, and managed through, the respective logistics or sustainment information system. The loss of space-based communications due to enemy activity remains a major concern for U.S. Army forces using tactical sustainment information systems while conducting munitions operations in a deployed environment. Whether the interruption of the communications is caused by enemy action against satellites or through the use of intermittent
jamming/spoofing, the resulting "black-out" will require Army forces to adapt and adjust until the capability is restored. Short term losses of satellite communications may be mitigated through alternative communications methods and courier networks.

4-60. For a discussion of logistics information systems and other automated systems that impact munitions operations including the authoritative property system of record, the Army maintenance management system- aviation, the logistics integrated data base, the logistics information warehouse, the joint hazard classification system, the Army total asset visibility, BCS3, movement tracking system, automatic identification technologies, sustainment automation support management office and knowledge management refer to ATP 4-35.1.

MUNITIONS DIGITAL SYSTEMS ARCHITECTURE

4-61. The munitions management digital architecture allows for rapid and efficient demand placement, issue and total asset visibility and accountability.

4-62. Sustainment information systems unique to munitions management include the SAAS-modernization, munitions history program that includes the ammunition surveillance information system and the ammunition multimedia encyclopedia, TAMIS, WARS, the national level ammunition capability, conventional ammunition packaging and unit load data index.

4-63. Munitions requisitions and stockage management follows a prescribed pathway through the munitions digital architecture (see figure 4-4).

Figure 4-4. Phases of ammunition requisition and management

4-64. Munitions data is integrated at the strategic, operational and tactical levels and between supported and supporting unit commanders and staff, to accomplish munitions distribution. The process map describing munitions distribution involves all levels of G-3 or S-3s and G-4s or S-4s, the theater sustainment command or ESC, sustainment brigades, the Army Service component command, Joint Munitions Command (JMC), depot level national providers, United States Transportation Command, servicing ammunition support activities, and the unit or user, all of whom utilize the aforementioned information systems to request, manage and distribute munitions stocks.

4-65. The G-3 or S-3 utilizes TAMIS to manage munitions requests from subordinate units (see figure 4-5). If authorized, the G-3 passes down authorizations through TAMIS, which are monitored by total army ammunition authorization and allocation conference applications through the G-4.
The G-4 or S-4 utilizes total army ammunition authorization and allocation conference applications to manage munitions posture at all levels of war. These applications include the logistics modernization program, WARS, the national level ammunition capability, and production statistics. Data from all four systems is used to do so.

Army Service component commands validate requirements in the total ammunition management information system and requests that have been authorized are passed down to subordinate commands through TAMIS (see figure 4-6 on page 4-14).

JMC item managers combine data from TAMIS, the national level ammunition capability and the logistics modernization program to determine if munitions requests are supportable. They may direct shipments from ammunition support activities, depots or retail (installation) ammunition supply points, and determine future production requirements as necessary.

Depot level national providers receive munitions requests from JMC item managers and theater level sustainment headquarters as appropriate. Depots send transportation requests to United States Transportation Command. Depots receive ammunition from munitions plants, and release munitions for shipment once transportation is confirmed. Depots receive overstock, damaged or munitions requiring maintenance from ammunition support activities during retrograde operations.
4-70. United States Transportation Command receives munitions movement requests from depots through the logistics modernization program and the munitions total management system. United States Transportation Command picks up munitions from depots and transports them to ammunition support activities.

4-71. The Theater Sustainment Command receives digital requests for munitions, determines if they can be filled from current stocks and sends shipment directives to ammunition support activities or fill requests to JMC item managers. Serviceable or demilitarization disposition requests are sent to the TSC by ammunition support activities and the TSC issues asset disposal instructions.

4-72. The Expeditionary Sustainment Command, when utilized in tandem with a TSC, receives digital requests for munitions from the sustainment brigade and determines shipment supportability while utilizing SAAS-modernization asset reports by location to determine stockage and feasibility of cross-fill from adjacent ammunition support activities, and sends shipment directives to ammunition supply points (see figure 4-7). The ESC utilizes TAMIS reports to obtain unit requirement status and determine need for assets. The ESC calls for assets from the theater sustainment command as requirements demand.

