FM 9–20

WAR DEPARTMENT

ORDNANCE FIELD MANUAL

ORDNANCE AMMUNITION COMPANY
ORDNANCE AMMUNITION BATTALION

July 7, 1942

REFERENCE USE ONLY

NOT TO BE TAKEN FROM LIBRARY

ORDNANCE FIELD MANUAL
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Changes No. 1

WAR DEPARTMENT,
WASHINGTON 25, D. C., 6 October 1943

FM 9–20, 7 July 1942, is changed as follows:

APPENDIX IX

COLORS USED IN VISUAL IDENTIFICATION OF AMMUNITION

Ammunition	Colors on container	Colors on ammunition
Small arms:		
Ball	Brown, yellow lettering	None.
A. P	Brown, yellow lettering	Black tip.
Tracer	Brown, yellow lettering	Red or white tip.
Incendiary	Brown, yellow lettering	Blue tip.
Grenades:		
Fragmentation	Brown, yellow lettering	Olive drab.
Offensite	Brown, yellow lettering	Black, yellow label.
*Chemical	Black, yellow lettering	Blue gray, yellow marking and label.
Artillery:		
High explosive	Yellow sealing strip	Olive drab, yellow lettering.
Armor-piercing:		
With HE content	Yellow sealing strip	Olive drab, yellow lettering.
Without HE content.	Black sealing strip	Black, white marking.
Chemical:		
H, L gas	Gray with two green bands.	Gray with two green bands.
Cl, CG, FS gas	Gray with one green band.	Gray with one green band.
Irritant gas	Gray with one red band.	Gray with one red band.
Smoke	Gray with one yellow band.	Gray with one yellow band.
Incendiary	Gray with one violet band.	Gray with one violet band.
Propelling charges:		
Green bag	Brown, yellow lettering; green band on fiber container.	Green cloth bag.
White bag	Brown, yellow lettering; white band on fiber container.	White cloth bag.
Igniter pads	Red	Red cloth pad.

*The individual items in this change will be cut apart and pasted over the specific text affected.

NOTE.—Stenciled figure symbols appear on wooden, small-arms ammunition packing boxes to indicate the type of packing—whether packed in rifle clips, web belts, or linked belts. The silhouettes are vertical for caliber .30 cartridges and diagonal for caliber .50 cartridges. The absence of stenciled figure silhouettes on boxes indicates carton packing.

*Chemical grenades are normally stored and issued by Chemical Warfare Service.

[A. G. 300.7 (25 Sep 43).] (C 1, 6 Oct 43.)

BY ORDER OF THE SECRETARY OF WAR:

G. C. MARSHALL,
Chief of Staff.

OFFICIAL:
J. A. ULIO,
Major General,
The Adjutant General.

U. S. GOVERNMENT PRINTING OFFICE: 1943

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UNITED STATES
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WASHINGTON : 1942

WAR DEPARTMENT,
WASHINGTON, July 7, 1942.

FM 9–20, Ordnance Field Manual, Ordnance Ammunition Company, Ordnance Ammunition Battalion, is published for the information and guidance of all concerned. It is based on the fundamentals of ammunition supply given in FM 9–6, Ammunition Supply.

The importance of ammunition supply to the success of the military effort cannot be overemphasized. The importance as well as the difficulty of ammunition supply will increase with the stress of the situation. It is therefore absolutely necessary to the success of the military effort that ordnance ammunition companies and battalions understand their functions and carry out these functions in the most efficient manner possible. The intelligent application of the principles given in this manual will assist these units to achieve this end.

Except where obviously necessary in the interests of uniformity throughout all Ordnance Service, it is not intended that this manual impose unnecessary restrictions on the imagination and initiative of ordnance personnel responsible for the operation of the units covered herein. On the contrary, it is intended that the thoughts and imagination of such personnel will be stimulated to evolve more satisfactory solutions to the problems of ammunition supply.

[A. G. 062.11 (5–14–42).]

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(For explanation of symbols see FM 21–6.)

TABLE OF CONTENTS

	Paragraphs	Page
CHAPTER 1. Ordnance ammunition company.		
SECTION I. Organization and operations	1–34	1
II. Company headquarters	35–41	21
III. ASP office	42–59	28
IV. Magazine platoon	60–72	39
V. Service platoon	73–88	43
VI. The ASP	89–112	49
VII. Administrative details	113–131	65
CHAPTER 2. Ordnance ammunition battalion.		
SECTION I. Organization and operations	132–148	86
II. Headquarters and headquarters detachment	149–153	98
CHAPTER 3. Illustrative exercise—ASP stockage and operation.		
SECTION I. Artillery ASP (ASP No. 8)	154–157	103
II. Infantry ASP (ASP No. 9)	158–160	146
III. Tabulation data	161–165	180
APPENDIX I. Tabulation of standard ammunition for a type army		195
II. Unit of fire		197
III. Computation of units of fire and basic loads of ammunition		198
IV. Method of stacking ammunition in covered storage		205
V. Method of stacking ammunition for open storage		211
VI. Movement of ammunition		214
VII. Number of trucks in ammunition trains		238
VIII. Conversion tables—rounds to containers—containers to trucks		239
IX. Colors used in visual identification of ammunition		246
X. Storage of ammunition in the desert		247
XI. List of references		249
INDEX		251

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CHAPTER 1

ORDNANCE AMMUNITION COMPANY

		Paragraphs
SECTION I.	Organization and operations	1–34
II.	Company headquarters	35–41
III.	ASP office	42–59
IV.	Magazine platoon	60–72
V.	Service platoon	73–88
VI.	The ASP	89–112
VII.	Administrative details	113–131

SECTION I

ORGANIZATION AND OPERATIONS

■ 1. MISSION.—The mission of the ammunition company is to establish and operate ammunition depots, ASP's, and other ammunition supply points, as required by higher authority, and to perform related duties in connection therewith.

■ 2. AMMUNITION SUPPLY.—An understanding of the entire system of ammunition supply is fundamental to the operation of an ammunition company. The ammunition company commander should be thoroughly familiar with the information contained in FM 9–6, paragraphs 1 and 2 of which contain definitions of terms peculiar to ammunition supply. The term "Sub-ASP," as used in this manual, refers to an ammunition supply point operated by a portion of an ammunition company. This is not standard terminology but has been adopted primarily for use in this text for the purpose of distinguishing such an installation from an ASP operated by a complete ammunition company.

■ 3. ASSIGNMENTS.—*a.* Ammunition companies are normally assigned to—

(1) Ammunition battalions (six companies per battalion, two battalions per field army).

(2) Air forces (one company per 500 tons of ammunition per day).

(3) Theater reserve (one company per 500 tons of ammunition per day).

(4) Communications zone (two companies per 15 days' supply per army).

b. In addition to the above, ammunition companies may be assigned to the support of, or attached to, task forces to supplement those shown in *a* above.

■ 4. RESPONSIBILITIES.—In the fulfillment of its mission, the ammunition company is responsible that—

a. Adequate plans and preparations have been made at the supply point site for the accommodation and storage of all the ammunition destined for that particular supply point.

b. The supply point layout is such as to facilitate the receipt and issue of such ammunition.

c. The plans for the administrative operation of the supply point are adequate to allow simultaneous stocking and issuing.

d. The necessary records are maintained, and the necessary reports are prepared, for the operation of the supply point.

e. Any additional labor or transportation required for the operation of the supply point is anticipated and timely demand made therefor.

f. The ammunition, while in storage, is properly cared for. This entails:

(1) Inspection to discover deteriorated or damaged ammunition or containers.

(2) Proper preparation of storage areas, stacking, and cover for protection against the weather, when necessary and feasible.

(3) Adequate fire protection.

(4) Effective camouflage.

(5) Proper discipline within the magazine areas.

g. All authorized calls for ammunition from the using troops are promptly and accurately filled. This requires a high degree of training and careful, conscientious work on

the part of company personnel. It also requires a proper system of procedure.

h. Proper plans are made for the reception and storage of any captured enemy ammunition. The disposition of such ammunition will entail close liaison with the technical section of the ammunition battalion. (See par. 153*q*.)

■ 5. GENERAL ASP POLICIES AND PROCEDURE.—*a. Proper channels for business transactions.*—All persons having business to transact will go first to the ASP office. ASP personnel will not deal directly with such persons but will direct them through the proper channels. If it is necessary for persons requesting ammunition to consult with a section chief, they will be directed by office personnel directly to the section concerned.

b. Instructions to ASP personnel.—Except in emergencies requiring prompt action, instructions should not be given direct to ASP personnel by persons other than those directly in charge of the personnel concerned. In every case where instructions are so given, the responsible chief should be promptly notified.

c. Loitering in the ASP.—Persons not having business in the ASP should not be allowed to loiter therein. Ammunition train personnel should be required to remain with their respective trucks at all times, except when ordered otherwise by competent ASP personnel or by the train commander.

d. Policy book.—(1) *Description.*—A policy book is a notebook or folder in which is recorded for the future reference of interested personnel—

(*a*) The policies of the officer in charge of the echelon to which the book pertains on problems, the solutions of which are discretionary with such officers.

(*b*) The procedures adopted for handling matters not otherwise covered by authorized publications.

(2) *Uses.*—Such a book is most useful in maintaining a continuity of policy in operation, on changes of command, during the absences of officers, and for the training of personnel in the desires of the commander. Sections of the book should be properly titled. The authority for each entry should be shown by reference to the pertinent order, e. g., "Co. Order 34, 5/2/41," "ASP Order 64, 9/9/41," or "VOCO, 11/3/41," etc. As the book develops it should be properly

indexed. If properly kept, the policy book will develop into a valuable source of information for the office of the Chief of Ordnance concerning the operations of type organizations or sections.

■ 6. PLANNING.—An ammunition company commander must continually plan to meet all contingencies.

a. Company personnel.—He must constantly study his personnel with a view to strengthening the organization where it may be weak, or where losses that might effect the efficiency of the company may occur. He must be alert for new noncommissioned officer material, and observant of the conduct and efficiency of all noncommissioned officers currently holding the various grades.

b. Current ASP requirements.—Requirements for additional labor and transportation or for administrative services (such as class I supply) for the company may be estimated by higher authority in advance of an anticipated operation. All such plans and estimates should be checked by the company commander for sufficiency and understanding by all concerned.

c. Future requirements.—All company personnel must be constantly alert to anticipate future requirements and to make such requirements known to the company commander. Requirements may include such items as—

(1) Transportation for moving the company, or detachments of the company, from one site to another.

(2) Transportation and labor, beyond the capabilities of the company, for moving ammunition. (Plans for these may have been made by higher authority.)

(3) Class I supplies for additional labor and class III supplies for additional transportation, furnished in accordance with (1) and (2) above.

(4) Desirability of moving the ASP to a new site, due to—

(*a*) Change in tactical situation. (This will usually be foreseen by higher headquarters.)

(*b*) Traffic situation.

(*c*) Shortage of suitable magazine areas.

(*d*) Discovery by the enemy.

(5) Desirability of higher stockage level. (This will usually be foreseen by higher headquarters.)

(6) Desirability of reducing stockage level in anticipation of a movement of the ASP. (This will usually be taken care of by higher headquarters.)

■ 7. MAINTENANCE OF RECORDS.—The maintenance of accurate records is necessary to the successful operation of any ammunition supply point. Furthermore, the successful operation of the whole ammunition supply system depends on reports based on these records. All entries must be promptly and accurately made. As the records are apt to be voluminous and the labor involved considerable, prepared forms and short cuts may be devised, but they should be approved by the company commander only after he has assured himself that they are sound. It will be found that confusion incident to the preparation of a report may be eliminated by proper planning and by preparing as much of the required report as possible before it is due.

■ 8. DOWN TIME.—*a. Definition.*—"Down time," as applied to an ASP, is the time which elapses between the arrival of an ammunition train at the ASP and its departure with its load of ammunition. It is essential for efficient ASP operation that "down time" be kept at the absolute minimum.

b. Components.—Down time may be divided into three parts:

(1) *Overhead* time, that spent at the ASP office attending to the necessary clerical details, getting instructions, and picking up a guide (where necessary).

(2) *Loading* time, moving the ammunition from the stacks in the magazine area into the truck.

(3) *Traveling* time through the ASP.

c. *Overhead time.*—This will depend primarily on the clerical work. The train commander will have a requisition, normally a Transportation Order, in terms of rounds. This must be converted into terms of containers. (Tables for such conversions are given in appendix VIII.) Units which will draw most of the ammunition will be infantry, cavalry, or armored force regiments, and artillery battalions. To reduce the overhead time, tally out sheets should be prepared in advance, leaving only the designation of the unit, voucher numbers, and numbers of containers of the different kinds of ammunition to be filled in. The train commander should

be given his instructions and information as to the location of the magazine sections involved, and the guide (if any) assigned while the paper work is being done. Any other method or device which will shorten overhead time should be carefully considered. (See pars. 113–131.)

d. Loading time.—This will depend on the factors enumerated below.

(1) *Size of truck.*—Normally this will be 1½ tons for infantry regimental trains, 2½ tons for cavalry and armored force trains, 2½ tons with 1-ton trailer for artillery battalions, and anything from ½ ton to 2½ tons for miscellaneous units.

(2) *Amount of labor available.*—This factor will require very careful consideration by the company commander. There should be, if possible, at least four men for each truck to be loaded. It is obvious that there will be times when this number of men will not be available for each truck in the ASP. At such times, and especially when it is imperative that a truck train be loaded in the least possible time, additional labor will be required. Intelligent planning will enable the company commander to use the labor available most efficiently, and to secure additional labor from outside sources when the need arises.

(3) *Fatigue.*—A steady, even loading rate which can be maintained for several hours is preferable to an accelerated effort on the first train, grading down to a low rate of handling on the last one. The men should be taught and trained to handle ammunition containers with a minimum of effort. This is a matter for supervision by the noncommissioned officers in accordance with the policies of the company commander. Consideration should also be given by the proper officer to the feasibility of shift work, rotation of crews and tasks, etc.

(4) *Disposition of the ammunition on the ground.*—Stacks should be as close to the road as is consistent with other factors, in order to reduce the length of haul. Short, wide stacks are preferable to long narrow ones in that the average length of haul is less, even though it is harder to pick up ammunition from the center of a wide stack. Stacking data is given in appendix V.

(5) *Use of labor-saving devices.*—The ammunition com-

pany is equipped with 100 10-foot lengths of roller conveyor. These should be used in loading operations wherever possible. A little ingenuity used here will return large dividends in time saved and reduction of fatigue.

(6) *Number of loading points.*—This will determine the number of trucks which can be loaded simultaneously. If sufficient labor is available fully to man all loading points, the loading time will be in inverse ratio to this factor. The ideal situation is to have one loading point for each truck to be loaded. The importance of this factor is shown by a study of the formulas given in appendix VI.

e. Traveling time.—This will depend on the length of passage through the ASP, average speed permissible, traffic jams, recovery of "lost" vehicles, etc. Most of these factors depend on the ASP layout, which in turn depends on the road net available. Too much care cannot be exercised in the selection of the ASP site and its subsequent layout. Once this is fixed, traveling time through the ASP may be reduced by—

(1) Insuring that the road is in as good condition as possible.

(2) Providing effective traffic control, including the use of guides where necessary. (See par. 92*e*.)

(3) Providing luminous markers for guides and trucks for night work. These enable each truck to follow the one ahead. They should increase the permissible speed, prevent "lost" vehicles, and eliminate some confusion.

(4) Eliminating the blocking of the ASP roads by parked vehicles. Parking should be restricted to trucks being loaded or unloaded and all such vehicles should be required to park parallel to the road and as near the edge as possible.

(5) Insuring that the lay-out enables vehicles to travel the maximum distance through the depot without loads and to negotiate the worst grades without loads.

■ 9. QUARTERING TROOPS.—In general, the members of the ammunition company will be quartered near the ASP area. The subject of bivouacs and shelters is covered in FM 100–5.

■ 10. PROTECTION OF SLEEPING PERSONNEL.—The working hours of the personnel of an ammunition company are so irregular that personnel are likely to be sleeping on the

ground at any hour of the day or night. It is essential that such personnel be protected from vehicles traveling in and around the ASP. Vehicles should not be allowed to leave the road except under supervision of a guide or magazine section supervisor. The guide or supervisor will be responsible that no sleeping personnel are in the path of such vehicles.

■ 11. ASP POLICE.—Every effort should be made to maintain a high degree of cleanliness and order in the ASP. All roads should be kept cleared of obstructions at all times. All empty containers, scrap lumber, dunnage, salvaged material, etc., should be kept in suitable places set aside for the purpose. Inflammable trash should be burned or buried, care being taken to avoid detection by enemy air observation. No condition should be allowed to exist which will interfere with the operation of the ASP or endanger its safety.

■ 12. SANITATION.—The health and efficiency of the command are dependent upon proper camp sanitation. Every effort must be made by all concerned to avoid the accumulation of exposed garbage or other matter likely to draw or serve as a breeding place for flies. Adequate latrine facilities and garbage pits must be dug as soon as the ASP is established and used during the entire period of occupancy of the ASP area. The relation of latrines to the water supply and kitchen must be given careful consideration. No water should be drunk or used for cooking purposes that has not been approved by the medical officer, or been chlorinated or boiled. Complete instructions covering the matter of military sanitation and first aid are given in FM 21–10 and 100–5, which should be used as a guide in these matters.

■ 13. PROPERTY RESPONSIBILITY.—*a. Responsibility of company commander.*—All company property, of whatever nature, is charged to the responsibility of the company commander. It is the duty of the company commander and of all subordinate personnel at all times to safeguard such property against loss or destruction.

b. Suballotment of responsibility.—Since it is impracticable for one person to exercise the immediate supervision over property that is as widely distributed as that of the ammunition company, this responsibility is suballotted to section chiefs and persons actually using the tools and equipment.

c. Provision for safeguarding assigned property.—Each person signing for property should be provided with a means for securing such property. No one will, without the knowledge and consent of the person responsible for the property, take or borrow such property or break into or enter the container or place where this property is stored.

d. Reports of property theft.—An immediate report should be made to the ASP officer or company commander whenever there exists evidence of such breaking and entering.

e. Responsibility for property lost or stolen.—In time of peace or in the zone of the interior, property lost or stolen, whether in garrison or in the field, must be replaced or paid for by the individual responsible for the same, or the loss may be made the subject of a Report of Survey.

f. Memorandum receipts.—Each soldier signing for property will receive a duplicate copy of the debit memorandum receipt, which he will keep for use in checking his property so that he may know what he has signed for. Whenever he turns in any item of equipment, he will be given a "credit" memorandum receipt signed by the company commander. This he will keep with the debit memorandum receipt.

g. Inventories.—At frequent intervals each year a complete check of all property will be made by the responsible or accountable officer or his authorized representative. A new consolidated memorandum receipt will be issued to all persons holding property.

h. Action on departure of soldiers.—When a soldier who is signed for property leaves his station or organization for a period in excess of 10 days, he should be required to check all tools and equipment in to the company supply sergeant. If the property is not all turned in, the balance not turned in will be placed on a statement of charges for signature by the soldier. The company commander will be promptly notified in all such cases.

i. In theater of operations.—Requirements of accountability for property are based on paragraphs 520 to 522, FM 100–10.

■ 14. LOCKS AND KEYS.—*a. Custody of keys.*—All keys except those specifically assigned to individuals will be kept in a key box in the company office (one copy of each). Extra keys should be in the custody of the company commander and

may be kept in the company safe. All keys borrowed from the key box will be signed for on a list provided and returned as soon as the need for them has passed. All persons charged with the security of chests or storage cabinets will assure themselves that such places are secure before leaving them.

b. Duplicate keys.—When a key is lost the lock hasp will not be sawed. The matter will be called to the attention of the company commander, who will provide a duplicate key. Persons sawing locks should be compelled to pay for them.

■ 15. TRAINING.—All persons of the company should be thoroughly trained not only in the efficient performance of their specific duties, but also in the duties of related assignments. (See pars. 28–29.) Such training should include tactical operations for the protection of the ASP, as well as technical operations. In addition to the usual training of personnel in matters pertaining to depot operation and the basic military training necessary to weld the company into an efficient military organization, certain other subjects should be stressed.

a. Officers.—Company officers should receive as much training as possible in all military subjects which will increase their effectiveness and efficiency in the combat zone, and in their relations with the combat branches. Such training should cover the following matters:

(1) A complete knowledge of the complete ordnance service picture in the combat zone, including specific knowledge of all ordnance organizations in the army area, together with a knowledge of their capabilities and functions.