4-73. The sustainment brigade verifies and validates munitions requests, asset availability and conducts oversight of unit munitions programs through TAMIS. The sustainment brigade receives munitions requirements and determines shipment needs. The sustainment brigade utilizes SAAS-modernization asset reports by location to determine stockage and feasibility of cross-fill from adjacent ammunition support activities, and sends shipment directives to ASAs. The sustainment brigade utilizes TAMIS to obtain unit requirement status. The sustainment brigade verifies unit requirements against logistics status reports. The sustainment brigade calls for assets from the ESC as necessary.
4-74. Ammunition support activities receive requests for munitions from TAMIS (utilizing an electronic DA Form 581) or, when TAMIS is unavailable, in analog from the sustainment brigade, the requesting unit or installation ammunition managers which is then processed in SAAS-modernization. Ammunition support activities receive shipment directives from the Theater Sustainment Command or the Expeditionary Sustainment Command and sustainment brigade. Ammunition support activities receive munitions shipments, store, maintain and issue stocks through SAAS-modernization (see figure 4-8 on page 4-16). When in possession of damaged munitions ammunition support activities receive disposition instructions from the TSC or ESC. When ammunition support activities are overstocked or in possession of munitions requiring maintenance, disposition instructions are received from the TSC or ESC to either continue to store, maintain, or retrograde to depot level. Ammunition support activities receive returned class V materials and reconcile the transaction in SAAS-modernization in accordance with regulation, policy and procedure.
4-75. Units and users of the ammunition support activity generate requirements through TAMIS that are validated through their chain of command. They receive authorizations through TAMIS. In a tactical environment, requirements are divided into training, operational and appropriate ammunition load through the national level ammunition capability and TAMIS to the sustainment brigade. Munitions requests in phase 0 are routed to the installation ammunition manager in TAMIS for forwarding to the servicing ammunition support activity as appropriate. Munitions are issued as either unit accountable or input to authoritative property system of record and reported to WARS as required. Expended training munitions and certain accountable residue and un-spent rounds generated during a training event are returned to the ASA and reconciled against the training ammunition issue document upon completion of the training event. This operational reconciliation data is transmitted to WARS through TAMIS for statistical analysis (see figure 4-9).
SAAS-MODERNIZATION

4-76. The Army system for munitions stock status reporting is the SAAS-modernization. This system provides necessary data to the Army Service component command, enabling munitions management in support of the operational Army.

4-77. SAAS-modernization is the approved sustainment information system for all class V conventional retail ammunition management. SAAS-modernization automates and integrates ammunition management functions between the combat user, storage sites, and theater managers. SAAS-modernization provides class V managers with the capability to optimize allocation and use of scarce logistical ammunition resources and meet the needs of tactical force commanders for planning during deployment, redeployment, reconstitution, retrograde and airdrop operations.

4-78. SAAS-modernization is a multilevel system providing munitions management functionality from brigade through theater level for the operational Army. The operational architect of SAAS-modernization includes SAAS-materiel management center, SAAS-ammunition supply point and SAAS-ammunition transfer holding point.

- SAAS-materiel management center operates at TSC and sustainment brigade levels in the distribution management center. SAAS-materiel management center maintains asset visibility of munitions within the theater area of operations and requisitions munitions from the national inventory control points.
- SAAS-ammunition supply point is the system of record for retail level accountability at ammunition supply points.

Figure 4-9. Ammunition draw and use
SAAS-ammunition transfer holding point operates in the BSB distribution company ATHP to support forces in the brigade combat team area of operations providing accountability, receipt, storage, and issue capabilities.

4-79. SAAS-modernization consists of server-client platforms operating a common software application. SAAS-modernization operates on commercial-off-the-shelf personal computers. SAAS-modernization incorporates use of in-transit visibility through use of radio frequency identification technologies. SAAS-modernization interfaces with TAMIS and WARS.