(2) The art of small maneuvers and a knowledge of the ground in their vicinity. Whenever the organization moves to a new location, officers should make every effort to gain for themselves a thorough knowledge of the ground in all directions for a distance up to 50 miles or more according to the nature of the country. Particular attention should be paid to difficult places, alternative routes, etc.

(3) Steps necessary for unit defense, AA and ground.

(4) Map and compass reading.

(5) Motor movements by night using only odometer readings and a compass. (Without reliance on signposts.)

(6) A personal knowledge of all hand arms, machine guns, and antitank weapons.

(7) Ability to make a logical and concise estimate of the situation and to write logical and concise orders.

(8) A knowledge of military and staff terms.

(9) A thorough knowledge of first aid.

(10) A knowledge of vehicle and driver discipline, and the habit of observing the country on both sides of the road in order that immediate cover can be taken against aircraft attack. (On the appearance of enemy aircraft, drivers must not park their vehicles in the road and run for cover. Burning or otherwise disabled vehicles will block the road.)

(11) The ability to render approximate returns promptly when the rendition of more accurate returns will result in delay that will render them useless.

(12) The fact that an officer should always consider his vehicles and equipment first, men next, himself last.

(13) The interior administration of units, in order that every officer may operate a small unit when it is not being administered by a parent echelon.

(14) The fact that it is better to use initiative and act, even if wrong, than to do nothing.

(15) The need for close liaison with aid stations and salvage organizations.

(16) Familiarity with the various divisional axes of supply in use, and the alternate axis which may be used in the future. They should also be familiar with the conditions under which switches to the alternate axis would be effected.

b. Enlisted men.—Enlisted men should receive training in all of the matters mentioned above which are particularly applicable to them in the performance of their duties.

■ 16. ORGANIZATION.—*a. Requirement.*—The organization of the ammunition company as prescribed in T/O 9–17 has been designed with a view to having within the company sufficient trained personnel to handle about 500 tons of ammunition a day. As the number and size of the depots or ASP's to be established will vary greatly, depending on the tactical situation, the organization of the company must be such as to permit consolidation with other companies to operate large depots, or division of the company for the oper-

ation of numerous small depots or ASP's. A chart of the organization of the company is shown in figure 1.

b. Flexibility.—The internal organization of the ammunition company, as outlined herein and as prescribed in T/O 9–17, is not to be considered as a rigid requirement which must be adhered to under all circumstances. Changes in the strengths of sections, the assignments of duties, and the disposition of grades and ratings should be made by the company commander so as best to meet the requirements im-

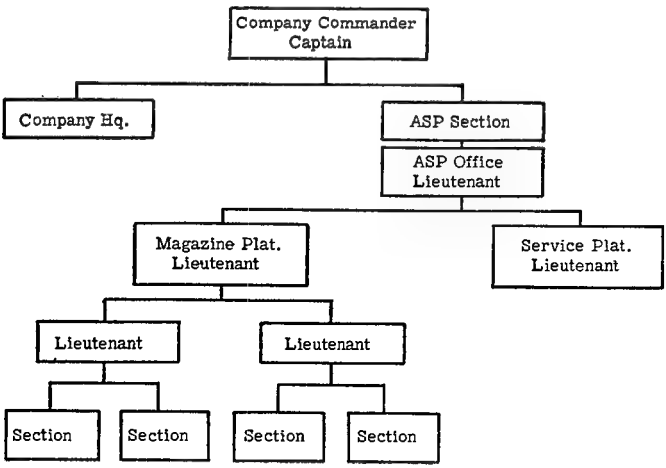


FIGURE 1.—Organization of the ordnance company, ammunition (T/O 9–17).

posed by the problems confronting the company, and to use the personalities and skills available to him for the solution of those problems.

c. Depot operation on 24-hour basis.—In the combat zone, the army ammunition depot must be prepared to handle receipts and issues at all hours of the day and night. The considerations which must be borne in mind by the depot commander when organizing his unit for 24-hour operation are listed below.

(1) The time of day or night during which the greatest load is usually experienced.

(2) The amount of clerical work which must necessarily be accomplished on the night relief as compared to that which can be accomplished by the day relief.

(3) The degree of simplification of administrative procedures possible in offices and sections, due to operation in the combat zone.

(4) Arrangements for the expeditious handling of heavy, sudden, and unexpected loads. (This may require the employment of certain personnel of a relief not on duty.)

(5) The relative strength of the various reliefs; whether the relief operating during night or early morning hours will be of the same or different strengths as those operating during the daytime.

(6) The number of reliefs to be used; whether it will be better to form two or three reliefs from the personnel available.

(7) The amount of time overlap required between the various reliefs to insure continuity of operations.

(8) The arrangements which must be made for the rationing of the reliefs, including requirements for an increase in the number of cooks.

(9) The assignment of key or specially trained personnel to reliefs to insure the most efficient operation.

(10) The training of duplicate trained personnel to fill key positions.

(11) The assignment of officers necessary to insure efficient company administration and depot operation.

(12) Arrangements for alternating personnel from one shift to another, that is, from a day shift to a night shift, as an equitable distribution of the load requires.

(13) The provision of facilities for the daytime rest of personnel on the night relief.

(14) The maintenance of adequate security provisions during both day and night operation.

■ 17. DETACHMENTS.—In organizing detachments for the operation of sub-ASP's, if sufficient personnel is not available within the company, timely demand will be made on the battalion commander for such assistance as is necessary.

■ 18. EQUIPMENT.—A complete list of all of the equipment of the company may be obtained from T/BA 9. Special ammunition handling equipment is listed in SNL N–12.

■ 19. OPERATIONS.—The operations of the ammunition company will vary with the assignment of the company. All operations may be roughly classified into two categories, those which are military or tactical in nature, and those which are technical in nature. In the discussion which follows, no effort has been made to establish a clear-cut division into these two categories.

■ 20. MOVEMENTS OF THE COMPANY.—The ammunition company is not mobile in the sense that it can be moved in its entirety with all personnel by the organic transportation of the company. Whenever the company is moved, one of several methods must be resorted to:

a. Additional transportation may be secured from the quartermaster for the move. In this case seven additional 2½-ton trucks will be required.

b. Transportation by rail of the excess personnel may be arranged. In this case accommodations for 163 men and officers will be required.

■ 21. MOTOR MARCHES.—All motor marches made by the company, and the details of the conduct of marches and all matters pertaining thereto, will be governed by FM 25–10. (See appendix XI.)

■ 22. MOVEMENT OF THE ASP.—Because of the tonnage involved, ASP's in general will not be moved. The preferred procedure contemplates the opening of a new ASP at the new site, accompanied by the depletion of stocks of the old ASP by issues to troops as required. The new ASP may be operated by one or more sections of the same company, or a different company may be assigned to it. It should be opened before the old ASP is completely closed out. In an advance it may be desirable to retain the old ASP as a base installation. The procedure in this case will depend on the situation and will be defined by the army ordnance officer. In a retirement it may not be possible to close out the old ASP. In such a situation all available transportation probably will be in use moving troops, etc., and will not be available for moving the ammunition.

■ 23. DESTRUCTION OF THE ASP.—The presence of enemy troops in the vicinity of the ASP, or the imminent capture of the ASP by them, does not necessarily call for the destruc-

tion of the ammunition. If the operation is only a raid, the enemy will have neither the time to accomplish complete destruction of the ammunition nor the transportation to carry it off. If the operation is a general retirement, orders for the destruction of the ammunition may be issued by the army ordnance officer, who is in a position to know the true situation. Destruction will be undertaken only on his order.

■ 24. TECHNICAL OPERATIONS.—A general outline of the technical operations of the ammunition company is given below. Detailed descriptions of the principal operations are given in sections III, IV, and V. It should be understood that the procedure outlined may be departed from to any extent that the situation warrants.

a. Installation and operation of ASP's and depots.—(1) *Lay-out of ASP.*—The order directing the installation of a new ASP will normally give the general area in which it will be located, the initial stock of ammunition to be placed therein, the time of opening, and possibly, the units to be served. At a conference with his officers the company commander will present the situation, discuss any unusual features, and outline the specific requirements of the situation. In conformity with these instructions and under the supervision of the ASP officer, personnel of the ASP office will prepare the plans for the lay-out and for the initial stockage. While this is being accomplished, the company commander will make a reconnaissance of the area allotted for the ASP. The magazine platoon commander may accompany him. The commander of the service platoon will reconnoiter the routes to and within the ASP area, and the railroad siding if the initial stockage is to come by rail. The locations of the ASP office, magazine sections, and other installations are now selected and marked on the map. Requirements for the magazine sections are given by the plan for the ASP lay-out prepared by the depot office, and suitability of the terrain sites is determined from the company commander's reconnaissance. Traffic flow charts for both issues and replenishments are prepared by the service platoon, based on the ASP lay-out and the platoon commander's reconnaissance. The magazine platoon stakes off the magazine sections and stack sites and the service platoon erects such

traffic and other signs as are desired, stakes and signs being furnished by the service platoon.

(2) *Initial stockage.*—If the initial stockage comes by truck, ASP office personnel stationed at the ASP entrance will direct each truck to the proper magazine section, in accordance with the lay-out plan. Magazine platoon personnel will unload the trucks and place the ammunition in the proper stacks, according to the lay-out plan. Service platoon personnel will direct traffic, furnish guides, liaison, and such labor as is available. ASP office personnel will render any assistance possible during the operation, and post the records after the operation is completed. If the stockage comes by rail, some additional planning in connection with the loading of the trucks at the railway siding may be required of the ASP office. The service platoon will supervise the loading and dispatching of trucks at the railway siding.

(3) *Issues.*—The ASP office accomplishes the necessary administrative work and gives such information and instructions to the train commander as may be necessary. The magazine platoon loads the required ammunition on the trucks. The service platoon furnishes traffic direction, guides, and labor (if a labor pool is operated).

(4) *Replenishment.*—This operation is similar to the initial stockage.

b. Other operations.—(1) *Reconnaissance for the selection of suitable ASP sites, road nets, and railroad sidings.*—A preliminary study may be made on the map, but must always be followed, where possible, by examination of the actual terrain. While the company commander has no authority to select ASP sites, he is "on the ground" and can furnish valuable information for the guidance of higher authority.

(2) *Salvage operations.*—Only the simplest of salvage operations will be undertaken in the forward areas. More extensive operations will be carried out in specially equipped installations in the communications zone. However, all personnel should be alerted to the desirability of the collection and shipment to the rear of serviceable components such as empty clips, machine-gun belts, magazines, containers, and shell cases. The saving in administrative work and transportation required to replace them will be of great importance.

(3) *Loading machine-gun belts, cartridge clips, etc.*—This type of work normally will not be required of units in forward areas, but may be required of depot personnel in the communications zone or the rear areas of the combat zone.

(4) *Captured ammunition.*—Captured enemy ammunition will be segregated according to type and caliber and inspected for serviceability. If it is serviceable, it will be disposed of as indicated in paragraph 153*q*. If it can be made serviceable by minor repairs, this will be accomplished. If considerable repairs are necessary, and the ammunition is safe to transport, it will be shipped to the communications zone.

■ 25. CONTINUITY OF OPERATIONS.—All personnel, officer or enlisted, should endeavor to insure continuity of policy and operations by keeping the next person in the chain of command or supervision informed of the current status of operations or of any changes of policy affecting the section in question. Standing operating procedures should be specified in every ammunition company. Some of the advantages of their use are:

a. They reduce the load of minor decisions on the company commander and allow him more time for consideration of major policies and unusual situations.

b. Every man knows exactly what to do and becomes an expert in his particular duties.

c. Every man knows who attends to other duties. Coordination is simplified.

d. Complete coverage of all details is obtained—nothing is forgotten in the rush.

The net result is increased efficiency of the whole company, but sufficient rotation of duties should be practiced to provide several replacements for any man who is lost through sickness or otherwise. An excellent method of crystallizing procedures and of insuring continuity of policy is the use of the policy book. (See par. 5*d*.)

■ 26. LIAISON BETWEEN TRANSPORTING AGENCY AND ORDNANCE SERVICE.—All personnel concerned with the handling of ammunition destined for ammunition ASP's should be alerted to the necessity of expedition and positive action to insure early delivery of all such ammunition coming into their hands. In the event of a break-down in the supply system or of the loss

of such ammunition due to accident or enemy action, liaison between the transportation or handling agency and the ordnance service should be such that the proper ordnance office will be immediately notified. The ordnance office so notified should take prompt action to place the ammunition again in the course of supply.

■ 27. DUTIES OF PERSONNEL.—The duties of the company commander are outlined in paragraph 30. General remarks concerning the duties of the other officers and of the enlisted men are included in this section. The specific duties of the other officers and of the enlisted men are given in the sections dealing with the units to which they are assigned.

■ 28. EFFECT OF TYPE OF OPERATIONS.—*a. Initial stockage.*—In this case, a large amount of ammunition must be moved in a short time and under conditions requiring a high degree of supervision. It is probable that, because of their training and knowledge of the problem involved, much of the ammunition company personnel will be required in a supervisory capacity, and such additional labor as is required to handle the tonnage will be secured through the army ordnance officer.

b. Sub-ASP operation.—In this case, the necessary sections of the magazine platoon will be detached for the operation of the sub-ASP's. The detached sections will be augmented by such additional personnel as is necessary and can be spared from the ASP office and the service platoon.

■ 29. FLEXIBILITY OF ASSIGNMENTS.—The duties given for individuals will be their normal assignments. Considerations in paragraph 28 above, as well as sickness and losses, indicate that all individuals may be given assignments other than normal. (See par. 15.)

■ 30. COMPANY COMMANDER.—*a. Responsibilities.*—The company commander is responsible for:

(1) Administration (see TM 12–250).

(2) Tactical and technical efficiency of the company.

(3) Preparation of all plans for the training of the company.

(4) Selection of the ASP site within the area allotted, and immediate transmission of the details thereof to higher authority.

(5) Preparation of plan for initial stockage of the ASP and supervision of its execution.

(6) Preparation of schedules for issues, where necessary and when approved by higher authority.

(7) Accomplishment of administrative details of the ASP operation and of the necessary reports.

(8) Preparation of all official correspondence pertaining to the company.

In fact, the ultimate responsibility for all phases of the operation of the company rests on the company commander.

b. Delegation of responsibility to subordinates.—He should require all heads of sections who are designated herein as responsible directly to him to keep him informed at all times of any changes in the status of matters pertaining to the operation of the company or ASP's. He should, without interfering unduly in the internal administration of particular sections, establish the major policies and routines of procedure governing the operation of the company. He should support his subordinates, but in matters pertaining to the administration of disciplinary punishment he should allow no one to commit him to a course of action. He is solely responsible for the administration of disciplinary punishment under the 104th Article of War and cannot delegate this authority. Accountability for the property of the company lies with the company commander and may not be delegated. The responsibility for the performance of specific duties should be delegated to the proper subordinate, and that subordinate held strictly accountable for the results.

c. Planning and supervision.—(1) *General.*—Planning and supervision are two very important functions of the company commander. At all times he should be alert for improvements in methods of operation. He should make the fullest use of the experience and imagination of his subordinates and should, whenever possible, be accessible to them for consultation. In general, major changes of policy should not be made until after all interested parties have been consulted and all phases of the subject considered.

(2) *Planning for future requirements.*—He should, at all times, consider the probable future activities of the company and prepare plans and take such steps as may be necessary to meet future requirements. The preparation of specific

plans of the various sections of the company should be delegated to the responsible person. (See par. 6.)

(3) *Inspecting the camp and ASP.*—He should move about in camp and ASP, observing the manner in which duties are being performed and orders and policies are being carried out. Periodic formal inspections should be held of men, equipment, and stocks of ammunition. The highest state of efficiency consistent with conditions of service and state of training should be required. Neatness, orderliness, and cleanliness should be stressed at all times.

d. Personnel management.—(1) *General.*—In matters pertaining to personnel, the company commander should be tolerant, fair, and cool-headed. He should endeavor to know as well as possible all the men in the company. He should have an estimate of the personality and capabilities of every man.

(2) *Changes in assignments of personnel.*—He should, from time to time, reassign the officer and noncommissioned officer personnel in the company to different sections or duties. Such a practice will assist in preparing the company to meet emergencies.

e. Maintaining policy books.—He should endeavor to insure continuity of policy within the company by requiring the maintenance of policy books by each section. (See par. 5.)

■ 31. COMPANY EXECUTIVE.—In general, the senior lieutenant of the company will be designated the company executive. He will, in addition to the performance of his normally assigned duties, keep himself informed of the status of matters affecting the entire company, and will be prepared to function for the company commander in the latter's absence.

■ 32. ADDITIONAL DUTIES.—The duties of individuals as outlined herein are intended merely as a guide to the company commander. He should make such reassignments of duties and responsibilities, and assignments of additional duties and responsibilities, as the situation may demand. It will be found that certain duties within the company, such as recorder for the company fund, have not been assigned. There will be many odd duties in connection with company ad-

ministration which should be apportioned among the junior officers of the company.

■ 33. DUTIES OF INDIVIDUALS IN ALL SECTIONS.—All individuals are directly responsible to a section chief, or to such other person as may be specifically designated to control or supervise that individual. In discharging this responsibility, men will—

a. On routine matters, take such action as will insure the most efficient and satisfactory performance of the duties of their section and of the company as a whole.

b. On problems not of a routine nature, and in the absence of specific instructions, work out a satisfactory solution and check with their immediate superior for approval; in the absence of the immediate superior or of any one else competent to approve, proceed with the job to the best of their ability.

c. Be alert to the possibility of developing methods to expedite and simplify routine operations. (Such methods must not be too elaborate and should not require action by higher authority; the idea is not to become involved in complications which will defeat the basic purpose of simplification and expedition.)

d. Sign for and be responsible for all tools specifically assigned to them.

e. Clean and properly store or cover all tools or other equipment used.

■ 34. CHAIN OF RESPONSIBILITY.—As far as practicable, the responsibility for each duty should be placed squarely upon the shoulders of the individual required to perform that duty. Such individual should not be unduly interfered with, but should be required and expected to solve his own problems and to perform the tasks connected with his duty.

SECTION II

COMPANY HEADQUARTERS

■ 35. ORGANIZATION.—The organization shown in figure 2 may be used as a guide by the company commander in organizing this section.

■ 36. EQUIPMENT.—The vehicles assigned to the company headquarters include the following:

a. Truck, ¼-ton 4 x 4.—This vehicle is used primarily for contacting higher and lower echelons and for general messenger service.

b. Truck, ½-ton, command and reconnaissance.—This vehicle is usually assigned to the company commander for his use or as he may direct, for reconaissance purposes.

c. Truck, 2½-ton, cargo.—This vehicle is used as the kitchen truck. It carries the range, ice box, and all kitchen utensils. For cooking while on the march, the three range units may be linked together and chained in position in the

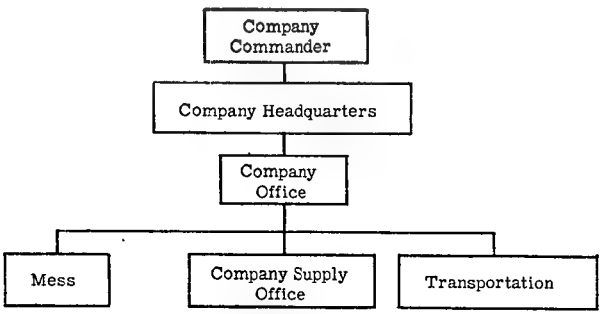


FIGURE 2.—Organization of company headquarters.

truck body. Cooking on the march is usually difficult because of the crowded condition of the truck and high heat under the canvas. The truck bows must be raised 14 inches to permit standing upright, and additional transportation must be secured for equipment normally carried on the kitchen truck, for which there is no room while cooking is in progress.

d. Trailer, 1-ton.—This trailer is used for the purpose of carrying rations. It is attached to the kitchen truck so that a supply of rations will always be available. The installation of shelving with removable slotted fronts greatly facilitates the loading of this vehicle.

e. Trailer, 1-ton, water 250-gallon.—This vehicle is used for the transportation of water for the company. In general, economy in the use of this water must be exercised. An

average daily figure for water requirements is 5 gallons per man for all purposes, including cooking, washing, and drinking. The water trailer should be filled at every opportunity.

■ 37. OPERATION AND DUTIES.—The responsibilities governing the operation of the various subsections of the headquarters section and the duties of the personnel in these subsections are listed in the paragraphs below under the proper headings.

■ 38. COMPANY OFFICE.—*a. Responsibilities.*—This section is responsible for the training and administration of the company, including—

(1) Maintenance of personnnel records, including service records, morning reports, sick reports, duty rosters, and routine reports required by higher headquarters.

(2) Maintenance of the company council book.

(3) Preparation of training programs and schedules for the military training of the company.

(4) Preparation of training programs and schedules in conjunction with the ASP office, for the technical training of the company.

(5) Supervision of training within the company.

(6) Maintenance of correspondence files and of the correspondence book.

(7) Preparation of plans in connection with changes in the location of the company. Such plans will be initiated by the battalion headquarters at the direction of the army ordnance officer, who will specify the principal requirements and arrange for the necessary additional facilities. (Some of these arrangements may be delegated to the battalion commander.) Much detailed planning will devolve upon the company headquarters, such as messing arrangements, truck loading schedules, police of old bivouac, selection and preparation of exact location of new bivouac, conduct of motor march, etc. Such plans will be coordinated, where necessary, with the ASP office.

(8) Conduct of scheduled and unscheduled inspections of all phases of the activities of the company.

b. First sergeant.—The first sergeant is the company commander's senior enlisted representative in matters pertaining to company administration, and, as such, is responsible for the efficient operation of the company office. The relation-

ship between the company commander and the first sergeant should be one of mutual understanding and confidence. For maximum efficiency they must work as a closely coordinated team. The first sergeant should make a point of understanding and carrying out the policies of the company commander in all matters over which he has direct supervision.

(1) *Responsibilities.*—The first sergeant is responsible to the company commander for the efficient operation of the company office, including:

(*a*) Enforcement of discipline.

(*b*) Preparation and issuing of company orders as directed by the company commander.

(*c*) Preparation of collection sheets for the company fund.

(*d*) Preparation of routine correspondence.

(*e*) Preparation of daily strength, ration, gasoline, and oil returns.

(*f*) Supervision of all formations.

(2) *Functions.*—The first sergeant should be thoroughly familiar with all matters pertaining to company administration, including, whenever possible, matters concerning mess and supply. He should be thoroughly familiar with all drills which the company is required to perform. He should conduct himself with dignity, fairness, and force. Whenever conflicts appear in matters pertaining to both the ASP and company administration, he should confer with the chief clerk with a view to arriving at a solution suitable to both ASP and company requirements.

c. Company clerk.—The company clerk is responsible to the first sergeant for the typing of all necessary correspondence for the company office and the maintenance of the necessary files and records kept by that office. He will, when necessary, assist in the unit personnel section of battalion headquarters in the maintenance of the personnel records of the company.

■ 39. COMPANY SUPPLY OFFICE.—*a. Responsibilities.*—This section is responsible for—

(1) Maintenance of the stock record covering all company property.

(2) Maintenance of all records of individual equipment and of files of memorandum receipts of property held by members of the company.

(3) Maintenance of all necessary files of vouchers to the stock record account.

(4) Preparation of requisitions for organizational equipment required by the company.

(5) Preparation of all property forms, such as Report of Survey, Statement of Charges, Inventory and Inspection Report, Over, Short, and Damaged Report, etc., required in the property administration of the company.

b. Supply sergeant.—(1) *Duties and responsibility.*—The supply sergeant is responsible to the supply officer for the efficient operation of the company supply office, including—

(*a*) Completeness of the organizational and individual equipment of the company.

(*b*) Security of all property for which he is directly responsible.

(*c*) Neatness, cleanliness, preservation, serviceability, and accessibility of all property for which he is responsible.

(*d*) Completeness of, and preparation for, all inventories of property for which he is responsible.

(*e*) Preparation of property location charts, where necessary and desirable, for property in his possession.

(*f*) Preparation of statements of clothing settlements when required.

(2) *General qualifications.*—The supply sergeant is directly responsible for the security, serviceability, and proper storage of many thousands of dollars worth of equipment. He should understand thoroughly all property regulations, the use of Standard Nomenclature Lists, equipment charts, and all form papers pertaining to property. He must keep accurate and complete records and inventories. He must keep abreast of, and thoroughly familiar with, all changes in matters pertaining to the handling of property. He should be a congenial, enterprising, industrious person with energy, initiative, and imagination.

■ 40. THE MESS.—*a. Responsibilities.*—This section is responsible for—

(1) Securing, transporting, preparing, and serving rations, including those for attached personnel and visitors. Some consideration of messing arrangements will be required in the event company personnel are required for the operation

of more than one ASP. The method utilized will depend upon the circumstances. The following are suggested methods of procedure:

(*a*) All ASP's may be rationed from a central field kitchen by transporting hot food in insulated food containers. The availability of transportation, distances to be covered, and difficulties of the journey should be taken into consideration.

(*b*) The units of the field range and proportionate shares of kitchen personnel and equipment may be divided among the ASP's for use at the ASP locations. The delivery of rations and fuel to the ASP's will require consideration of factors similar to those given in (*a*) above.

(*c*) The personnel of the ASP's may be attached for rationing to some nearby organization which is operating a mess. The probable permanency of the messing organization should be considered, as well as transportation requirements. This method is usually the least satisfactory.

(*d*) The personnel of the ASP's may be fed in relays at the parent ASP kitchen by using motor transportation. The availability of time for making the journey should be considered, as well as transportation requirements.

(*e*) Any combination of the four methods of procedure cited above may be utilized.

(2) Preparation of all menus whenever the variety of the the ration will permit.

b. Mess sergeant.—The mess sergeant is responsible to the mess officer for the efficient operation of the company mess, including—

(1) Preparation of all menus.

(2) Preparation and serving of all meals.

(3) Operation of all mess personnel.

(4) Drawing, storing, and transportation of all rations.

(5) Issuance of all rations, cooked or uncooked.

(6) Maintenance of ration accounts, including records of boarders.

(7) Maintenance of the Inventory of Rations (Form No. 86).

(8) Police and maintenance of sanitary conditions in all matters pertaining to personnel, equipment, and service of the mess.

(9) Care and maintenance of all mess equipment.

(10) Preparation of rations for inventory whenever required.

■ 41. TRANSPORTATION SECTION.—*a. Responsibilities.*—This section is responsible for—

(1) Maintenance of all records and motor books pertaining to the motor vehicles of the company.

(2) Transportation of baggage and company equipment, whenever necessary.

(3) Coordination of transportation requirements between the ASP and the headquarters and supply section.

(4) Dispatch of all organic vehicles from the company bivouac area.

(5) Repair and maintenance of the automotive vehicles assigned to the company to the limit of the tools, time, labor, and skill available. Such repairs will consist primarily of first and second echelon maintenance, though some small jobs may fall into the third echelon category.

b. Truckmaster.—(1) *Responsibilities and duties.*—The truckmaster is responsible to the transportation officer for the efficient operation of the transportation section. In the execution of his duties, he will—

(*a*) Maintain all the motor vehicle records for organic transportation, except the small notebook kept in each vehicle.

(*b*) Periodically check the condition of these latter books to determine that drivers are properly recording the mileages and the gas and oil consumed.

(*c*) Prepare monthly consolidations of data in the motor books for signature by the transportation officer.

(*d*) Act as dispatcher for all organic transportation.

(2) *Further responsibilities.*—He is directly responsible to the transportation officer for the good order and readiness to function of the transportation assigned to the headquarters and supply section. He is responsible for the training of motor vehicle operators.

(3) *March inspections and supervision.*—(*a*) During halts when the company is on a march, the truckmaster will check with all vehicle operators to determine whether or not any difficulties are being experienced, and will take appropriate action to correct such difficulties.

(*b*) The truckmaster will supervise fueling operations and the issue of oil as necessary. At the end of each day's march,

he will supervise the checking of oil levels, battery water levels, and tire pressures. He will check the operation of all lights and horns and, in general, insure that all necessary steps have been taken to prepare the vehicles of the company for the continuation of the march. He will familiarize himself with the pertinent parts of FM 25–10, which he will use as a guide in performing his duties.

SECTION III

ASP OFFICE

■ 42. ORGANIZATION.—*a. Requirement.*—(1) The organization of the ASP office should be designed to accomplish the following duties:

(*a*) To prepare such plans as may be necessary in connection with issues, replenishments, initial stockage, and related duties.

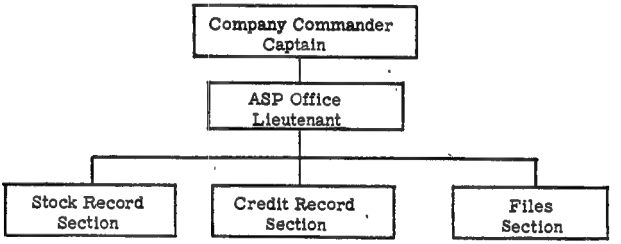


FIGURE 3.—Organization of an ASP office.

(*b*) To keep such records and prepare such reports as are prescribed or deemed necessary for the efficient operation of the ASP.

(*c*) To supervise and coordinate the work of the magazine and service platoons.

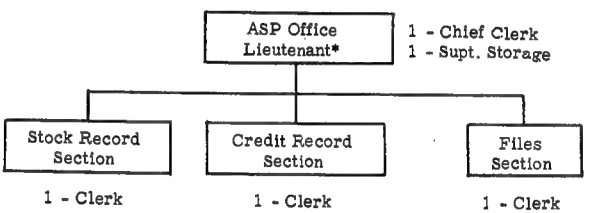
(2) The chart shown in figure 3 may be used as a guide by the company commander in organizing the office.

b. Flexibility.—As the requirements for an ASP cover an extremely wide range, the organization must be very flexible. It may be necessary to increase, decrease, or consolidate sections, either for a considerable period of time or temporarily for a particular operation. This requires that all men be trained in a number of related duties, as well as in their

normal duties. All clerks, whether stock record, receiving, shipping, or general, must be able to perform any of the clerical duties involved in the operation of the office.

c. Detachments.—When the company is required to operate more than one ASP, the basic organization shown in figure 3 should be adhered to. (See fig. 4.)

■ 43. EQUIPMENT.—No equipment is specifically assigned to the ASP office. Transportation will be furnished by the service platoon. Sufficient office equipment is allotted the company under T/BA 9 to supply its requirements for these items. Communications within the ASP are greatly facilitated by an eight-station telephone system. The telephone system is also useful between the ASP office and the incoming train holding or parking area (see par. 92*e*).



* From Magazine Platoon

FIGURE 4.—Organization of a sub-ASP office detachment.

■ 44. FUNCTIONS.—The general duties of the ASP office are given in paragraph 42. The following supplementary duties are also of some importance:

a. Continuing studies should be made to improve the training of personnel, both to increase their efficiency in their normal work and to provide suitable substitutes when required.

b. Continuing studies should be made to develop new, or to improve old, methods of handling ammunition and of other phases of the work.

c. Constant inspections must be made for the elimination of fire hazards, maintenance of camouflage, and other matters affecting the safety and protection of the ASP.

d. Continuing studies should be made with a view to

improving the service rendered by the company to the using troops. Primary considerations involve better ASP sites and road nets. Secondary considerations involve more suitable rail sidings for replenishments. As the tactical situation changes, frequent reconnaissance should be made to discover possible or more suitable locations, roads, and sidings, in order that prompt information or recommendations may be furnished higher headquarters. Both present and contemplated future operations must be taken into account. The best method of evaluating such information is by the maintenance of a situation map.

■ 45. OPERATIONS.—The specific operations to be performed can best be enumerated by a study of the general procedures for making issues and for replenishments. Outlines of these procedures are given in the paragraphs below. These cover only normal procedures. It should be understood that many special cases will arise where the applications of the principles underlying these procedures, aided by good judgment, must be relied upon.

■ 46. GENERAL PROCEDURE—ISSUES.—*a. ASP office.*—(1) An ammunition train, on arrival in the vicinity of the train holding area, will be stopped by traffic control personnel before passing the entrance to the area. The ASP office will be notified of the arrival of the train and given pertinent information about it. If clearance for the train is given by the ASP office, the train commander is directed to proceed to the ASP. Otherwise, the train will be directed into the train holding area and held until clearance for it is received.

(2) The ammunition train commander presents his transportation order (OFM Form No. 302A (fig. 8) or No. 302B (fig. 9)) to the chief clerk or his assistant. The chief clerk reviews the transportation order for sufficiency of information and accuracy. Any deficiencies in the transportation order should be corrected by consultation with the train commander, or otherwise if necessary.

(3) The transportation order is checked against the drawing unit's credits in the credit record (OFM Form No. 308 (fig. 12)). If the unit has not sufficient credits to cover the transportation order, the division ordnance officer, or other appropriate ordnance officer, should be contacted immedi-

ately. Every effort should be made to supply the ammunition desired. The transportation order should be initialed by the credit record clerk to indicate that credits are satisfactory. In any event no ammunition train will be turned away empty. If necessary, ammunition will be issued from the corps or army reserve and the appropriate ordnance officer will be promptly notified.

(4) The transportation order is checked against the location and lot (artillery ammunition) records when necessary to determine from which section of the magazine area the issue will be made. A tally-out will be prepared for each truck showing the code, number of containers, and lot (where applicable) of each kind of ammunition, and the section from which it will be drawn. The transportation order number should be placed on each tally slip. The transportation order is placed in a temporary file.

(5) The tallies, after review and authentication by the chief clerk, are given the train commander for distribution to the various truck drivers. While (2) and (3) above are being accomplished, the chief clerk gives the train commander any instructions and information necessary, assigns a guide (if necessary), and arranges for the required labor.

b. Magazine section.—The train is loaded as required by the tallies. If for any reason the ammunition loaded is different from that called for by the tallies, the latter are corrected. The train commander or the individual truck drivers receipt the tallies. The train then leaves the ASP by the proper exit. The guide returns the tallies to the ASP office. The labor returns to the ASP office or to the next section where needed, as ordered by the ASP office (if a labor pool is being operated).

c. Posting in the ASP office.—(1) The tallies are attached to the transportation order and the credit record is posted.

(2) The Location Record (fig. 15) is posted.

(3) The Lot Record is posted (if required).

(4) The Stock Record (OFM Form No. 307 (fig. 11)) is posted. The transportation order and tallies are then placed in files.

(5) As each record is posted, notation showing the posting should be made on either the transportation order or the tally. All records should be posted as the issues are made.

(6) For details of the various records referred to, see paragraphs 122 to 128, inclusive.

■ 47. GENERAL PROCEDURE—REPLENISHMENTS BY RAIL.—*a. Planning by the ASP office prior to the beginning of the ammunition movement.*—(1) Copy of the requisition for ammunition issued by the army ordnance officer against a communications zone depot (or other depot) is received. It is reviewed for information and temporarily filed.

(2) Copies of orders for the supply of any additional labor and transportation required for the movement are received. They are reviewed for information and temporarily filed with the requisition for the ammunition.

(3) Copy of the bill of lading or other papers covering the shipment are received. Such papers will show the loading of each railroad car by code, number of containers, and lot number of each kind of ammunition. The labor and transportation requirements for the movement are computed and checked against (2) above and any deficiencies reported immediately to the company commander, who will call the matter to the attention of the battalion commander. Note that if the number of loading points (normally railroad cars) can be determined before receipt of the bill of lading, this check can be made as soon as such information is available. In the event that no information is received to indicate that additional labor and transportation will be furnished, the requirements, if any, will be immediately transmitted to the battalion commander. The bill of lading is temporarily filed with the requisition for the ammunition.

(4) The plan for the stockage is prepared. The plan should preferably show the loading of each truckload of ammunition and its destination in the ASP. The destination *may* be shown down to and including stacks, if desired. It *should* be shown down to and including sections in any case. (In this event, the distribution to the stacks is made by the magazine section supervisor in accordance with the ASP lay-out). A tally-in is prepared in duplicate for each truckload, showing railroad car number, magazine section designation, stack number (if desired), code, lot number, and number of containers in the load. The magazine section and stack number are determined from a survey of the location record. The originals of the tallies are sent to

the service platoon, the duplicates to the magazine platoon.

b. Control of operations during the ammunition movement.—The operations of the ASP office generally are carried out before and after the actual movement of the ammunition. In order to get a connected and complete picture of the situation, the following outline is given, though the ASP office is not directly employed in the operations described.

(1) The service platoon supervises and carries on the work at the railroad siding. It takes charge of the transportation and its share of the labor, organizes and instructs the party, furnishes guides, traffic control, and liaison, as needed.

(2) The magazine platoon takes charge of its share of the labor and sees that the ammunition is properly and expeditiously unloaded and stacked. Any trucks which go to the wrong magazine section are instructed as to their proper destination.

(3) ASP office personnel render any assistance possible and endeavor to prevent any miscarriage of the stockage plan.

(4) At the railway car, the tallies for the car in question are given to the checker. Since the tallies do not specify the order of loading, that ammunition which is nearest the door may be loaded first, or in such order as is most convenient, except that in the case of separate loading ammunition, all loads will consist of complete rounds. The tally is checked as the truck is loaded and is then given to the truck driver. If the driver is not familiar with the layout of the ASP, a guide at the entrance will direct him to the proper section, as shown on the tally. Note that when tallies are prepared previous to the operation, the use of the Placement Tally (fig. 16) (par. 127), is unnecessary.

(5) If tallies are not prepared previous to the operation, the truck is loaded as directed by the checker, who prepares the tally to show the ammunition in the load, but *not* the section to which it is to go. The driver shows the tally to the guide at the entrance to the ASP, who posts the placement tally and directs the driver to the proper section. (See par. 48*a*(3).)

(6) At the magazine section, the driver gives the tally to the supervisor, who directs him to the proper stack and gives

the tally to the checker. As the truck is unloaded, the checker checks the containers against the tally, makes any corrections necessary, and initials the tally. At the conclusion of the operation, all tallies are transmitted to the ASP office, duplicates being destroyed. The truck returns to the loading point for the next load.

c. Posting the records in the ASP office after the ammunition movement is completed.—The tallies are consolidated and entered in the stock record and location record. They are then attached to the ammunition requisition, and all papers pertaining to the transaction are sent to file.

■ 48. GENERAL PROCEDURE—REPLENISHMENTS BY TRUCK.—*a. Planning by the ASP office prior to the beginning of the ammunition movement.*—In the case of replenishments by truck, much of the planning described in the previous paragraph may be omitted. The following procedure is the basis for replenishments of this type:

(1) A copy of the transportation order for ammunition issued by the army ordnance officer against a rear ammunition depot is received. It is reviewed for information and temporarily filed.

(2) Copies of orders for the supply of any additional labor and transportation required for the movement are received. They are reviewed for information, checked against requirements (battalion commander notified of discrepancies), and temporarily filed with the transportation order for the ammunition.

(3) The plan for the stockage is prepared, using the location record as a guide in determining the amount and types of ammunition that are to be placed in each section. Placement tallies (par. 127) are drawn up for each code number, specifying the number of containers to be placed in each section of the ASP.

b. Control of operations during the ammunition movement.—(1) The service platoon furnishes the required number of guides, institutes the necessary traffic control, maintains liaison, and supplies checkers and labor as required.

(2) The magazine section takes charge of the unloading operation. Normally all the ordnance personnel will be required to serve in the capacity of supervisors, guides, and

checkers. The magazine section is responsible that the ammunition is properly and expeditiously unloaded, and is properly stacked.

(3) At the ASP entrance each truck will be met, the tally for its load examined, the placement tally consulted and posted, and the directions given as to the proper section for the unloading of the truck.

(4) At the magazine section, the driver gives the tallies (see par. 47) to the supervisor, who directs him to the proper stack and gives the tallies to the checker. As the truck is unloaded the checker checks the containers against the tally, makes any corrections necessary, and initials the tally. One copy of the corrected tally is given to the truck driver to be returned to the shipping depot; the other copy is taken to the ASP office at the end of the operation.

c. Posting the records.—The tallies are consolidated and entered in the stock record and location record. They are then attached to the transportation order that directed the operation, and all papers pertaining to the transaction are sent to file.