4-80. Technical and administrator support for the SAAS-modernization (and associated tactical satellite and wireless combat service support automated information systems network) is provided by the sustainment brigade or higher sustainment automation support management office. The sustainment automation support management office monitors, documents and manages SAAS software and periphery equipment maintenance to include field maintenance, backup and upgrade processes. For more information on sustainment automation support management office operations see ATP 4-0.6, Techniques for Sustainment Information Systems Support.

Munitions History Program

4-81. The munitions history program is a web-based data system used to track the condition and limitations of all munitions used by the Army. The munitions history program is used by QASAS and army ammunition professionals to record munitions quality inspection results in a centralized database. The munitions history program contains digitalized reports for notifying JMC and Army Aviation and Missile Life Cycle Management Command of malfunctioning and defective munitions. It also provides access to the joint hazard classification system and essential munitions serviceability and safety information, to include ammunition information notices, missile information notices and notice of ammunition reclassifications. The munitions history program includes a repository for ammunition data cards, storage and out loading drawings, packaging information, numerous munitions related publications and other pertinent ammunition information. The ammunition multimedia encyclopedia provides graphic and detailed illustrations of hundreds of munitions in the inventory. The munitions history program also interfaces with the logistics modernization program at JMC storage depots, exchanging quality inspection related data necessary to manage and schedule cyclic munitions inspections.

Total Ammunition Management Information System

4-82. TAMIS is the DCS, G–3/5/7’s automated tool for managing munitions requirements, priorities, and forecasts. Army organizations use TAMIS to build, prioritize and sub-authorize (distribute) munitions authorizations in accordance with DA Pam 350-38 and to build requirements for combat and sustainment loads. All levels of the Army use TAMIS to develop and approve munitions requirements, process and validate requests, report expenditure rates and munitions status. TAMIS also contains a reports application for Headquarters, Department of the Army and subordinate organizations’ use to assist with determining operational readiness and to support the management of Army munitions.

4-83. TAMIS is a hierarchical based, Internet-accessible system. Each command level organization that has munitions requirements must have a TAMIS account and manager for its organization. TAMIS accounts may be authorized for training, operational, test, and new equipment testing ammunition requirements. TAMIS requires system assignment of the user within the hierarchical organization structure by army information system managers. Process all requests for a TAMIS user identification and password through the local command TAMIS administrator, who is in most cases the unit munitions manager. A comprehensive instruction manual is available within the TAMIS application. For more information on TAMIS refer to AR 5-13.

Battle Command Sustainment Support System

4-84. The Battle Command Sustainment Support System (BCS3) is the logistics component of the Army mission command system. BCS3 is the Army's logistics fusion center for consolidated readiness and visibility of both unclassified and classified assets employed at multiple echelons for maneuver sustainment support. The system includes as components in-transit visibility, asset visibility, combat power, and the
logistics reporting tool. BCS3 is intended to provide a single-source, consolidated overview from all available sources of specified unit level logistics mission command information as needs and guidance are identified by the command. The system displays ammunition condition codes, lot numbers, account codes, quantity on-hand, Federal supply classification, Department of Defense ammunition code and DODIC to meet ammunition visibility and force readiness requirements.

4-85. The logistics reporting tool provides BCS3 feed capability for timely unit asset status information; by class of supply. The logistics reporting tool operates on the secure and non-secure Internet protocol router networks, as dictated by the using organization. The logistics reporting tool is the data-feed for the logistics dashboard slant reports visible in the command post computing environment.

4-86. BCS3 provides munitions data from two sources:

- **Top-down (logistics information system).** The logistics information system feeds from the logistics support activity logistics integrated warehouse. This munitions data is provided in the BCS3 combat power report.
- **Bottoms-up (logistics reporting tool).** The logistics reporting tool receives class V data input from the lowest reporting level; through local and wide area network publication to the national enterprise data portal, where it is then visible to authorized BCS3 users.