■ 49. OTHER OPERATIONS.—The ASP office will also be concerned with posting allocations to the credit record and stock record. Care must be used to post also the reversions when allocations expire.

■ 50. FORMS, RECORDS, FILES.—For a discussion of the various forms, records, files, etc., used by the ASP office, see paragraphs 118 to 128.

■ 51. SITUATION MAPS.—Two situation maps should be maintained in the ASP office. One should show the present location of the ASP, the division ammunition office (or other appropriate office), and the tactical units served by the ASP. The other should show the present location of the ASP, its railroad siding, if any, and other suitable locations for the ASP and railroad sidings. This latter map should show complete information, such as car capacities of railroad sidings, cover available at different sites, etc. Both maps should show complete road net information. These maps should not be allowed to fall into hostile hands.

■ 52. ASP OFFICER.—*a. Responsibility.*—The ASP officer is responsible to the company commander for all phases of the operation of the ASP and for its protection against the hazards peculiar to ammunition. He has direct supervision over the ASP office. He exercises general supervision over the service platoon, the magazine platoon, and the activities of sub-ASP's.

b. Planning.—He will prepare the necessary plans for future requirements of the ASP for trained personnel, equipment, and material. He will supervise the plans of the chief clerk for additional labor and transportation, and the plans of the superintendent of storage for the ASP lay-out. He will supervise all technical plans for the establishment of sub-ASP's.

c. Coordination.—He will coordinate the requirements of the sections of the magazine platoon for assistance from the service platoon with the requirements of sub-ASP's for personnel and transportation.

d. Inspections.—He will make such scheduled and unscheduled inspections as may be necessary to insure the safety of the ASP and the readiness of all sections to function efficiently.

e. Subordinates.—He will hold the officers and noncommissioned officers in charge of sections responsible for the efficiency of their sections.

■ 53. CHIEF CLERK.—*a. Responsibility.*—The chief clerk is responsible to the ASP officer for all administrative work of the ASP in connection with the receipt and issue of ammunition. This extends to the supervision of the operation of clerical staffs in sub-ASP's. He also prepares such plans as are specified in this manual or assigned to him by the ASP officer. To accomplish these duties, he is free to move about the ASP or visit sub-ASP's as may be required. He prepares the plan for the operation of the train holding area.

b. Reports.—He will prepare the Status of Stocks (OFM Form No. 306 (fig. 10)) and any other reports required by higher headquarters. In addition, he will prepare any special reports required by the ASP officer. He will not hesitate to recommend to the ASP officer the submission of such special reports as he deems advisable.

c. *Training.*—He will supervise the training of all clerical personnel of the ASP, not only in their normal duties, but also in related clerical duties.

d. Studies.—He will be constantly alert to devise improved administrative procedures for the ASP.

e. Errors.—All imporant errors discovered will be brought to his attention immediately. He will take immediate corrective steps or refer the matter to the ASP officer for his decision.

f. Decisions.—The chief clerk is the ASP officer's principal noncommissioned assistant. In the absence of the ASP officer he is in charge of the ASP office. He will make such decisions as are necessary for the continuous functioning of the ASP, in accordance with the known policies of the ASP officer or his own best judgment.

■ 54. ASSISTANT TO CHIEF CLERK.—This clerk performs any clerical work required by the chief clerk. His regular duties include the following:

a. Give clearance for incoming trains and keep a list of trains waiting at train holding areas.

b. Check all transportation orders received from ammunition trains for completeness of information and obvious errors. In case of deficiencies, he will take immediate steps to secure complete and correct information. In no case will an ammunition train be unnecessarily detained.

c. Give train commanders any information or instructions necessary. This includes provision of a guide and labor (when necessary).

d. Check copies of requisitions for ammunition received from higher headquarters. Prepare requisitions when required.

e. Check copies of plans for additional labor and transportation, received from higher headquarters, against the requirements as computed by the chief clerk.

■ 55. STENOGRAPHER.—This enlisted man is the ASP officer's stenographer and does such typing and related work as is required in the office. When not otherwise occupied, he will do any clerical work required by the chief clerk.

■ 56. SUPERINTENDENT OF STORAGE.—*a. Responsibility.*—The superintendent of storage is responsible to the ASP officer

for all matters pertaining to the storage of the ammunition. This extends to general supervision over storage conditions, including sub-ASP's, and direct supervision and planning in connection with disposition of the ammunition within the ASP. He will exercise only general supervision over the disposition of ammunition in sub-ASP's.

b. Storage conditions.—As referred to above, include such matters as:

(1) Proper segregation of certain kinds of ammunition, such as pyrotechnics, as provided by TM 9–1900.

(2) Proper segregation of lots.

(3) Proper grouping for complete rounds.

(4) Proper stacking and cover, where necessary, for protection from weather. (See appendix V.)

(5) Proper stacking to prevent damage to the ammunition in handling.

c. Disposition of ammunition.—Within the ASP, includes such matters as—

(1) Location of the stacks with relation to the road and the terrain, in order to facilitate handling.

(2) Quantities and kinds to be placed in each stack to comply with safety regulations.

(3) Quantities and kinds to be placed in each stack to facilitate issues to ammunition trains.

d. Studies.—He will be constantly alert to devise improved methods for the storage of the ammunition.

e. Replenishment.—He will prepare that part of the plan for replenishment or initial stockage of the ASP which shows the quantity of each lot and kind of ammunition to be placed in each magazine area. He will render any assistance required in connection with the work at the ASP during replenishment.

■ 57. CLERK, STOCK RECORD.—The senior clerk in the stock record section has the following duties:

a. Keeps the stock record account.

b. Keeps the location record.

c. Keeps the lot record.

d. Checks transportation orders against the above records.

e. Prepares tally-out forms.

■ 58. CLERK, CREDIT RECORD SECTION.—This clerk has the following duties:

a. Keeps the credit record.

b. Checks transportation orders against the credit record.

■ 59. CLERK, FILES SECTION.—The file clerk is responsible for maintaining the office files. His duties include the following:

a. He should devise and install a suitable system for classifying, recording, and storing all office papers, as approved by the chief clerk.

b. He should obtain suitable—not necessarily elaborate—equipment for storing and protecting the papers.

c. He should insure that all papers not in current use are properly filed.

d. He should be able to find quickly any paper required.

e. He should be sure that any other office personnel can find any required paper in a reasonable time. (See *a* above.)

SECTION IV

MAGAZINE PLATOON

■ 60. GENERAL.—*a. Importance.*—The magazine platoon is the functioning part of the ammunition company. All other units of the company operate toward the end that the magazine platoon will efficiently accomplish its mission of receiving, storing, and issuing ammunition.

b. Subdivisions.—The magazine platoon is subdivided into four sections, three of which are identical and the fourth modified. This facilitates the detachment of one or more sections for the operation of sub-ASP's. The operating strength of the magazine section will depend on its assignment. There are normally two ammunition companies assigned to each of the army ammunition depots, or a total of eight magazine platoon sections. Since an ammunition company will normally operate two ASP's there will frequently be only a portion of an ammunition company assigned to the ASP.

c. Labor situation.—The amount of labor available in the magazine sections to load incoming ammunition trains is so limited that it will frequently be necessary to schedule the times when the various ammunition trains should arrive at

the depot. The system of holding trains in a parking area outlined in paragraph 92*e* will also assist in reducing confusion in the depot area.

■ 61. ORGANIZATION.—*a. Chart.*—The chart shown in figure 1 may be used as a guide for the organization of the sections of the magazine platoon.

b. Sub-ASP operation.—When one or more sections of the magazine platoon are detached for the operation of a sub-ASP, an officer from the platoon will be in command and will also perform the duties of the ASP officer. Subject to the approval of the company commander, he will organize the sub-ASP so as best to fulfill its mission. In addition to magazine platoon personnel, he will have in his detachment some personnel from the ASP office and probably some from the service platoon. The situation may require the assignment of some magazine platoon personnel to the sub-ASP office.

■ 62. EQUIPMENT.—The magazine platoon has no organic vehicles. Transportation for the platoon is furnished by the service platoon. The telephone system connects the different sections with each other and with the ASP office, the service platoon, and the company headquarters. The platoon has a number of paulins for covering ammunition, and 10-foot lengths of roller conveyor for the movement of ammunition.

■ 63. OPERATIONS.—The operations of the magazine platoon, in carrying out its general functions of receipt, storage, and issue of ammunition, may include any or all of those given in the paragraphs below.

■ 64. PREPARATION OF SITE.—In the establishment of a new ASP, a stacking plan must be prepared before the arrival of the ammunition. The location of the stacks, and amount and kinds of ammunition to be placed in each stack, will be determined by personnel of the ASP office. In the preparation of the stacking plan the following considerations are of importance.

a. Brush.—As far as possible brush or other features of the landscape will not be disturbed. Advantage will be taken of bushes and rocks to blend stacks into the surroundings.

Trucks will be driven around and not over bushes and rocks, and every effort will be made to use the ground exactly as it is, without any change which will be apparent to aerial observation.

b. Leveling.—It may occasionally be necessary to level the ground somewhat, but locations of stacks will ordinarily be made so as to avoid the necessity of this.

c. Dunnage.—Dunnage should be placed under the ammunition, where necessary, to prevent damage by water or to facilitate stacking.

d. Ditching.—Shallow ditches around the stacks and into the natural drainage of the land will assist materially in protection of the ammunition from dampness. Ditching should not be extensive and all ditches should be camouflaged.

■ 65. RECEIPT OF AMMUNITION.—*a. Supervision.*—During initial stockage of the ASP, magazine personnel will be concerned with supervision and checking. They will see that the proper ammunition is placed in the stack and that the stacks are properly subdivided as to kinds of ammunition, components for separately loaded ammunition, lots, etc. They will see that the ammunition is properly handled to prevent damage and the stack is properly built up to correct proportions. They will cause the trucks to be unloaded promptly and will supervise the use of such labor-saving devices as may be practicable under the circumstances.

b. Inspection.—At all times, and especially during stockage, all magazine platoon personnel will be on the alert for damaged containers, dented shell cases, and any other types of defects in ammunition. All such defective ammunition will be reported at once to the ASP office, which will notify the service platoon to call for same. The service platoon will effect the necessary repairs and return the ammunition to the magazine or will send it to the rear for repair or salvage, notifying the ASP office of the action taken. The ASP office, when appropriate, will requisition replacements.

c. Protection.—Immediately after its receipt, ammunition will, where necessary, be covered with paulins or be protected from the weather by such other means as are necessary and possible.

d. Camouflage.—Effective camouflage procedure requires

that plans for the camouflage of the ASP be initiated at the time of the initial reconnaissance of the area, and that they be continuously coordinated with the establishment of the ASP as it progresses. (See par. 94*b*.)

■ 66. STORAGE OF AMMUNITION.—Operations of the magazine platoon during storage will consist primarily of maintenance of the measures outlined in the preceding paragraphs for the protection of the ammunition, and of insuring a complete readiness to make prompt issues. Emphasis will be placed on alertness to discover and extinguish fires in brush and grass, and on maintenance of camouflage.

■ 67. CALLS FOR ASSISTANCE.—The sections of the magazine platoon will not hesitate to notify the ASP office of any assistance needed in extinguishing fires, maintenance of satisfactory conditions in the magazine area, or the making of prompt issues. Such calls for assistance should be made in advance, where possible.

■ 68. PLATOON COMMANDER.—The platoon commander is responsible to the ASP officer for the organization of his platoon, the training of its personnel, and its readiness to operate in an efficient manner. He will make such inspections as are necessary to insure that the above requirements are satisfied. He will make calls on the ASP officer for assistance of labor or equipment required for operations which are beyond the capabilities of his platoon. He will coordinate the requirements of the sections of the platoon for such assistance and allocate the facilities available as he deems advisable. He has as his assistant one technical sergeant.

■ 69. LIEUTENANT IN CHARGE OF SECTIONS.—The lieutenant in charge of one or more sections of the platoon is responsible to the platoon commander that—

a. All ammunition is properly handled.

b. Ammunition received is properly inspected and stacked in accordance with prepared plans.

c. All issues required from his sections are promptly and accurately made.

d. The most efficient labor handling methods are employed.

e. Conditions of storage are the best possible under the conditions existing.

f. Camouflage is adequately maintained.

■ 70. SECTION CHIEF.—This man is the lieutenant's principal noncommissioned assistant within the section. His regular duties consist of the supervision of operations of the section. He will perform any other duties assigned by the lieutenant.

■ 71. CAMOUFLAGE SERGEANT.—The camouflage sergeant is responsible to the lieutenant that all camouflage is maintained in a satisfactory manner. He will be guided by the principles set forth in FM 5–20 and paragraph 94*b* of this manual.

■ 72. ASSISTANT SECTION CHIEFS.—These men will supervise the work of the checkers and laborers in loading trucks or building stacks. They will also supervise the work of laborers in clearing brush, ditching, installing camouflage material, etc., as directed by their superiors.

SECTION V

SERVICE PLATOON

■ 73. ORGANIZATION.—The chart shown in figure 5 may be used as a guide for the organization of the platoon.

■ 74. EQUIPMENT.—*a. Automotive equipment.*—The platoon operates the motor transportation of the ASP

(1) The ¼-ton trucks are used for messenger and other contact work within the ASP, and between the ASP and other organizations.

(2) The pick-up trucks are used for moving small lots of damaged ammunition between the magazine areas and the service platoon shop section, delivering signs, transporting small bodies of personnel, and similar light work within the ASP. They may also be used for moving small quantities of ammunition between the ASP and other installations, such as the railway siding, for securing rations from the class I railhead, and delivering hot food to sub-ASP personnel.

(3) The 2½-ton cargo trucks carry the company equipment (except that carried by the kitchen truck) while on the march. While in bivouac, they may be used to augment the pick-up trucks for miscellaneous transportation needs.

b. General equipment.—The shop section of the service platoon has such equipment as carpenter tools, etc., required for opening and repairing ammunition containers, general woodwork of a simple nature, making and painting signs, etc.

■ 75. DETACHMENTS FOR SUB-ASP'S.—Detachments from the service platoon for sub-ASP operation will vary greatly, depending upon local conditions. The organization of such a detachment should provide personnel for administrative work in connection with shipping and receiving; for guards and traffic control; a carpenter for miscellaneous work, including the making of signs; and a vehicle for liaison work. The sub-ASP should in every case be connected with the

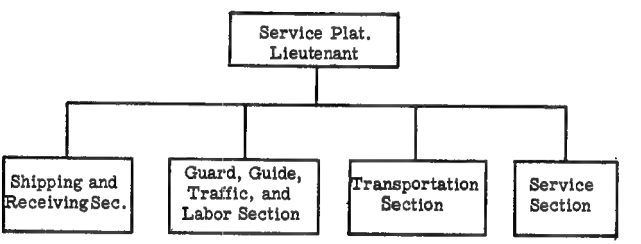


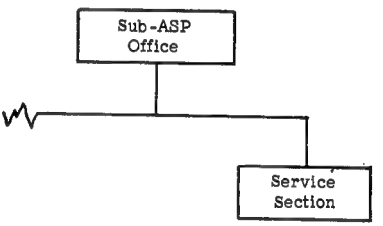
FIGURE 5.—Organization of the service platoon.

company headquarters by telephone. If the company telephone system will not suffice for this, assistance should be requested, through channels, from the appropriate signal officer. The detachment will operate under the command of the sub-ASP officer. The chart shown in figure 6 may be used as a guide for the organization of such a detachment. It is not contemplated that the operation of a labor pool will be practicable or desirable in a sub-ASP. All renovation or repairs to containers or ammunition beyond the capabilities of the skill and equipment available should be sent to the rear.

■ 76. OPERATIONS.—The operations of the service platoon involve the rendering of a number of necessary but unrelated services to the other subdivisions of the company. The operations of a sub-ASP detachment will follow the same general lines, with the exceptions noted in paragraph 75.

■ 77. DURING REPLENISHMENT BY RAIL.—*a. Requirements.*—During replenishments by rail the service platoon is responsible for all operations at the railroad siding. Depending upon the size of the shipment, almost the entire platoon may be used to supplement the shipping and receiving section. In this case, additional labor and transportation are secured as required, and the necessary ordnance personnel become checkers, supervisors, guides, and traffic directors.

b. Operations before arrival of train.—Assuming that all arrangements have been made for labor and trucks and that the bills of lading and other necessary papers have been received from the ASP office, the following should be accomplished *before* the arrival of the train.



1 - Record Clerk - from Shipping and Receiving Section
1 - Checker - from Guard, Guide, and Traffic Section
5 - Laborers - from Labor Pool
1 - Carpenter - from Guard, Guide, and Traffic Section
1 - Chauffeur - from Transportation Section

FIGURE 6.—Organization of detachment, service platoon.

(1) The platoon commander makes such plans as the situation warrants. These may cover such points as—

(*a*) Preparation of a traffic flow chart.

(*b*) Assignment of traffic directors.

(*c*) Assignment of guides. This function may, in some cases, be consolidated with the one above.

(*d*) Assignment of checkers to cars.

(2) Instruction of traffic control personnel and guides.

(3) Transportation of the required personnel to the railroad siding, and the proper placing of traffic directors along the route.

(4) Instruction of supervisors, checkers, labor foremen, and truck drivers.

(5) Assignment of checkers, labor, and trucks to cars by number. Checkers are given the necessary papers for their cars.

c. Operations upon arrival of train.—On arrival of the train, the procedure is as follows:

(1) Car numbers are checked against the bills of lading.

(2) The cars are opened and the first trucks loaded. The order of loading should be such as to require the minimum amount of segregation or movement of the ammunition. Each truck must be loaded with that ammunition called for by some one tally. That tally should be selected which calls for the ammunition most readily at hand. Lot numbers of artillery ammunition must be closely watched. Previous to and during loading, the possibility of using roller conveyors and any other labor-saving devices should be kept constantly in mind in order that the operation may be completed as rapidly as possible.

(3) Each truck driver is given the tally slip for his load and instructed to hand it to the guide at the depot entrance for further instructions.

(4) Succeeding trucks are loaded until the car is emptied.

(5) The railway train is released.

(6) Any additional labor is released.

(7) Ordnance personnel return to the depot. Some may ride the last truckload of ammunition.

(8) QM trucks are released after being unloaded at the depot.

■ 78. DURING REPLENISHMENTS BY TRUCK.—It is obvious that in the case of replenishment by truck, the operations described in paragraph 77 are not applicable. In this case the service section furnishes the necessary personnel for guides and traffic directors.

■ 79. SHIPPING AND RECEIVING SECTION.—*a. General.*—The shipping and receiving section contains only supervisory and administrative personnel. It secures checkers and labor from the guard, guide, and traffic section. It will frequently happen that all of the personnel available will be required for checking and that the full requirement for labor must be obtained from other sources. During initial stockage it will usually be necessary to use most of the available personnel

from the company for checkers, guides, and traffic control.

b. Replenishment.—In connection with the receipt by rail of ammunition for stockage, the receiving and shipping section is responsible that the ammunition is properly checked, segregated, and loaded into the trucks, and that the truck drivers are given a tally for the load. Quartermaster labor, when used, will usually be under the command of quartermaster noncommissioned officers. All instructions given by ordnance personnel should be through such quartermaster noncommissioned officers.

c. Other operations.—Other duties of the shipping and receiving section will be in connection with the shipment or receipt of small quantities of ammunition, and will include checking, preparation of vouchers and other administrative matters, packing or opening containers, and transportation between the ASP and shipping point. Assistance will be secured, as required, from the transportation and service sections.

■ 80. GUARD, GUIDE, AND TRAFFIC SECTION.—The operations of this section include the following:

a. Maintenance of a guard and alarm service for protection against:

(1) Fire.
(2) Gas attack.
(3) Mechanized attack.
(4) Air attack or observation.
(5) Prowlers, loiterers, and other unauthorized personnel.

b. Furnishing of guides for ammunition trains to and within the ASP.

c. Traffic direction, including the direction of trains at the train holding area.

d. Operation of a labor pool (when required), and supply of labor as required by the other sections.

■ 81. TRANSPORTATION SECTION.—This section furnishes transportation as required by ASP personnel or as directed by the company commander.