**Worldwide Ammunition Reporting System**

4-87. The WARS provides class V conventional and missile asset visibility at the wholesale, retail, contractor, and in-transit levels and is the Army unique item tracking category I missile registry. The WARS receives input from the authoritative property system of record, SAAS-modernization, logistics modernization program, munitions transportation management system and individual systems from multiple contractors and wholesale Army ammunition plants. The WARS provides data to the Army, Navy, Air Force and Marine Corps and feeds data to the national level ammunition capability, joint total asset visibility, Army total asset visibility, munitions readiness review, munitions history program, and numerous other systems.

4-88. The WARS is the single source of retail ammunition data for the Army financial statement.

4-89. All ammunition supply points and ammunition transfer holding points must communicate daily with the WARS and TAMIS servers. Ammunition managers must establish accounts by providing the WARS and TAMIS system administrators with the internet protocol address from either their local area network or very small aperture terminal system.

**SUMMARY**

4-90. Munitions unit organization, alignment, activities, distribution enablers and digital systems are designed to enhance the munitions distribution system. Munitions commanders and staff must be able to effectively utilize the capabilities inherent in their organizations and knowledgeable enough about those capabilities to recognize gaps and implement mitigations before they become shortfalls.
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Chapter 5

Safety, Environmental Stewardship and Protection

Munitions operations have the potential to cause lethal injuries to personnel, catastrophic damage to equipment and facilities as well as damage to the environment. Safety in all operations is of the utmost concern to Soldiers and a critical requirement for leaders at all levels. Protection operations during munitions support are essential to both safety and mission accomplishment. The Army is a national leader in the areas of environmental and natural resource stewardship. This role is an integral part of the Army mission for both present and future generations. Concurrent with this responsibility is the continuing need to exercise extreme caution to prevent accidental damage to the environment.

SAFETY

5-1. Safety, including risk assessment and accident reporting, is an inherent responsibility of commanders at all levels. Its importance is intensified for units and personnel engaged in munitions-related activities. 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. Policy, directives, site plans and licenses and SOPs are developed and approved per Army command policy. Army commands and unit safety managers will serve as the command point of contact for all safety-related ammunition and explosives actions. They will:

- Initiate development of explosives licenses, explosives safety site plans, and explosives safety waivers, exemptions and certificates of compelling reasons 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 and review, as required, the base master plan to ensure construction is not planned inside explosives safety arcs. When construction not related to ammunition operations is required within explosive safety arcs, ensure explosive safety site plans and explosive licenses are updated and approved at the appropriate level.
- 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 and explosives safety site plans/submissions and explosives licenses.

5-3. AR 385-10, The Army Safety Program, provides options, based on the acceptance of ever increasing degrees of risk, to the commander faced with various and fluctuating battlefield hazards. It may be used in developing doctrine and integrated into contingency and combat operations planning. The provisions of AR 385-10 apply in a recognized war zone, contingency operations area or an area where hostilities are imminent and approval to implement these provisions has been given by the Army command commander. Several fundamental facts govern the relaxation of peacetime explosives safety standards during combat and contingency operations and the acceptance of added risks. Whenever and wherever possible, the peacetime explosives safety standards should be followed. Only after assessing the risks of relaxation against the mission-imposed parameters should the less restrictive guidance be implemented. Additionally AR 385-10 provides guidance for site plans, waiver requirements, and site licensing.

5-4. Asset preservation criteria are intended 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, equivalent protection can be provided by the use of protective construction or by restructuring the operation. Situations where equivalent protection is provided must be supported by analysis and approved by the appropriate level of command. Equivalent protection that meets the regulatory requirements are not considered a waiver or exemption.

5-5. Tactical situations that are not covered by explosives safety regulations should be managed using the Army risk management process. Commanders should identify the hazards associated with the operation, assess these hazards, develop controls and make a decisions based on the analysis and lastly, supervise and evaluate the operation and controls.

5-6. 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, Handling Procedures For Equipment Contaminated With Depleted Uranium or Radioactive Commodities, identifies added precautions that must be taken when handling ammunition containing depleted uranium or other radioactive commodities.

ENVIRONMENTAL STEWARDSHIP

5-7. In contingency operations, or when coordinating operations within a host nation or coalition scenario outside the continental United States, 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. To avoid adverse environmental impact when planning or executing operations, leaders must comply with environmental provisions. Regulations, rules and guidance for munitions unit leaders are contained in the following documents:

- AR 200-1, Environmental Protection and Enhancement.
- FM 3-34.5, Environmental Considerations.

5-8. The operational commander determines the need for, and environmental impact of, the destruction of ammunition or other explosives to prevent capture by the enemy, or injury to military or civilian personnel. Operational requirements must be applied and environmental considerations should be followed when time permits, especially if imminent and substantial danger to the environment exists.

5-9. Environmental damage occurring as a result of enemy actions or accidents involving munitions should be repaired. Containment, cleanup, and restoration of the immediate area allow the area to be used 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.

5-10. 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. For more information on fire fighting operations refer to FM 5-415 Fire-Fighting Operations.

PROTECTION

5-11. Munitions are required for protection, and munitions must likewise be secured in all operations. Protection and security procedures need to be conducted deliberately due to the potentially catastrophic events that may result from improper adherence to protection requirements.

5-12. Munitions unit commanders and personnel must be aware that in any type of conflict, ammunition support activities will be priority targets for the enemy. Ammunition support activities are vulnerable to the entire spectrum of threat weaponry and forces to include insider threat. 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. Ensuring operational security for munitions operations 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.
5-13. In a combat zone when ammunition support activities 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 and security forces and first responders. For more information on operational security refer to ADRP 3-37 Protection.

MUNITIONS PROTECTION REQUIREMENTS

5-14. Ammunition and explosives have identified regulatory requirements for secure handling and storage. Ammunition and explosives are placed into four risk categories based on their ease of utility, potential casualty and damage effect, ease of adaptability and ease of 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 found in AR 190-11.

5-15. Certain inert munitions and those munitions devices primarily utilized for training commonly referred to as dummy ammunition are considered sensitive for their potential to be pilfered, misused or ability to be modified or converted into operational munitions. These munitions must be clearly marked and prevented from being misidentified, distributed or retrograded with other munitions. These munitions may be considered category IV and if so must be treated as live ammunition. Refer to the item’s controlled inventory item code per AR 708-1.

5-16. Regulatory secure storage and transportation requirements for ammunition and explosives are found in AR 190-11 with reference to DA Pam 385-64.

5-17. Any materials assigned a controlled inventory item code other than a U or a blank is considered sensitive, controlled or pilferable and must be treated as such during munitions operations.

5-18. Logistics operations often utilize contracted or host nation transportation platforms for distribution and retrograde, therefore special attention to controlled inventory item code per AR 708-1 must be adhered to in all munitions operations. Commanders must utilize 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.

5-19. Military police may assist in assessing logistical storage, transfer and shipping areas as well as systems, modes, APODs and SPODs for vulnerabilities and threats. The U.S. Army Criminal Investigation Command may assist munitions unit commanders to identify and mitigate vulnerabilities in deployed environments.

PROTECTION AMMUNITION

5-20. 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 contingency operations based. Ammunition issued for this purpose is commonly referred to as protection ammunition regardless of the type or quantity issued, but is a subset of a commander’s operational load in accordance with AR 5-13.

5-21. At times ammunition basic load ammunition 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 and/or specific types of munitions may be required for protection prior to, enroute to, during operations, or upon redeployment from the theater of operations. Care must be taken in protection munitions planning for permissive environments such as are common during domestic humanitarian aid operations or those executed in partner nations.