■ 82. SERVICE SECTION.—The operations of this section include the following:

a. Packing of ammunition for shipment.

b. Repairing of ammunition containers.

c. Renovation of ammunition, where feasible.

d. Preparation of signs and stakes.

e. Miscellaneous carpentry work, as required.

f. The installation and operation of the ASP telephone system.

■ 83. PLATOON COMMANDER.—This officer is responsible to the ASP officer for the following:

a. Supervision and coordination of the activities of the different sections of the platoon.

b. Formulation of policies in regard to requests from other subdivisions of the company for labor and transportation.

c. Formulation of regulations concerning the guard and traffic.

d. Plans for the training of personnel of the platoon.

e. Plans for the organization of the party at the railroad siding when shipments are received by rail.

f. Such inspections as he deems necessary to insure that his plans and policies are being carried out, and that his platoon has reached the highest possible state of efficiency.

g. Such plans as may be necessary to anticipate future requirements of his platoon.

■ 84. CHIEF CLERK.—This man is the platoon commander's first noncommissioned assistant. He carries out the orders of the platoon commander and assists him in any other manner possible. In the absence of the platoon commander he is in charge of the platoon and renders such decisions as are necessary in accordance with the known policies of the platoon commander. His routine duties include the following:

a. Pass on requests for transportation and labor.

b. Supervise the guard.

c. Make a continuing study of traffic conditions, including the condition of roads, and make recommendations to the platoon commander in regard to same.

d. Supervise ammunition handling and truck loading during replenishment by rail.

■ 85. SECTION CHIEF, SHIPPING AND RECEIVING SECTION.—This man is responsible for all minor shipments of ammunition

to and from the ASP. All administrative work in this connection is done under his direct supervision. He insures that incoming shipments are unpacked, checked, and delivered to the proper destination. He insures that outgoing shipments are checked, packed, labeled, and delivered to the carrier. In replenishment by rail he supervises the work of the checkers at the railway cars.

■ 86. SECTION CHIEF, GUARD, GUIDE, AND TRAFFIC SECTION.—This man posts the guards and traffic directors and dispatches guides and labor parties. During replenishment he supervises traffic control.

■ 87. ASSISTANT SECTION CHIEF, TRANSPORTATION SECTION.—This soldier dispatches the platoon's vehicles, supervises fueling of the vehicles, makes such inspections as are necessary to determine their condition, and reports any requirements for maintenance or repair to the platoon commander. During replenishment by rail he operates a liaison service between the railroad siding and the depot.

■ 88. SECTION CHIEF, SERVICE SECTION.—This sergeant supervises the work of the mechanics of his section. He assigns the work to the individual men. He supervises the installation of the ASP telephone system and assigns personnel to operate it. During replenishment by rail, he may assist the chief clerk in the supervision of the handling of the ammunition. His men may serve as checkers. One or two carpenters with tools will always be available to remove shoring, braces, etc., placed in the car to protect the ammunition during shipment.

SECTION VI

THE ASP

■ 89. DEFINITION.—An ammunition depot or ASP is an organized locality for the reception, classification, storage, and issue of ammunition.

■ 90. REFERENCE.—The basic principles governing ammunition depots and ASP's are discussed in detail in FM 9–6. The details outlined below are based on these principles.

■ 91. REQUIREMENTS.—*a.* The first requirement for any ammunition depot is certainty of supply. The sole purpose of the depot is to have available to the troops the ammunition they require at the time they require it. All plans and operations of the company should be directed toward that end. Another consideration is convenience to the troops being served. The ammunition must be placed at such a point with reference to the location of the troops that it is not difficult to obtain. In evaluating the various factors affecting the location, arrangement, and operation of the depot or ASP, many conflicting conditions will be met. These requirements must be kept constantly in mind in order to arrive at a correct decision.

b. The discussion which follows is applicable to installations in the combat zone. For a discussion of conditions in the communications zone, see paragraphs 139 to 148, inclusive.

■ 92. LOCATION.—The factors governing the selection of a depot area are discussed in FM 9–6. These factors must be kept in mind when the individual locations for the following subdivisions are chosen:

Company headquarters, including the company mess.
ASP office.
Magazine sections.
Train parking or holding area.

The requirements for the magazine sections are given below, and they will serve, in general, as the requirements for the other sections. In case of insufficiency of space the magazine sections must have first priority.

a. Road.—The section should be located along a road of sufficient width to allow traffic past parked trucks. The road should be sufficiently hard and well drained to insure that repairs will not be excessive during the occupation of the site. It should be of such a nature that it will not become impassable under any conditions. It need not be paved, but dirt roads through woods should be examined carefully in the rainy season. Short critical stretches may be improved with corduroy construction if the site is otherwise suitable. When sufficient roads are not available, fields and woods must be used. In such cases fullest use must be made of high ground.

b. Terrain.—Stack sites should have hard standing and

be well drained or capable of being easily drained. They should be sufficiently level to permit stacking the ammunition. Slight irregularities may be leveled by hand. A small slope is desirable from a drainage standpoint. Too great a slope increases the labor of handling. The ground should be near the level of the road; sites where roads pass over fills or through cuts are not satisfactory. The ditch along the side of the road must not be too wide or deep to allow ammunition to be carried over it, unless roller conveyors are available. If the site is in woods, brush may be cleared, where necessary, to place stocks. Ammunition must not be stacked in gullies below the expected drainage or flood line.

c. Concealment.—Sufficient cover to hide the ammunition from observation is very desirable but may not always be possible. Full use should be made of all available cover in order to reduce the amount of artificial camouflage necessary. The requirements for concealment should be borne in mind in clearing brush and trees. In making use of defilade, the requirements of *b* above must be kept in mind. (See appendix X.)

d. Area.—From the standpoint of safety, because of the peculiar hazards of ammunition and the requirement for protection from air observation, the sections of the ASP should be separated from each other by considerable spaces—at least 100 yards. However, the stacks of any section should be in one group. A section should not be divided by a large ravine, big hill, wide space of open ground, etc. The area required by a large ASP or depot is considerable and much of the terrain will be unsuitable. The ASP thus will be widely dispersed. Care should be exercised to utilize the suitable terrain to the best advantage by assigning the different sized sections to areas of suitable size.

e. Train holding or parking area.—In order to reduce traffic congestion and the attendant confusion at the depot office, an area at which trains can be stopped, parked, and held until the depot is prepared to serve them should be selected at a suitable distance from the depot area. The parking site should be well drained, and have sufficient hard standing to accommodate the largest train expected from the troops to be served. Such areas should be selected along every important route of approach to the depot. In

no case should they interfere with the flow of traffic along the axis of supply. In certain cases it may be necessary to provide more than one such area along a given route. Each holding area should have a guide posted to handle the traffic and should be connected by field telephone or other rapid means of communication with the depot office. (See par. 43.)

■ 93. TRAFFIC.—All traffic through the ASP should be one-way. In a small ASP, having three or four sections, this presents no great problem. In a large ASP, having many sections, the question of traffic control and the road net becomes of paramount importance and will often be the determining factor in the selection of the ASP site. As far as possible, trains should not be required to pass other trains which are being loaded. This condition can seldom be realized, but the requirement should be kept in mind. The ideal situation is one in which each section of the ASP is laid out on a little side road connected at one end with a feeder leading from the ASP entrance, and connected at the other end to a feeder leading to the ASP exit. In determining the routes through the ASP, it may be found necessary to construct or break short stretches of temporary road, but such operations should be kept to the absolute minimum. All routes should lead through the ASP rather than into it and back out. In no case should trucks be allowed to turn around in the road. A map or chart of the ASP should be prepared, showing the location of sections and the routes of ammunition trains from the different units which the ASP serves. A similar map should be prepared for replenishment operations, and the traffic flow so adjusted that issues and replenishments can be made simultaneously when required. This study must be made in connection with the original planning for the ASP lay-out, and must be completed before any ammunition is moved into the ASP. As the varieties of road nets are innumerable, and the particular type which will have to be used cannot be predetermined, no type solution or instructions for solution are given here. (See par. 92*e*.)

■ 94. SECURITY.—*a. Fire.*—An adequate fire plan should be prepared and incorporated in the policy book as standing operating procedure. All personnel of the company should be acquainted with their respective fire stations and the proper

manner of giving the alarm and should be thoroughly trained in preventing, reporting, and extinguishing fires, in accordance with the plan.

(1) Brush fires may be prevented by proper discipline and training. This discipline and training must extend not only to company personnel, but also to ammunition train personnel, QM laborers and truck drivers, and all other visitors. The regulations for the prevention of fire should be published by the company commander after a careful study of the subject, and all visitors promptly notified of their requirements. They should cover such subjects as—

(*a*) Smoking in forbidden areas.

(*b*) Use of matches, kerosene lanterns, and other open fires.

(*c*) Use of gasoline and other highly inflammable substances.

(*d*) Burning of brush and trash, and other policing measures.

(2) Brush fires can be extinguished, or their spread prevented, by beating with wet sacks, covering with dirt, or digging a fire break.

(3) Fires and explosions in ammunition due to carelessness are inexcusable. Every man in an ammunition company should be fully conversant with proper methods of handling and the dangers incident to improper handling. All cases of carelessness in handling, whether accompanied by disaster or not, should be made the subject of disciplinary action. All ordnance personnel should be constantly alert to observe the manner of ammunition handling employed by others, to instruct others in the proper methods, and to report immediately any case of noncooperation by others to the company commander.

(4) All ordnance personnel should be fully conversant with approved methods of extinguishing fires in ammunition and thoroughly trained in applying such methods. (See TM 9–1900.) As far as possible, ammunition should be left in original containers, and no loose ammunition should be lying around. Containers afford a considerable protection against fire. Powder, when ignited, cannot be extinguished. If the fire is beyond control or is of such a nature that it cannot be extinguished, the ammunition should be abandoned and per-

sonnel withdrawn to a place of safety. This does not mean, however, that every little explosion or blaze should be the cause of a general exodus.

b. Camouflage.—The only defense against attack from the air which an ammunition company can make is a passive one by means of camouflage and cover.

(1) Considerations of camouflage begin with the selection of the ASP site and do not end until the site is evacuated. One of the basic factors in the selection of the site is its suitability for protection from aerial observation. Every step in the planning for the ASP lay-out must be accompanied by a corresponding step in the camouflage plan. During the operation of the ASP, all changes affecting the picture from the air—an increase in the size of a section, the movement of part of the company to a new location, use of new roads or trails, etc.—must be accompanied by suitable camouflage plans and operations. Also, existing camouflage must be maintained in its original effectiveness. Roads which are used excessively will become worn and will stand out in an aerial photograph. Consideration should be given to the construction of dummy sites.

(2) The best natural concealment is afforded by woods. The use of woods, however, must be considered in connection with the other factors discussed in paragraph 92 above. The amount of concealment afforded by woods will depend particularly on the season of the year.

(3) Such natural camouflage as is afforded must usually be supplemented by artificial means. The construction of camouflage is covered in FM 5–20 and will not be discussed here. Each section of the magazine platoon has a camouflage sergeant, whose duty it is to: make a continuing study of requirements for cover and camouflage, superintend all camouflage construction undertaken by personnel of the company, prepare requisitions for camouflage material, coordinate work done by company personnel with that of engineer troops, and recommend to the company commander regulations for camouflage discipline.

(4) The effectiveness of camouflage is dependent on camouflage discipline. This requires that—

(*a*) Camouflage be refreshed and replenished when required.

(*b*) All new construction, such as roads, be kept to a minimum.

(*c*) All company equipment, such as trucks, be kept hidden during daylight hours.

(*d*) All unnecessary movements of company personnel be eliminated during daylight hours, as far as possible.

(*e*) All issues and replenishments be made at night. All lights should be subdued and properly shielded; not only the light, but also its reflection from any bright object must be invisible from the air. The use of luminous signs in this connection is of great assistance.

c. Gas attack.—All guards, guides, and traffic directors should be provided with gas alarms, and the company must be thoroughly drilled in defense against chemical attack. (See FM 21–40.) If the ASP is neutralized by persistent gas, assistance by chemical troops should be requested through channels.

d. Mechanized attack.—Mechanized attack on the depot will usually be in the nature of a raid with the object of destroying the ammunition. While considerable damage may be done to the ammunition by gunfire from the vehicles, extensive demolition operations can only be undertaken by dismounted personnel. The ASP should not be abandoned, but all company personnel should take cover and protect the ASP with the weapons available. Higher headquarters and any nearby friendly troops should be notified immediately.

■ 95. SCHEDULES OF OPERATIONS.—In connection with the study of traffic, schedules should be prepared showing the hours for replenishment and the hours during which issues will normally be made to the different units served by the ASP. Such schedules must be adjusted so as to give the most uniform and the simplest traffic flow consistent with convenience to the troops being served. When completed, the schedules will be transmitted to the appropriate ordnance officer for approval and publication by the headquarters concerned. Such schedules will be adhered to as far as possible, but, in emergencies, issues will be made to any unit upon demand.

■ 96. LAY-OUT REQUIREMENTS.—The first step in the lay-out of

a new ASP is the determination of its requirements. Decisions as to the location, time of opening, units served, and stockage levels are not within the province of the company commander. They are functions of higher headquarters, and are transmitted to the company commander in the form of an order. If any of the above information is omitted from the order, it should be immediately requested. While the company commander can make recommendations for all matters concerned with the ASP, he can make no decisions on the above items. Other details in connection with the operation, such as relief of the company from its present assignment, its transport to the new site, arrangements for class I supply, etc., may be included in the order or may be furnished otherwise. When the initial stockage is made by rail, the time of arrival of the ammunition train, a copy of the bill of lading (showing the loading of each car, including lot numbers) and information concerning arrangements for quartermaster labor and transportation will also be furnished.

■ 97. PRELIMINARY WORK.—A reconnaissance of the ASP area should be made and a map prepared. This map need not be elaborate but it should be to scale, distances being determined by pacing or by speedometer readings. It should cover the entire area assigned, in order that the most suitable part may be selected. It should show wooded areas or other cover, approximate grades, areas which are unsuitable for use, and lengths of roads between intersections. If a map is already available it should be checked, unless known to be complete and correct.

■ 98. DETERMINATION OF SECTIONS.—*a. Number.*—There must be a section for each caliber of ammunition which will be issued by the ASP. Certainty of supply and the ever present threat of loss of a section by accident or enemy action require that there be at least two sections for each caliber of ammunition to be stocked. Other considerations may require three or more sections of a particular kind. Thus, in a depot to serve a corps artillery brigade there will be four battalion ammunition trains to draw 155-mm howitzer ammunition. If issues are to be made to all 155-mm howitzer battalions simultaneously, there must be not less than four sections of this

kind. If issues can be scheduled so that only two battalions will draw simultaneously, then only two sections will be required, provided consideration of tonnage to be stocked or terrain available does not require more than two sections. Increasing the number of sections increases the requirements for road space and cover, complicates the labor problem, and is apt to increase the complexity of the traffic situation.

b. Composition.—Within a section there should be at least one stack for each truck of the ammunition train which will draw from the section. Considerations of tonnage may require a greater number of stacks than this. In order that trucks may park on the road in a convenient position for loading, stacks should be at 10-yard intervals. Considerations of safety limit the density of the ammunition to approximately 30 tons per 50 yards of road space. This imposes a normal limit of 6 tons per stack.

■ 99. STACKS.—*a. Composition.*—A stack may consist of one kind of ammunition, as 105-mm HE shell, or of several kinds, as cal. .45 pistol ammunition and cal. .30 ball, cal. .30 AP, and cal. .30 tracer for M1 rifles. In the latter case, the stack would consist of several short stacks placed end to end with a convenient small space between. Where small arms packing differs, different packings must be separated. If more convenient, the small stacks might be placed side by side. In the case of artillery ammunition, lot numbers should be segregated. In the case of separate loading ammunition, stacks should contain complete rounds; that is, a stack should consist of the proportionate numbers of projectiles, propelling charges, fuzes, and primers.

b. Size.—For stability and ease of camouflage, stacks should be built up into pyramidal shape, each layer being one box narrower and one box shorter than the layer under it. Boxes should be placed longest dimension lengthwise of the stack and the shortest dimension vertical. The stack should not be too high for convenient loading—say 4 or 5 feet. See appendix V for stacking tables and stacking diagram.

■ 100. LOCATION OF SECTIONS.—The sections should now be located on the map. A convenient way of doing this is to cut a strip of paper to represent each section, to the scale of the map. These may be pinned to the map in the best locations,

road space and cover considered. The point for the ASP entrance is located and the traffic routes studied. Sections are shifted about as the nature of the terrain permits, until the best locations are found. In this study a clear space of at least 100 yards between sections should be allowed, and a similar space between the ASP entrance, the ASP office, the ASP exit, and the nearest section.

■ 101. ASP OFFICE.—The ASP office should be located near the ASP entrance at a spot which all ammunition trains will have to pass. It should be at least 100 yards inside the entrance, so that when the head of a train stops at the office, the tail of the train will be within the entrance. It should be well covered or camouflaged.

■ 102. SERVICE PLATOON.—The service platoon should be located close to the office, so that demands for labor or transportation can be promptly met. If renovation or similar operations involving ammunition are carried on, such operations should be conducted in a location remote from the magazine sections.

■ 103. COMPANY HEADQUARTERS.—The company office, mess, and bivouac should be located in a suitable covered place outside the ASP area.

■ 104. STAKING.—Having completed the lay-out on the map, the lay-out on the terrain is made. Tent sites are located and tents erected. Camouflage operations are started. The limits of the different sections are located and appropriate signs erected. These should show the number of the section, the number and order of the stacks, and the kind of ammunition in each. Stack sites are marked by stakes off the side of the road at the center of the stacks. The stake should have the number of the stack in large figures, a tag showing the number of containers of each kind, and the width and length of the bottom layer in boxes. Traffic and similar signs are erected at appropriate points. Stakes and signs will be prepared in advance by the shop section of the service platoon.

■ 105. STOCKAGE.—Planning for the lay-out of the ASP and for its initial stockage are closely related. The plan for the lay-out has determined the disposition of the ammunition

at the destination of the movement. The plan for the initial stockage of a depot must take into account the disposition of the ammunition at the origin of the shipment and its movement between origin and destination. For this reason, plans for such initial stockage cannot be made until a bill of lading or manifest has been received, showing the number of cars in which the ammunition is loaded and the loading of each car. The various steps in the planning and the basis for each are given below. (See also appendix VII.)

■ 106. LABOR.—*a. Requirements for unloading rail cars.*— The maximum number of men that can be used effectively in unloading a railroad car from one side is 10 laborers and one noncommissioned officer. If the car can be unloaded from both sides, 18 men may be employed, but this is usually not practicable. An equal number of men are required at the depot site for unloading. Normally a large part of the ordnance personnel will be required for checking, traffic control, guides, supervisors, etc., and additional labor may have to be obtained from the quartermaster. Labor should be requested to report at the railroad siding at least half an hour before the arrival of the railroad train, in order to give time for organizing parties, issuing instructions, and other preliminary arrangements. The time and place of the expected release of the labor should be given in the request.

b. Prolonged operations.—The basis for the use of the labor contemplates a fixed rate of handling for a limited time, followed by a rest period. If the operation will require more than 4 to 5 hours, provision must be made for a relief shift. The employment of labor beyond the economical point results in a greatly reduced rate of handling and a corresponding increase in the time required. The effective use of roller conveyors and other labor-saving devices will materially increase handling rates.

c. Class I supply.—For a consideration of provisions for messing quartermaster labor, see paragraph 40.

■ 107. TRANSPORTATION.—*a. General.*—A study of the transportation requirements also involves a consideration of labor and time. In the ideal situation, an empty truck arrives at

the railroad siding as the loading of the previous truck is completed. The total number of trucks required will depend on the

(1) Number of railroad cars or loading points.
(2) Capacity of truck.
(3) Rate of loading per man.
(4) Number of men per railroad car or loading point.
(5) Length of turnaround.
(6) Average speed of truck on turnaround.

Note that the number of trucks required is not dependent on the capacity or load of the railroad car.

b. Quantities and rates.—(1) The number of railroad cars is determined from the bill of lading or manifest. A reconnaissance should be made to determine if all cars can be unloaded simultaneously. In most cases this will be possible. In some cases a small amount of work, such as grading and the construction of simple culverts, may be necessary, but no extensive operations of this nature should be undertaken. If all cars cannot be unloaded simultaneously, the operation should be divided into two or more distinct parts, and each part treated as a separate problem. Consideration should be given to the question of including the maximum number of cars possible in the first part, the second part consisting of whatever is left over; or of having the two parts include equal numbers of cars. The urgency of the situation and the availability of labor will be the determining factors—not neglecting the question of relief of labor in prolonged operations. Each case must be decided on its own merits.

(2) Capacity of trucks can be determined from the copy of the order sent to the quartermaster.

(3) Rate of unloading from car to truck, or from car or truck to ground, may be taken, for purposes of computation, at $\frac{5}{6}$ ton per man per hour for 4 hours, followed by a 4-hour rest period; and $\frac{3}{4}$ ton per man per hour for loading from ground to truck.

(4) The number of men per railroad car or loading point is given above as 10. As this number may not be available, the actual number should be determined from the quartermaster order concerned. Note that a reduction in the number of men will reduce the computed requirements for trucks; this is desirable since trucks may be worked continuously

over a long period of time without rest. A reduction in the number of trucks available might also be accompanied by a reduction in the number of men required. However, the desirability of this should be carefully studied, as it might be better to use the full quota of men and allow a short rest period between trucks, to permit operations over a longer period without relief

(5) Length of turn-around may be determined from the operations map or from a reconnaissance, using odometer readings.

(6) Average speed of truck on turn-around should be estimated for each case. It will depend on the nature and condition of the road, hour of the day or night, amount of moonlight, fog or rain, traffic on the road, etc. Empty trucks returning to the railroad siding may make better time than loaded trucks going to the depot. Speeds of 25 miles per hour may be expected in daylight. From 3 to 12 miles per hour may be expected at night, the former for trucks following a foot guide, the latter under good conditions on an open road.

■ 108. TIME.—*a. Normal case.*—Time may be computed from the rates and quantities as indicated above. With the full requirement in labor and trucks available, the time for unloading a 50-ton car will be 6 hours. This will be the basis for release of the railroad train. Time for loading a 2½-ton truck will be 18 minutes. Total time for the operation will be 6 hours, plus 18 minutes for the last truck to unload, plus running time for the last truck. This will be the basis for release of labor and transportation.

b. Margin.—A margin of at least ½ hour should be allowed at the end of the operation. If the operation is divided into two parts, ¼ hour should be allowed between parts for shifting cars. Steps should be taken to insure that a locomotive is available at that time. See appendix VI for additional details on movements of ammunition.

■ 109. ACTION AT THE DEPOT.—*a. Initial stockage.*—The disposition of the ammunition within the depot must be determined for each truckload as a part of the planning for the operation. This is effected by means of the tally-in slip which is given the driver for each load. The tally-in shows

the section and stack to which the load is to be delivered. Plans for the depot lay-out will show the numbers of containers of each kind of ammunition in each stack. The bill of lading will show the numbers of containers of each kind of ammunition in each car, and also the lot numbers. A tally-in is prepared for each truckload required by the different stacks in order to make up their quota of ammunition. The section and stack numbers are placed on the forms. When the bill of lading is received, consideration is given to the question of which lot numbers will be assigned the different sections and stacks. The numbers and lot numbers are then placed on the tallies-in. In this connection a study should be made of the effect on traffic and labor requirements of assigning successive loads to different sections of the depot. Any plans for doing this should be carefully explained to the checker at the car, who will normally load that ammunition which is most convenient without regard to the order of the tallies. It may, in fact, be impossible for him to dispatch loads in any predetermined order. (The designation of stacks may be omitted from the tallies; see par. 47.)

b. Replenishments.—A replenishment shipment may be sufficient to bring the depot levels up to their original value. In this case, the procedure outlined above is sufficient, due regard being given to consolidation of identical lots. If the shipment is insufficient to bring the depot levels up to their original values, it must be decided which sections will receive increments. A study of lot numbers may be a deciding factor in this. If lot numbers do not yield the answer to the question, a knowledge of the units drawing from the depot and their probable requirements may assist in deciding whether to raise the levels in all sections or bring some sections up to full level, leaving others depleted.

■ 110. STOCKAGE OF FORWARD ASP'S.—The discussion of ASP stockage in this section has been concerned principally with the stockage of the large depots from a railroad siding. It must be remembered that the majority of the ASP's receive both their initial stockage and their replenishments by truck train from the depots. In these cases, the problems imposed by initial stockage are much simpler and do not involve

elaborate planning. The plan for the lay-out is made upon the receipt of the transportation order authorizing the movement, and the amount of ammunition that will be placed in each section is decided. When the truck train from the depots arrives, guides direct the truck drivers to the proper section, where the ammunition is unloaded and stacked by ordnance personnel, or, in the case of an exceptionally large initial stockage, by quartermaster labor directed by ordnance personnel. (See par. 48.)

■ 111. RAILHEADS.—*a. Definition.*—A railhead is a point or siding on a railroad where supplies are transferred from rail transportation to unit transportation. Ammunition railheads are discussed in some detail in FM 9–6. The point where depot stockage is unloaded from the railroad cars for transportation by truck to the depot site is not considered a railhead. No reserve is carried at an ammunition railhead. While a class I railhead may carry a small reserve of small arms ammunition, an ammunition railhead which stocks a reserve thereby becomes a depot, albeit the size may be small. At the railhead, control of the ammunition passes from the regulating officer to the commander of the using troops under the supervision of the army ordnance officer.

b. Use.—Ammunition railheads may be used in any situation for which their characteristics adapt them. They are normally used in two typical situations:

(1) During a concentration, before contact is established with the main body of hostile troops and while expenditures are small.

(2) For the supply of a troop unit whose requirements are small, when such unit is operating at a considerable distance from the main body of troops—as a cavalry unit protecting a flank. In this case, replenishments are small, and a reserve is not desirable. The establishment of a depot for the unit is not called for. At the same time, the distance from existing depots is too great for daily truck haulage. A railhead may be established and daily replenishments requisitioned.

c. Operation.—Operations at the railhead are comparatively simple. The principal duties of ordnance personnel are in connection with technical supervision of the handling of the ammunition. As the ammunition is not stocked, magazine

personnel are not required; and as it is consigned to the using troops, little or no administrative work is involved. Such problems as arise should be easily solved by the application of the principles governing a depot. A railhead is a particularly vulnerable point which cannot be moved or camouflaged while in operation, and little or no protection is ordinarily available. For these reasons, freight cars should be carefully loaded in accordance with the requirements of the troops for whom the ammunition is intended, since little or no sorting should be attempted at the railhead. The train should be unloaded and the trucks moved out as quickly as possible. Transportation and labor required are arranged for by the commander of the using troops. As ordnance personnel detached for operations at the railhead will be at a distance from their company bivouac, they should be attached to using troops for shelter and messing.

■ 112. AMMUNITION DUMPS AND DISTRIBUTING POINTS.—*a. General.*—Temporary stockages of ammunition placed on the ground by a corps, division, or smaller unit in forward areas are called dumps. When issues are made, the dump becomes a distributing point. Dumps and distributing points are discussed in FM 9–6. Dumps may be established for either or both of two reasons:

(1) To release organic transportation for other uses.

(2) To accumulate a reserve of ammunition for use in an anticipated action.

b. Use of ordnance personnel.—When ordnance personnel are used in connection with dumps, their principal function is to supervise the handling of the ammunition and its distribution on the ground. In the case of distributing points, personnel are also required to supervise the issues. In this case, such simplified administrative procedure as may be required will be prescribed by the division (or other appropriate) ordnance officer. Such procedure will be based on that given for the ASP. Arrangements for labor and transportation will be made by the troop commander responsible. Arrangements for ordnance personnel, including their shelter and messing, where required, will be made by the division ordnance officer, through technical channels, with the army ordnance officer.

SECTION VII

ADMINISTRATIVE DETAILS

■ 113. GENERAL.—A unified administrative system must run through the whole ammunition supply service. For this reason, certain forms are prescribed for use throughout the service, including the ASP. Such other forms as are required for the ASP system may be improvised or designed by the company commander or his assistants. Suggestions for such forms are given in this section and in chapter 3.

■ 114. PURPOSE.—The purpose of the records kept in the ASP is twofold:

a. To supply information to the company commander and his assistants for the efficient operation of the ASP.

b. To supply information for reports to higher headquarters. Such reports constitute the basis for the plans and decisions of commanders and their staff officers.

■ 115. REQUIREMENTS.—*a. General.*—(1) The successful conclusion of any contemplated operation requires two types of administrative action:

(*a*) Planning the operation so that it may produce the desired results. This should be completed before the operation starts.

(*b*) Controlling the operation so that it will proceed as planned. This is accomplished during the operation.

(2) Likewise, the operations of the ASP will fall into two categories:

(*a*) Initial stockage and replenishments.

(*b*) Issues.

b. Planning.—(1) Planning for stockage will include details concerning the following:

(*a*) Amounts and kinds of ammunition to be stocked.

(*b*) Transportation and labor required to place the ammunition in the ASP.

(*c*) Placing the ammunition in the desired location in the ASP.

(2) Planning for issues is closely related to the stockage plan. It is concerned with such matters as the composition of ammunition trains, units to be served, and the location

of ammunition within the ASP. This matter is discussed in paragraphs 96 to 110, inclusive.

c. Control.—(1) The control required over stockage is exercised by means of the tally form in placing the ammunition in the ASP, and the stock record and location record for accomplishing the issues.

(2) Issues are governed by three considerations:

(*a*) *Credits available.*—This control is for the purpose of insuring that when a unit exceeds its credit, immediate steps are taken to correct the situation and to secure additional credits or instructions from the proper headquarters. It is exercised by means of the credit record. (See par. 123.)

(*b*) *Stockage in sections.*—This is to insure that one section of the ASP is not unduly depleted while similar sections retain a high stockage. Such a condition might result in an ammunition train being sent to a section which does not have sufficient ammunition to fill its order. The control is exercised by means of the tally-out form, described in paragraph 125. The information on which it is based comes from the location record in the case of a large ASP, and from general observation in the case of a small ASP.

(*c*) *Lot numbers (where applicable).*—This is for the purpose of insuring that a battalion of artillery will, as far as is feasible, get ammunition of the same lot in consecutive issues, and thus reduce the difficulties of adjusting fire. The control is exercised by means of the tally-out, the information for it coming from the lot record.

■ 116. AMMUNITION UNITS.—Staff officers and the using troops habitually think of ammunition in terms of rounds, and papers coming into the ASP or going from the ASP to outside agencies will normally be in terms of rounds. ASP personnel, on the other hand, will normally handle, and think in terms of, containers of ammunition. Many of the ASP computations, such as truckloads, stack sizes, volume, etc., will be in terms of containers. Some ASP records will be kept in terms of containers and some in terms of rounds. Great care should be taken that the unit used is understood by all concerned, and all records, etc., should plainly state whether rounds or containers are used as the unit. There will be a constant conversion of quantities from rounds to containers and vice versa. Conversion tables or charts should

be prepared and made easily available to all personnel requiring them. Care should be taken that the size of such charts and the scale used are suitable for the numerical magnitudes involved. (See appendix VIII.)

■ 117. DESIRABILITY OF PLANNING.—It may be inferred from the discussion above that the more thorough and complete the planning is, the less difficulty may be expected in the control of the operation. The extent of the planning will normally be limited by the time available for it. However, every effort should be made to plan each operation in as great detail as possible. Up to a reasonable limit, every minute spent in planning before the operation will yield dividends in time saved during the operation.

■ 118. FORMS.—*a.* The forms used in an ASP will fall into two general classes:

(1) Those used between the ASP and outside agencies; these are prescribed.

(2) Those used within the ASP; several of these are prescribed; additional forms may be devised by ASP personnel.

b. The prescribed forms are discussed in FM 9–6. A brief description of them, in numerical order, is given below. Suggestions will be given here for forms which may be devised by ASP personnel. The use of all forms is given in chapter 3.

■ 119. ALLOCATION OF CREDIT (OFM Form No. 301) (fig. 7).—*a. General.*—For a discussion of this form see FM 9–6.

b. Preparation of form.—(1) At the top of the form are given, in order: serial number of the allocation, the office or headquarters issuing it, the hour and date at which it *becomes effective.* The allocation will normally be issued previous to its effective date, but the date given is the effective date, not the date of issue. Next are given the unit receiving the allocation and expiration date. At the expiration date, all credits which have not been used revert to army's unallocated balance. Corps may have issued the allocation in question, but the reversion is to army's balance, not corps. (See par. 122.) Next is given the ASP at which the ammunition may be drawn.

(2) The body of the form gives the quantities of each kind of ammunition allocated. These will be in terms of rounds,

unless expressly stated otherwise. Ammunition not listed and components will be listed at the bottom of the third column. The code for such items will be found in FM 9–6 or in OFSB 3–14.

(3) The bottom of the sheet has space for information, in case the ammunition is to be delivered by the transportation of a higher echelon. The authentication at the bottom will be by the appropriate ordnance officer.

120. AMMUNITION TRANSPORTATION ORDER (OFM Form No. 302A and 302B (figs. 8 and 9).—*a. General.*—For a discussion of this form see FM 9–6.

b. Preparation of form.—(1) At the top of the form is given the serial number of the order. If the ammunition is to be moved by the transportation of a higher echelon, the designation of the train will be inserted, and the form serves as an order on the train to effect the movement. If the ammunition is to be moved by unit transportation, this line will be left blank. Next is given the date the order is issued. If the ammunition is to be charged to a particular allocation, its serial number and office of issue will be inserted. The date the ammunition is to be drawn is entered as the date to be executed. If the transportation order is used also as an allocation, the expiration date will also be entered; otherwise, the space is left blank. The tonnage and number of trucks need only be given if higher echelon transportation is to be used.

(2) The body of the form gives the quantity of each kind of ammunition to be drawn, in rounds unless otherwise stated. Components will be listed at the end of the last column, if required. See FM 9–6 or OFSB 3–14 for additional code required.

(3) At the bottom of the form, "place of loading," is the ASP number or other ASP designation. "Time to reach loading point" and "destination of ammunition" are necessary to maintain proper schedules at ASP's. The "place where guide will be found" will normally be the ASP entrance. Unless this is a well-known and unmistakable point, map coordinates should be given. After "Ammunition is for" is given the designation of the unit to receive the ammunition. The authentication will be by the munitions officer of the

unit holding the credit for the ammunition requested. The receipt of the ammunition may be acknowledged by the train commander on the transportation order or on other forms, depending on the administrative system of the ASP.

■ 121. STATUS OF STOCKS REPORT (OFM Form No. 306) (fig. 10).—*a. General.*—For a discussion of this form see FM 9–6.

b. Preparation of form.—(1) The designation of the ASP and its location are entered. The first date is that of the last report. The second date is that of the present report. It is the date and time that the records are closed for making the report and is prescribed by the army ordnance officer.

(2) Data for the body of the report are taken from the ammunition stock record (OFM Form No. 307). Each type of ammunition is listed by code and posted in terms of rounds.

c. The signature is that of the ASP commander.

■ 122. AMMUNITION STOCK RECORD (OFM Form No. 307) (fig. 11).—*a. General.*—For a discussion of this form see FM 9–6.

b. Preparation of form.—(1) A separate sheet is prepared for each item of ammunition in stock. The code is placed in the upper right corner. The date is entered in the center of the form after the last transaction before midnight. The transactions for any one day are then contained between two successive date lines. Note that the closing time for rendering reports is not normally the beginning of the day, and the date line should not be confused with the line drawn between reporting periods, referred to in (4) below.

(2) The columns are used as follows:

Column 1. "Voucher Number"; serial number of allocation, transportation order, bill of lading, shipping ticket, etc.

Column 2. Unit to which the voucher pertains.

Column 3. Quantity received.

Column 4. Total of entries in column 3 for the reporting period. Column 4 starts with zero at the beginning of each reporting period.

Column 5. Quantity issued or shipped out.

Column 6. Total of entries in column 5 for the reporting period. Column 6 starts with zero at the beginning of each reporting period.

Column 7. Quantity now in the ASP—sum of column 3 minus sum of column 5.

Column 8. Quantity allocated by army. All references on the form to allocations and related terms refer to allocations from army. Corps allocations do not appear.

Column 9. Quantity still due out on army allocations. Sum of column 8 minus sum of column 5.

Column 10. Quantity in stock not allocated by army. Sum of column 3 minus sum of column 8.

(3) At the date of expiration of each allocation, the allocation number is again entered in column 1 with the remark "Expired" (or similar note). The unexpended balance of the allocation is entered in column 8 in red or with a minus sign, and columns 9 and 10 are adjusted accordingly.

(4) To facilitate the preparation of the status of stocks report (see par. 121), a line may be drawn across the stock record form at the close of each reporting period. The data for the report are then contained between the last two such lines. (See ch. 3.)

■ 123. CREDIT RECORD (OFM Form No. 308) (fig. 12.)—*a. General.*—For a discussion of this form see FM 9–6.

b. Preparation of form.—(1) A separate sheet is prepared for each item of ammunition in stock. At the bottom of the sheet, the unit receiving the credit, the number of the depot or ASP, code of the ammunition, description of the ammunition in common terms, and number of the sheet are entered in the appropriate spaces.

(2) Each allocation is posted in the box at the bottom of the sheet, when received. The column headings require no explanation.

(3) Allocations are posted, one at a time, from the bottom of the sheet to the top, as required. The oldest allocation, that is, the one which will expire first, is posted first. The date of posting, serial number of the allocation, unit from which received, and amount of the credit are posted in the appropriate columns. The balance will be the amount of the allocation, plus any balance in the line above. When the allocation is posted from the bottom of the sheet to the top, the entry at the bottom of the sheet is ruled out by drawing a horizonal line through it.

(4) Issues are posted from the transportation orders. The date of the issue, serial number of the transportation order, unit to which the issue is made, and amount issued are posted in the appropriate columns. For depot or ASP use, the running balance may be omitted. The amount of the issue is subtracted from the previous balance to get the new balance.

(5) If the balance is insufficient to cover the issue, another allocation from the bottom of the sheet is posted to the top of the sheet, as described in (3) above.

(6) The sheet is examined daily for expiring allocations. If an allocation which has expired has been posted to the top of the sheet and all of the credit used, no action is necessary. If a portion of the credit is still unused, the serial number is again entered with an appropriate remark such as "Exp" or "Rev," the unused portion is entered in the credited column in red or preceded by a minus sign, and the amount subtracted from the balance in the last column. This will make the balance zero, and the next allocation must be posted from the bottom of the sheet to the top. If the expiring allocation has not been posted to the top of the sheet, it is lined out. The remark "Exp" or "Rev" may be used if desired.

(7) The total credit of the unit at any time is the sum of the credits at the bottom of the sheet which have not been lined out, plus the balance shown at the top of the sheet.

■ 124. ASP LAY-OUT WORKSHEET (fig. 13).—*a General.*— This form is suggested for use in planning the lay-out of an ASP. When the form has been completed, it yields detailed information on the disposition of the stacks for each caliber of ammunition, the number of containers in each stack, the dimensions of the stacks in containers and feet, and the yards of road space that each section is expected to occupy. The form is then used as a basis for issuing tallies for the unloading of railroad cars (par. 47*a*), for drawing up a location record, and for general guidance of the ASP personnel.

b. Preparation of the form.—The data on the types and amounts of ammunition that are being transported to the ASP are obtained from the pertinent transportation order, requisition, or bill of lading, and may be posted in columns

(1), (2), and (3). The number of containers per section will generally be the total number of containers in the shipment divided by two (par. 98*a*). The number of tons per section for each type of ammunition (col. 5) is found by multiplying the weight of each container by the number of containers in the section. The ammunition is now broken down into individual stacks, with no more than 6 tons of ammunition in any one stack. If the amount of ammunition of any one caliber is not sufficient to form a 6-ton stack, it may be grouped with other calibers of similar nature to make the desired tonnage. The manner in which the number of stacks is determined may be better understood by reference to chapter 3. The tons per stack (col. 7) are found by dividing the total tonnage by the number of stacks, and the number of containers per stack is determined in a similar manner. These containers are now formed into stacks, using the stacking table (appendix V) as a guide. The length, width, and height of each pile is determined in terms of containers and feet (cols. 9 and 10). The length of the stack in yards is determined by dividing the length of the stack in feet by three. In case there are a number of piles of different types of ammunition in a single stack, an allowance of 1 yard must be left between the piles in determining this value. The section identification numbers or letters are placed in column 12. The total yards of road space for each section will be the number of stacks in the section multiplied by 10.