5-22. Individual Soldiers must always have the means to defend themselves from threat 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.
SUMMARY

5-23. Safety, environmental stewardship and protection are essential elements of munitions operations and distribution. Munitions commanders and staff must be acutely aware of explosives safety requirements, informed custodians of their operational environment, and diligent leaders in protection.
Glossary

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

**SECTION I – ACRONYMS AND ABBREVIATIONS**

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<td>Army doctrine publication</td>
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<td>ADRP</td>
<td>Army doctrine reference publication</td>
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<td>APS</td>
<td>Army prepositioned stocks</td>
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<td>AR</td>
<td>Army regulation</td>
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<td>ASA</td>
<td>ammunition support activity</td>
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<td>ammunition supply point</td>
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<td>ATHP</td>
<td>ammunition transfer holding point</td>
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<td>ATP</td>
<td>Army techniques publication</td>
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<td>BSB</td>
<td>brigade support battalion</td>
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<tr>
<td>CEA</td>
<td>captured enemy ammunition</td>
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<td>CONUS</td>
<td>continental United States</td>
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<td>CSR</td>
<td>controlled supply rate</td>
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<td>CSSB</td>
<td>combat sustainment support battalion</td>
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<td>DA</td>
<td>Department of the Army</td>
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<td>DA Pam</td>
<td>Department of the Army pamphlet</td>
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<td>DCS</td>
<td>deputy chief of staff</td>
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<td>DODIC</td>
<td>Department of Defense identification code</td>
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<td>DOS</td>
<td>day of supply</td>
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<td>EOD</td>
<td>explosive ordnance disposal</td>
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<td>ESC</td>
<td>expeditionary sustainment command</td>
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<td>FARP</td>
<td>forward arming and refueling point</td>
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<td>FM</td>
<td>field manual</td>
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<td>FSC</td>
<td>forward support company</td>
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<td>GCC</td>
<td>geographic combatant command</td>
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<td>JMC</td>
<td>Joint Munitions Command</td>
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<td>JOA</td>
<td>joint operations area</td>
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<td>JP</td>
<td>joint publication</td>
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<td>MHE</td>
<td>materials handling equipment</td>
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<td>NCO</td>
<td>non-commissioned officer</td>
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<td>PLS</td>
<td>palletized loading system</td>
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<tr>
<td>POD</td>
<td>port of debarkation</td>
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<tr>
<td>QASAS</td>
<td>quality assurance specialist (ammunition surveillance)</td>
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<td>RSR</td>
<td>required supply rate</td>
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<tr>
<td>RTCH</td>
<td>rough terrain container handler</td>
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</table>
Glossary

SAAS  standard Army ammunition system
SOF  special operations forces
SOP  standard operating procedures
SPO  support operations
TAMIS  Total Ammunition Management Information System
TM  technical manual
TSC  theater sustainment command
U.S.  United States
USAMC  United States Army Materiel Command
WARS  worldwide ammunition reporting system

SECTION II – TERMS

*ammunition load
A support package designed or tailored specifically for munitions operations.

*ammunition supply point
An ammunition support activity operated by one or more modular ammunition platoons.

ammunition support activity
Locations that are designated to receive, store, maintain and provide munitions support to Army forces (FM 4-30).

*ammunition transfer holding point
A designated site operated by a brigade support battalion distribution company where ammunition is received, transferred or temporarily stored to supported units within a brigade combat team.

basic load
The quantity of supplies required to be on hand within, and which can be moved by, a unit or formation. It is expressed according to the wartime organization of the unit or formation and maintained at the prescribed levels (JP 4-09).

basic load (ammunition)
(Army) The quantity of nonnuclear ammunition that is authorized and required by each Service to be on hand for a unit to meet combat needs until resupply can be accomplished. It is expressed in rounds, units or unity of weight, as appropriate. (FM 3-01.7)

brigade ammunition officer
The multifunctional officer assigned to the BSB ammunition officer position with the SPO section and serves as the principal munitions staff officer for the brigade (FM 4-30).