■ 125. TALLY (fig. 14).—This form is used for checking shipments, either incoming or outgoing. It is useful as a bill of lading, since properly completed, it indicates the quantities and types of ammunition in the truckload. A copy of the tally, carried by the truck driver to the destination of the load, may be used for checking the shipment when it is unloaded at this point. This tally is also used by the guide at the entrance of the ASP to direct the truck driver to the proper section. (See pars. 47*b*(4), and 127.) In the case of a depot being stocked from a railroad siding, tallies may be prepared before the ammunition movement starts to indicate the desired loading of each truck. Tallies, properly completed and signed, may serve as vouchers to the stock record account.

■ 126. LOCATION RECORD.—*a. Purpose.*—Since each type of ammunition in the ASP is maintained in two or more sections, the ASP commander must have a record showing the disposition of each caliber of ammunition between the sections. Whenever an issue is made, the location record should be consulted to determine the best section for the issue. Similarly, the location record will be of value in determining the disposition of replenishments between the various sections. The design and operation of such a record should be simple and flexible. The details of the record are left to the ingenuity of the ASP personnel.

b. Suggested form.—One method suggested is shown by figure 15. This location record consists of sheets of paper glued to thick cardboard or soft wood. The vertical lines represent the stockage of each type of ammunition in each of the sections containing that particular type. A pin or thumbtack is placed at the proper point on the scale to indicate the number of containers in the section. As issues are made, the pins are dropped to the proper level; replenishments will raise the level of the pins. The scale selected will depend on the expected stockage of each type of ammunition. It is not essential that such a scale be large enough to show individual containers, because the use of the record is only to show the relative stockage of sections containing the same type of ammunition. In the case of very small ASP's the location record may be dispensed with entirely, the direction of issues and replenishments being based solely on personal observation.

c. Use for replenishment of ASP.—The location record is used to determine the disposition of a replenishment shipment among the sections of the ASP. This disposition is effected through the use of placement tallies. (See par. 127.)

■ 127. PLACEMENT TALLY (fig. 16).—The desired disposition of a replenishment shipment, as determined from the location record, is posted to placement tallies. One tally is initiated for each type of ammunition that is in the shipment. The tally is simply a piece of paper on which is written the code number of the ammunition, together with the desired distribution of this ammunition among the various sections where it is to be stored. As each truck is admitted to the

ASP, its load is ascertained from the driver's tally. The truck is then directed to the proper section of the ASP, as determined from the placement tally. The ammunition on the truck is deducted from the balance on the placement tally. The new balance indicates the ammunition still due to that section from the replenishment shipment. Thus, each truckload is directed to the proper section, and the desired distribution is accomplished.

■ 128. LOT RECORD.—A lot record should be kept for all units drawing separate loading ammunition. One sheet is made for each unit, listing the lot numbers of the different kinds of separate loading ammunition drawn by that unit. The lot numbers should also be shown on the location record so that the trucks may be directed to the section containing that lot of ammunition.

OFM Form No. 301 ALLOCATION OF CREDIT No. _____

Office: _____ Hour _____ Day _____ Month _____ Year _____

To: _____ Division _____ Corps _____ Army

Expiration time of allocation: Hour _____ Day _____ Month _____ Year _____

There are allocated to you at Depot No. _____, the following:

Code	Quantity	Code	Quantity	Code	Quantity
P1ZAM		R1MDA		R7AAA	
P1ZCM		R1MJX		S3ABA	
P1ZAN		R1MKX		S4BAA	
P1ZAO		R1NAA		S4BBA	
P1ZAP		R1NBA		S4BCA	
P1ZBC		R1OAA		S4HGA	
P1ZCN		R1OBA		S4HIA	
P1ZBD		R1QBA		S4HKA	
P1ZBE		R1QCA		S4HMA	
P1ZBG		R1QIA		S4HOA	
P5EAA		R1QKA		S4HPA	
P5EIX		R2ZAQ		T1CAA	
P5MEX		R2ZAR		T1EDB	
P5MJX		R2ZAS		T1EDC	
P5NCA		R2ZAT		T1EDD	
P5NHX		R2ZBW		T1EGA	
P5SCX		R2ZBX		T1EGD	
P5SEX		R2ZBZ		T1EGE	
R1GBA		R2ZCA		T1EPB	
R1GEA		R2ZCH		T1EPC	
R1GHA		R2ZCJ		T1IBD	
R1LCA		R2ZCI		T2AAA	
R1LDA		R2ZCK		T2APA	
R1LEA		R2ZCL			
R1LFA		R2ZCM			
R1LGA		R2ZCN			
R1LHA		R2ZCO			
R1LIX		R4CAA			
R1LLB		R4FCX			
R1LMX		R4FLA			
R1LOA		R4FOX			
R1MCA		R4FQX			

(See reverse for code legend.)

Of the above, the following: _____

_____

will be delivered to you at: _____

by corps (army) transportation (truck, railway).

_____

(Munitions officer)

_____ Corps _____ Army

FIGURE 7.—Allocation of credit (see appendix I for code legend).

OFM Form No. 302A

No. _____

AMMUNITION TRANSPORTATION ORDER

(Artillery Ammunition)

_____ Division, _____ Corps, _____ Army Ammunition (Service Train).
Hour: _____ Day: _____ Month: _____ Year: _____
Charge to Allocation No. _____ Office: _____
To be executed (date) _____ Expiration date: _____
1. Tonnage: _____ 2. Number of trucks: _____
3. Material to be transported:

Code	Quantity	Code	Quantity	Code	Quantity
P1ZAM		R1LGA		R2ZCA	
P1ZCM		R1LHA		R2ZCH	
P1ZAN		R1LIX		R2ZCJ	
P1ZAO		R1LLB		R2ZCI	
P1ZAP		R1LMX		R2ZCK	
P1ZBC		R1LOA		R2ZCL	
P1ZCN		R1MCA		R2ZCM	
P1ZBD		R1MDA		R2ZCN	
P1ZBE		R1MJX		R2ZCO	
P1ZBG		R1MKX		T1CAA	
P5EAA		R1NAA		T1EDD	
P5EIX		R1NBA		T1EGA	
P5MEX		R1OAA		T1EGE	
P5MJX		R1OBA		T1IBD	
P5NCA		R1QBA		T2AAA	
P5NHX		R1QCA			
P5SCX		R1QIA			
P5SEX		R1QKA			
R1GBA		R2ZAQ			
R1GEA		R2ZAR			
R1GHA		R2ZAS			
R1LCA		R2ZAT			
R1LDA		R2ZBW			
R1LEA		R2ZBX			
R1LFA		R2ZBZ			

(See reverse for code legend.)

4. Place of loading: _____
5. Time to reach loading point: _____
6. Destination of ammunition: _____
7. Place where guide will be found: _____
8. Ammunition is for: _____

_____
(Munitions officer)

Ammunition received: (date) _____

_____
(Train commander)

_____ Div. _____ Corps _____ Army.

FIGURE 8.—Transportation order (see appendix I for code legend).

OFM Form No. 302B

ORDER No. _____

AMMUNITION TRANSPORTATION
(Infantry Ammunition)

_____ Division, _____ Corps, _____ Army Ammunition (Serv. Train)
Hour: _____ Day: _____ Month: _____ Year: _____
Charge to Allocation No. _____ Office _____
To be executed (date) _____ Expiration date _____
1. Tonnage _____ 2. Number of trucks _____
3. Material to be transported:

Code	Quantity	Code	Quantity	Code	Quantity
R1GBA		S4BBA			
R1GEA		S4BCA			
R1GHA		S4HGA			
R1LCA		S4HIA			
R1LDA		S4HKA			
R1LEA		S4HMA			
R1LFA		S4H0A			
R1LGA		S4HPA			
R1LHA		T1CAA			
R1LIX		T1EDB			
R1LLB		T1EDC			
R1LMX		T1EDD			
R1L0A		T1EGA			
R1NAA		T1EGD			
R1NBA		T1EGE			
R10AA		T1EPB			
R10BA		T1EPC			
R4CAA		T1IBD			
R4FCX		T2AAA			
R4FLA		T2APA			
R4F0X					
R4FQX					
R7AAA					
S3ABA					
S4BAA					

(See reverse for code legend.)

4. Place of loading: _____
5. Time to reach loading point: _____
6. Destination of ammunition: _____
7. Place where guide will be found: _____
8. Ammunition is for: _____

_____
(Munitions officer)

Ammunition received (date) _____

_____
(Train commander)
_____ Div. _____ Corps _____ Army

FIGURE 9.—Transportation order (see appendix I for code legend).

OFM Form No. 306

STATUS OF STOCKS REPORTS

Establishment_____
Location_____
From_____(Hour and date)
To_____(Hour and date)

Code	Balance on last report	Received	Issued	Balance on hand	Dues out	Unallocated

_____
(Signature)

FIGURE 10.—Status of stock report.

OFM Form No. 307

AMMUNITION STOCK RECORD

Item ----------

Voucher number	Unit	Received		Issued		Stock on hand running balance	Allocated		Unallocated running balance
		Enter each receipt	Running total of receipts for reporting period	Enter each issue	Running total of issues for reporting period		Enter each allocation	Running total of dues out (allocations —) (issues —)	
1	2	3	4	5	6	7	8	9	10 (7–9)

FIGURE 11.—Ammunition stock record.

OFM Form No. 308 CREDIT RECORD

Date	Voucher No.	Unit	Credited	Issues		Balance
				Issued	Running balance	

Allocated but not posted:

Alloc. No.	Unit	Amount	Date Effective	Expiration Date

Ordnance office _____ Unit _____ *Depot
Code _____ Description _____ *ASP No. _____
Sheet No. _____

*Cross out words not applicable.

FIGURE 12.—Credit record.

ASP LAY-OUT WORKSHEET

Date: _____ _____ Army *Depot *ASP No. _____ Location _____ Units served _____ Level _____

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Cal.	Code	Cntr.	Cntr./ sect.	Tons	Stacks	Tons/ stack	Cntr./ stack	Size of stack		Length of stack (yards)	Sections	Road space (yards)
								Cntr.	Feet			

*Cross out word not applicable.

FIGURE 13.—ASP lay-out worksheet.

TALLY - $\frac{\text{Out}}{\text{In}}$

Unit _____ T/O No. _____ Tally No. _____ Date _____ Sect ___

Car No. _____ B/L No. _____ Trk No. _____

Code	Lot	Cont	Code	Lot	Cont

Posted: Stock ____ Loca ___ Received:

Credit ____ Lot ___ _____

TALLY CARD

FIGURE 14.—Tally card.

■ 129. RECORDS.—The following records should be kept in the ASP office.

a. Ammunition stock record—OFM Form No. 307.
b. Credit records—OFM Form No. 308.
c. Location record (if necessary).
d. Lot record (if necessary).

The above represent the minimum requirements. Additional records may be kept as desired.

■ 130. FILES.—The following files may be kept in the ASP office.

a. General file for correspondence concerning receipts and issues of ammunition.
b. Telegrams.
c. Allocations, by units.
d. Transportation orders, issues and receipts.
e. Status of stocks reports.
f. Bills of lading for shipments by rail.
g. Requisitions for replenishment.
h. Labor and transportation requirements.

Other files may be kept as required. If desired, the last three above may be consolidated, with all papers pertaining to one transaction kept together.

FIGURE 15.—Location record.

PLACEMENT TALLY
Code: P1ZAM

Section: C		Section: L		Section:	
Rec	Bal	Rec	Bal	Rec	Bal
	60		40		
21	39	21	19		
21	18	19	--		
18	--				

FIGURE 16.—Placement tally.

■ 131. TABLES AND CHARTS.—The following tables or charts should be readily available in the depot office (see appendixes and OFSB 3–14):

a. Rounds, containers, tons, and truckloads of the different kinds of ammunition.

b. Packing data—rounds, weights, and dimensions of containers of the different kinds of ammunition. (See OSSC for groups P, R, S, T.)

c. Complete rounds of separate loading artillery ammunition. (See AIC, FM 9–6, or OFSB 3–14.)

d. Standard ASP lay-outs, for sections, stacks, road space.

e. Transportation requirements for ammunition movements, for different size trucks, speeds, and turn-arounds. (See FM 9–6.)

f. Armament of the different tactical units, quantities and models of the different weapons, and models of ammunition required. (See OEC, T/O, or T/BA for each unit in question.)

g. Basic loads of ammunition—rounds, containers, and tons. (See T/BA for arm or service concerned.)

h. Units of fire—rounds, containers, and tons. (See FM 101–10.)

i. Composition af ammunition trains. (See T/O and FM 101–10.)

j. Identification of ammunition—containers and rounds. (See appendix IX and TM 9–1900.)

CHAPTER 2

ORDNANCE AMMUNITION BATTALION

Paragraphs

SECTION I. Organization and operations 132–148
II. Headquarters and headquarters detachment .. 149–153

SECTION I

ORGANIZATION AND OPERATIONS

■ 132. MISSION.—*a.* The mission of the ordnance battalion, ammunition, is to establish and operate ammunition supply points as required by the army ordnance officer.

b. The functions of the companies of the battalion are discussed in chapter 1.

c. The functions of the headquarters and headquarters detachment are given in section II.

■ 133. ASSIGNMENTS.—*a.* Ammunition battalions are normally assigned two per field army and to the communications zone as required.

b. Assignments of detached companies are given in paragraph 3.

■ 134. RESPONSIBILITIES.—The ordnance battalion, ammunition, is responsible to the army ordnance officer, or other appropriate higher authority for—

a. Establishment and operation of ammunition supply points in the area assigned to the battalion.

b. Maintenance of complete information concerning the area assigned to the battalion in order that the army ordnance officer may have immediately available all the information necessary to establish new ASP's.

c. Close coordination with G–2 and G–4 through the army ordnance officer, as to the disposition of captured enemy ammunition, and the preparation of instructions to ASP's under its control for the disposition of such ammunition, as well as lists of ammunition desired for use in captured weapons.

■ 135. MANNER OF OPERATION.—In the fulfillment of the mission of the battalion, the installation and operation of the supply points will be effected by the companies as described in chapter 1. The headquarters and headquarters detachment of the battalion will supervise and coordinate the activities of the companies and render such administrative services as may be necessary.

■ 136. ORGANIZATION.—The organization of the ordnance battalion, ammunition, is prescribed in T/O 9–15 and is shown in figure 17. It consists of a headquarters and headquarters detachment, six ammunition companies, and attached medical personnel.

■ 137. EQUIPMENT.—The equipment of the ordnance battalion, ammunition, is prescribed in T/BA 9.

■ 138. OPERATIONS AS A UNIT.—The services of an entire ammunition battalion may sometimes be required for large depots. Such depots normally will be found only in the communications zone. The organization and operation of ASP's as described in chapter 1 were dictated largely by tactical considerations. In the communications zone these considerations are not of such great importance, and the organization and operation of ammunition depots can more closely approach those employed in the depots in the zone of the interior. Many of the principles outlined in FM 9–25 will apply. Reference should also be made to TM 9–1900.

■ 139. COMMUNICATIONS ZONE DEPOTS.—The following paragraphs are intended to illustrate a suggested method of organization and operation of a communications zone depot. The depot discussed herein is operated by the headquarters of an ammunition battalion plus a sufficient number of ammunition companies on the basis of two ammunition companies per 15 days' supply for an army. (See FM 9–5.)

■ 140. LOCATION.—*a. General.*—The depot should be on a main line railroad leading to the regulating station. This does not mean that the railroad should run through the depot area, but that a short switch or branch line should connect the depot area with the main line. It should be near, but not in, a town of sufficient size to provide the necessary utilities. In this connection, the provisions of

TM 9–1900 should be complied with to a reasonable extent. As some shipments may be required by truck, good access to the road net is essential. (See fig. 20.)

b. Roads.—The internal road net should provide—

(1) Two-lane roads of good construction and adequate drainage.

(2) One-way traffic.

(3) Traffic circuits—not turn-around in the road.

(4) Access to each section of the depot along the entire length of one side.

(5) A minimum number of railroad crossings.

c. Rail facilities.—Railroad tracks for loading and unloading should extend along the entire length of one side of each section of the depot. Depending on conditions, storage tracks may also be desirable. A gasoline locomotive or other facilities for moving cars may be required.

■ 141. COMMUNICATIONS.—Adequate telephone and messenger service should be available between the battalion headquarters, main depot office, depot suboffices, magazine sections, and company headquarters. The battalion headquarters and main depot office should be connected to the communications net of the communications zone, with a direct line to the regulating station, if practicable.

■ 142. TERRAIN.—*a. General.*—Terrain requirements will normally be subordinated to transportation requirements, but the ground should be hard and well drained.

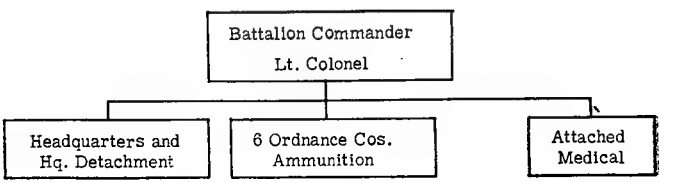
b. Natural cover.—The size of the depot and the necessity for new construction will reduce the extent of the use of natural cover for concealment. Though the necessity for concealment is not as great as in the combat zone, advantage should be taken of every opportunity to render the depot as inconspicuous as possible.

c. Area.—Considerations of safety make a wide dispersion of the ammunition desirable. This greatly increases the requirements for rail and road construction. A compromise must be effected, based on—

(1) Extent of suitable area available.

(2) Expected permanence of the installation.

(3) Ease of securing the necessary new construction.



(T/O 9-17)

Figure 17.—Organization of the ordnance battalion, ammunition (T/O 9–15).

■ 143. SECURITY.—Care must be taken to exclude unauthorized personnel from the depot area. Fire extinguishers and water barrels should be distributed as deemed advisable. Provisions should be made to secure the prompt arrival of fire-fighting equipment in emergencies.

■ 144. SIZE AND PERMANENCE.—*a. Size.*—Some of the considerations which limit the size of supply points in the combat zone—necessity for concealment, mobility, close support of combat troops by truck, liability to capture or destruction by enemy action—are not so pressing in planning lay-outs for communications zone depots. Stockages in these depots are usually quite heavy. Suitable sites are limited. Many economies in labor, in administrative detail, and in requirements for supervisory personnel may be effected in large installations.

b. Permanence.—Because of the great tonnage of ammunition stocked in communications zone depots, these depots are relatively permanent. Such permanence permits the construction of rail sidings and road nets to facilitate the distribution of the ammunition within the depot area.

c. Nature of operations.—Shipments into and out of communications zone depots will usually be by trainloads. The time required to handle the quantities involved will usually make it necessary to carry on operations during both night and day. Arrangements for night operations must include the provision of black-out aids.

■ 145. FACILITIES.—*a. Labor-saving devices.*—The comparative permanence of the installation renders the use of labor-saving devices more practicable. A careful study of each individual installation should be made from this standpoint. Some equipment may be improvised and much of it can be constructed in neighboring ordnance maintenance shops. The reduction of the time required for loading which may be effected by the use of this type of equipment may often be of greater importance than the reduction of labor requirements. (See IOSSC–h.)

b. Buildings.—Depending on the expected permanence of the installation and on the difficulty of securing construction, semipermanent or portable buildings or tentage may be erected for housing those parts of the depot which require

protection from the weather. Such buildings may be used for offices, messes, shops, and magazines for those types of ammunition which deteriorate most rapidly when exposed.

c. Labor.—Whenever possible civilian labor will be used. Such labor should be carefully supervised.

d. Assistance.—The provision of road, rail, and other new construction, including buildings, should be requested through channels from the Corps of Engineers. Communication facilities beyond those included in the equipment of the ammunition companies will be provided by signal troops.