captured enemy ammunition
All ammunition products and components produced for or used by a foreign force that is hostile to the United States (that is or was engaged in combat against the United States) in the custody of a U.S. military force or under the control of a Department of Defense component (DA Pam 385-64).

combat configured load
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 (DA Pam 385-64).

combat load
The standard quantity and type of munitions an individual weapon, crew-served weapon, or a weapons platform and its MTOE-designated munitions carriers are designed to hold. Combat loads for bulk munitions (for example, grenades, signals, and so forth) are not associated with a weapon or weapon system.
platform. Bulk munitions CLs are assigned by standard resource code and reflect the quantity of munitions required to give units a realistic level of capability and flexibility (AR 5-13).

**controlled supply rate**
The rate of ammunition that can be supported, considering availability, facilities, and transportation (FM 4-30).

**munition**
A complete device charged with explosives, propellants, pyrotechnics, initiating composition or chemical, biological, radiological or nuclear materials, for use in operations, including demolitions (FM 4-30).

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

**operational load**
The munitions that Army units require to support or conduct a broad range of day-to-day operational missions; for example, installation explosive ordnance disposal, special reaction team operations, ceremonies, quarry operations, guard missions, force protection, special operations forces, predeployment site surveys, and so forth (AR 5-13).

**operational projects**
Operational projects are munitions set aside for a specific unit or mission according to AR 710-2 (AR 5-13).

**required supply rate**
An estimated amount of ammunition needed to sustain tactical operations, without ammunition expenditure restrictions, over a specified time period (FM 4-30).

**retrograde**
(Army) An Army logistics function of returning materiel from the owning or using unit back through the distribution system to the source of supply, directed ship-to location, or point of disposal (ADRP 1-02).

**short ton**
Equivalent of 2,000 pounds (0.907 metric ton) of weight.

**supply point distribution**
A method of distributing supplies to the receiving unit at a supply point, railhead, or truckhead (ATP 4-11).

**sustainment load**
The munitions needed to initiate and support a force’s operation until resupply can be provided (AR 5-13).

**throughput distribution**
A method of distribution which bypasses one or more intermediate supply echelons in the supply system to avoid multiple handling (ATP 4-11).
References

REQUIRED PUBLICATIONS
These documents must be available to intended users of this publication.
- ADRP 1-02, Terms and Military Symbols, 24 September 2013
- JP 1-02, Department of Defense Dictionary of Military and Associated Terms, 8 November 2010

RELATED PUBLICATIONS
These documents contain relevant supplemental information.

JOINT PUBLICATIONS
Most joint publications are available online:
- JP 3-0, Joint Operations, 11 August 2011
- JP 4-09, Distribution Operations, 19 December 2013

ARMY PUBLICATIONS
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- ATP 4-16, Movement Control, 5 April 2013
- ATP 4-32, Explosive Ordnance Disposal (EOD) Operations, 30 September 2013
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SB 742-1, Inspection of Supplies and Equipment Ammunition Surveillance Procedures, 1 September 2008
TM 43-0002-33, Destruction of Conventional Ammunition and Improved Conventional Munitions to Prevent Enemy Use, 15 November 1993

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Department of Defense Directive 5160.65, Single Manager for Conventional Ammunition, 1 August 2008
Title 10, United States Code, Armed Forces; http://uscode.house.gov/browse/prelim@title10&edition=prelim
Title 32, United States Code, United States National Guard; http://uscode.house.gov/browse/prelim@title32&edition=prelim

PRESCRIBED FORMS
None

REFERENCED FORMS
Unless otherwise indicated, Army forms are available on the Army Publishing Directorate (APD) website: http://www.apd.army.mil/
DA Form 581, Request for Issue and Turn-In of Ammunition
DA Form 581-1, Request for Issue and Turn-In of Ammunition Continuation Sheet
DA Form 2028, Recommended Changes to Publications and Blank Forms
DA Form 2064, Document Register for Supply Actions
DA Form 3151-R, Ammunition Stores Slip
DA Form 5203, DODIC Master/Lot Locator Record
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