■ 146. ORGANIZATION OF THE DEPOT (fig. 18).—The organization of the depot will be determined by the battalion commander for each individual situation. The following general remarks are given as a guide.

a. General.—There should be a depot office and a magazine section for each company. If deemed advisable, a service section may be organized for the entire depot.

b. Depot office.—(1) The functions of the depot office will be similar to those given in chapter 1 of this manual. Its organization may follow the same general lines. A stock record and credit record must be maintained. A lot record should be maintained so that the same lot of a kind of ammunition may be sent to the same ASP (in the combat zone), as far as practicable. A record should be kept showing the number of each kind and size of railroad empties on hand at all times. The usual files must be maintained. Reports will be rendered as ordered.

(2) Personnel to man the depot office will be drawn from the depot office sections of the companies present.

c. Magazine sections.—Each section will be organized along the general lines of a small ASP. There will be a magazine office, operated by depot office personnel of the company, and as many magazines or stock groups as may be necessary, operated by magazine platoon personnel. A service unit may or may not be retained in each magazine section.

(1) The magazine office will perform the necessary administrative work for the section. The office force will be small, most of the personnel being assigned to the depot office. The amount of work required will likewise be small, as it will not be necessary to maintain stock or credit records.

The preparation of tallies, liaison work, and issuing orders will be the principal duties.

(2) The magazines will be organized and operated as deemed advisable. Personnel will be furnished by the magazine platoon of the company. Labor may be furnished from the labor pool, if established.

(3) The desirability of retaining a service unit in each magazine section should be carefully studied. In general, each company should be kept together as a unit as far as possible. The functions of a service unit in a depot of this kind will include the provisions of—

(*a*) Transportation.

(*b*) Guard, guide, traffic control, and possibly labor.

(*c*) Shop facilities.

(4) The considerations applicable to these subjects are discussed in *d* below.

d. Service section.—The service section may be organized into a headquarters and units as follows: transportation; guard, guide, and traffic; labor; shops. Personnel and sufficient transportation to care for the requirements of the section will be assigned from the companies. The headquarters will supervise and coordinate the service elements of the depot, and will operate the internal telephone system and any other utilities of the depot.

(1) *Transportation unit.*—Automotive transportation detailed from the companies in the depot is controlled by this section. Its principal use within the depot will be for intradepot transfer of small quantities of ammunition and messenger service. This unit will assign railway cars to magazine sections for loading. They will spot and move cars as ordered. They will keep the depot office informed of the number and size of empties on hand. All matters concerning railway service within the depot will be handled by this unit. (All transactions concerning railway matters between the depot and outside agencies will be conducted by the depot office.) Guides and traffic control personnel not required for their normal duties may be assigned to this unit.

(2) *Guards, guides, and traffic control personnel.*—The nature of their duties would indicate that guards, guides, and traffic control personnel should operate from a central

agency. They might best be pooled in a service section. Unless an abnormal amount of shipping is by truck, the requirements for guides and traffic control personnel should be light. Some of this personnel may be used on other duties.

(3) *Labor facilities.*—A single requisition will not normally require issues from all sections of the depot. There will be times when one or more sections are overloaded while other sections are not busy. Under such conditions economy might indicate the use of a labor pool. This would be especially true if some civilian labor is used. In this case, military personnel would be used as checkers and supervisors, and the civilians as laborers.

(4) *Shops unit.*—This unit may be organized into a general shop (carpenter), clip and belt loading shop, and renovation shop. Considerable work may be required of the loading shop, and special facilities and labor should be provided for it. It is very probable that such work as repairing containers, making signs, etc., can be done in each magazine section as well as in a central shop, if satisfactory cover can be obtained in the section area. This will reduce transportation requirements. The renovation shop should be at a distance from all other establishments.

■ **147. Operation of Depot.**—Only an outline of a suggested administrative procedure will be presented here. The other phases of the depot operation present no unusual features.

a. Receipt of requisitions.—On receipt of a requisition in the depot office, the requisition is examined and extracts are prepared showing the quantities and kinds of ammunition to be furnished by each magazine section. These extracted requisitions are forwarded to the sections concerned. The list of empty cars is examined to determine the number and size of the cars to be sent to each section. A Loading Sheet (fig. 19) is then prepared for each section.

b. Loading sheet.—The loading sheet shows the number and size of the cars to be spotted at each section for shipping the ammunition required from that section. The requirements of a section will not normally total an exact number of carloads. This requires that partially filled cars from some sections be shifted to other sections to complete their

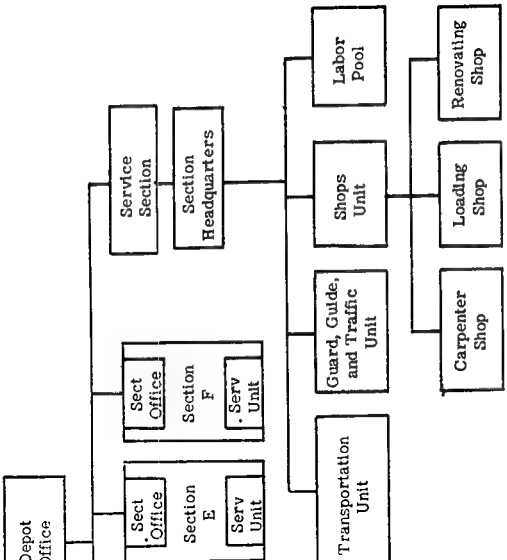


FIGURE 18.—Communications zone ammunition depot, operated by an ammunition battalion.

loading. The first section of the loading sheet constitutes an order on the service section for these car movements. As all cars or vehicles sent forward to the combat zone should be loaded to capacity, sufficient ammunition of a suitable type will be loaded in the last car to fill the car, and this extra ammunition will be shown on the pertinent extracted requisition. The loading sheets are sent to the service section.

c. Spotting cars.—When the initial spotting of the cars is completed, the service section makes appropriate entries on the loading sheet and gives it to the magazine section concerned.

d. Loading cars.—The magazine section loads the cars as required and posts the loadings to the sheet. The sheet then goes to the depot office.

e. Making up train.—When all loading sheets are received in the depot office, the service section is notified to make the train up, so that it may be dispatched as soon as the locomotive and train crew arrive. However, it may be more desirable to have the locomotive and train crew from the military railway service make up the train. Such matters will be decided between higher headquarters and the military railway service.

f. Posting records.—Stock and credit records in the depot office are posted from the loading sheets, and the loading schedule and bill of lading prepared from them.

■ 148. BASIS FOR PLANNING.—*a. General.*—(1) In order to enable the companies of the battalion to retain their identity as far as possible, the depot should be subdivided into sections, one section being assigned to each company. Communications zone depots will normally be stocked in terms of "day of supply." (See FM 9–5 for the day of supply of ammunition.) Stockage levels defined in days of supply may be converted into tons of the different kinds and calibers of ammunition by using the definition of the day of supply and the number of the different kinds of weapons in the units served, the computation being similar to that for unit of fire (see appendix III).

(2) The assignment of the different calibers to magazine sections should be given careful consideration. It is desirable that the total amount of work be divided equally among

COMMUNICATIONS ZONE AMMUNITION DEPOT NO. _____

Place _____

Loading Sheet

Date _____ Req. No. _____

To Serv. Sec.: Spot _____ cars _____ T each at Sec. _____ at _____
number capacity place time

Move _____ car from Sec. _____ to Sec. _____ at _____
No. place place time

Remarks _____

_____ Ch. Clerk Time _____

(To be filled in by depot office and forwarded to service platoon.)

Cars spotted _____

_____

_____ Serv. Plat. Time _____

(To be filled in by service platoon and forwarded to magazine section.)

Cars have been loaded as follows:

Car No.	Code	Lot	Cntr.	Tons	Car No.	Code	Lot	Cntr.	Tons

_____ Sec. _____ Time _____

(To be filled in by magazine section and returned to depot office when completed.)

FIGURE 19.—Loading sheet.

the companies. This might indicate sections having approximately equal tonnage, but consideration should be given to the amount of administrative work involved. As an example, issues of 155-mm gun ammunition may be expected to involve a few shipments of large tonnage, requiring little office work, while issues of pistol ammunition may call for many shipments of small tonnage, requiring a relatively large amount of administrative work.

(3) A schematic lay-out of a depot using open storage is shown in figure 20. The grouping of the different calibers here may not correspond to the assignment of calibers as determined in (2) above. For this reason, some shifting of calibers may be necessary. It will be noted that the lay-out shown provides two separate locations for each kind of ammunition.

b. Need for railroad reserve.—In emergencies, requisitions will be transmitted by telegraph. In order that the depot may proceed immediately with loading operations, a suitable number of empty cars should be available at the depot at all times. This must be authorized by the regulating officer. Otherwise, it will be necessary to wait until the regulating officer locates the empties and the military railway service moves them to the depot. Much valuable time may be lost. The number to be kept on hand will depend upon:

(1) The maximum expected demand, which will depend upon the extent of operations and will vary widely. It can only be pointed out here that the transportation of 1 U/F for a type field army requires approximately 200 50-ton cars.

(2) The length of time required to get additional empties to the depot, which will depend on local conditions.

(3) The number of cars that can be loaded by the depot during the above interval of time, which will depend on:

(*a*) Number of loading points.

(*b*) Amount of labor available.

(*c*) Amount of mechanical equipment available.

In any situation, this number can be estimated by the depot office as outlined in chapter 1.

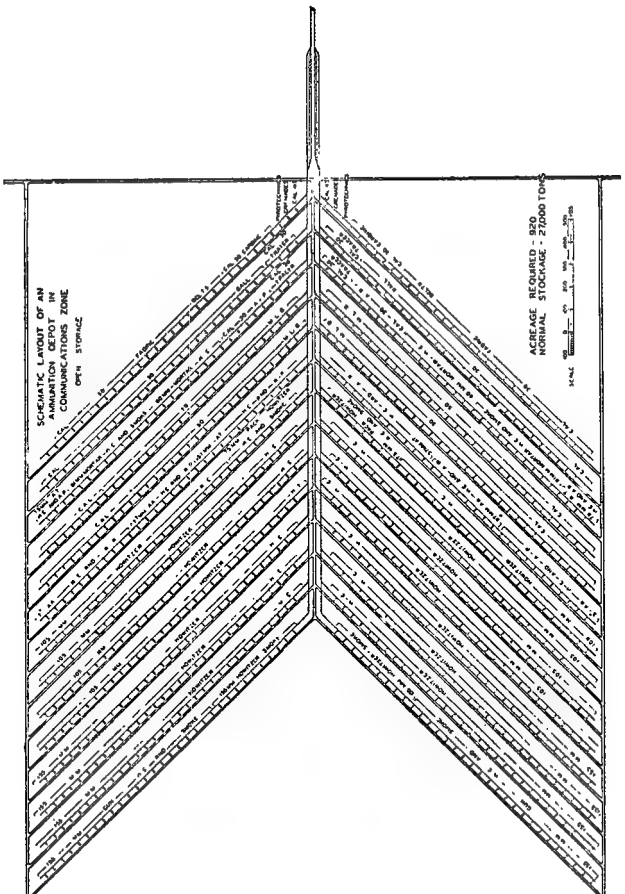


FIGURE 20.—Communications zone depot.

SECTION II

HEADQUARTERS AND HEADQUARTERS DETACHMENT

■ 149. ORGANIZATION.—The organization of the headquarters and headquarters detachment is prescribed in T/O 9–15 and shown in figure 21.

■ 150. EQUIPMENT.—The equipment of the headquarters and headquarters detachment is prescribed in T/BA 9.

■ 151. GENERAL.—*a.* Operations of the headquarters and headquarters detachment will normally fall into the following classes:

(1) Supervision and coordination of the activities of its companies.

(2) Administrative assistance to its companies.

(3) Liaison between its companies and other headquarters.

(4) The furnishing of technical information and other assistance to higher headquarters.

b. The battalion commander and his staff should regard themselves as the personal agents or representatives of the army ordnance officer, and should endeavor at all times to secure and transmit to the army ordnance officer all pertinent information concerning the ammunition supply situation.

■ 152. MILITARY SECTION.—The military section will perform all the normal functions of a headquarters and such other functions as may be assigned to it by the battalion commander. This section is responsible to the battalion commander for the military administration of the battalion. It will—

a. Receive and carry out the orders and policies of the commanding officer.

b. Receive and transmit to the proper person or section all orders and instructions from proper authority.

c. Issue necessary orders to subordinate units.

d. Prepare such reports from the battalion to higher authority as are required.

e. Perform such duties in connection with personnel matters as are required, that is, maintain files, conduct correspondence, and attend to other routine administrative details.

f. Prepare training programs and conduct such schools as may be practicable. These will be coordinated with the technical section, when deemed advisable.

g. Coordinate class I and other supply requirements of its companies with higher headquarters; make any necessary arrangements with class I and other railheads.

h. Arrange for class I and class III supplies for outside

labor and transportation when necessary during ammunition movements.

i. Arrange for the necessary transportation and any other facilities required when a company is moved from one site to another.

j. In sub-ASP operation, make a study of the possibility of, and make the necessary arrangements for, the supply of messing, transportation, and similar facilities by one company to a nearby section of another company.

k. Make such military inspections of companies as are ordered by the battalion commander, these inspections to cover such matters as military training of personnel, guard, safety precautions, camouflage, sanitation, etc.

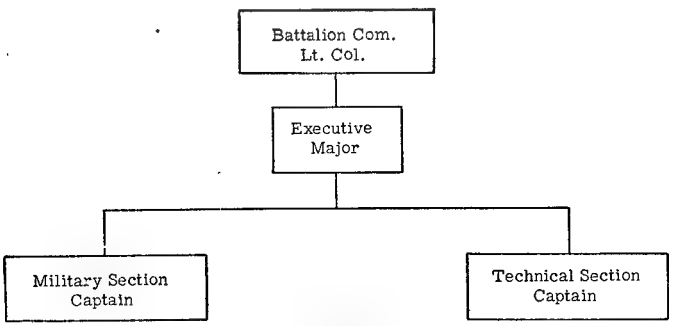


FIGURE 21.—Organization of headquarters and headquarters detachment, ammunition battalion.

■ 153. TECHNICAL SECTION.—This section is responsible to the battalion commander for the correctness and adequacy of the technical operations of the battalion. It will—

a. Assign depot missions to ammunition companies.

b. Supervise the movement and establishment of depots.

c. Check all plans for transportation and labor.

d. Secure such additional transportation and labor as may be required.

e. Secure and forward to appropriate companies all bills of lading, train schedules, loading plans, truck movement plans, etc.

f. Make arrangements for services required in the establishment and operation of depots, such as spotting cars and

moving trains, road construction, telephone installation, etc.

g. Supervise plans for traffic control and make such arrangements as may be necessary to carry out such plans.

h. Reconnoiter for and maintain a situation map showing any or all of the following:

(1) Present location of depots and ASP's.

(2) Possible future location of depots and ASP's.

(3) Appropriate rail sidings.

(4) Suitable road nets.

This situation map should show detailed information concerning all pertinent factors.

i. Consolidate and post to the situation map all pertinent information received from the companies.

j. Submit recommendations to the army ordnance officer for depot and ASP sites, when required.

k. Recommend changes in depot and ASP sites to the army ordnance officer, when the situation makes such changes desirable.

l. Transmit to other headquarters for concurrence schedules of issues, when such schedules are desirable and practicable.

m. Make such technical inspections of depots as are required by the battalion commander. Such inspections will be concerned with—

(1) General lay-out.

(2) Conditions of storage.

(3) Traffic situation.

(4) Administrative procedure.

n. Prepare and consolidate technical reports, if required.

o. Make arrangements with the salvage service for—

(1) Repossession of serviceable salvaged ammunition.

(2) Repossession of serviceable salvaged components such as machine-gun belts and clips when desirable.

p. Arrange for transmission to the rear of damaged ammunition from the companies.

q. Prepare plans for the disposition of captured enemy ammunition. This will require coordination with G–2 and G–4 of the army through the army ordnance officer. In general, ammunition which can be used in our weapons will be reported to the army ordnance officer and may be stored in the ASP and issued to troops as required. Ammunition

unsuitable for use in our own weapons will be stored pending instructions from G–2 and G–4 for its disposition. G–4 will have information as to what units of our own forces have enemy weapons and the types of these weapons, and will know where such captured ammunition can be used to best advantage.

CHAPTER 3

ILLUSTRATIVE EXERCISE—ASP STOCKAGE AND OPERATION

		Paragraphs
SECTION I.	Artillery ASP (ASP No. 8)	154–157
II.	Infantry ASP (ASP No. 9)	158–160
III.	Tabulated data	161–165

SECTION I

ARTILLERY ASP (ASP No. 8)

■ 154. GENERAL SITUATION.—*a. General.*—(1) The following illustrative exercise is given to illustrate the application of the principles discussed in the preceding parts of this manual for the establishment and operation of an ASP, and for purposes of illustrating the use of the applicable forms. It should be borne in mind that the solution presented herein represents only one of several possible solutions. Depending on local conditions at the time, other solutions may be equally applicable, or even preferable. The commander's decisions in such matters should be based on an evaluation of all of the factors involved.

(2) An ASP is only one small part of the army's ammunition supply system. Its operation is intimately connected with and affected by the tactical situation and the policies and decisions of the army ordnance officer. This exercise contemplates the establishment and operation of two ASP's for the supply of a triangular division, one for artillery units and one for infantry units. The problem for the artillery ASP is carried over a sufficient period of time to illustrate completely the working of the different accounts. The problem of the infantry ASP is carried only for a sufficient length of time to set up the records.

b. Data.—Data required for the solution of this exercise have been extracted from various sources or assumed. They are given in tabular form in section III. The quantities of ammunition used have been assumed in even numbers or at random, and it is not intended to imply that any figures given represent normal or recommended practice.

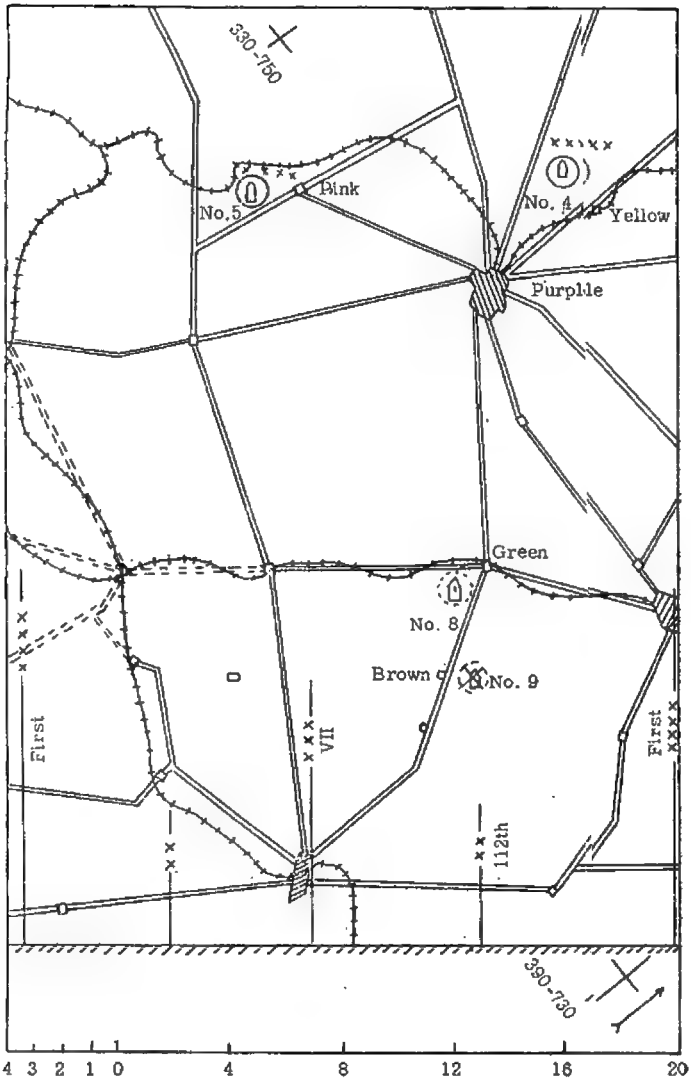


FIGURE 22.—General situation.

c. General situation.—The troops chosen for this problem are Co. C, 311th Ord. Bn. The tactical situation is shown on the map, figure 22. Just prior to the time the exercise commences, the company has been on duty at Yellow. The problem begins on November 1 with the reception by the company of SO No. 487, Hq. 311th Ord. Bn., ordering the company to move to Green and establish ASP No. 8. (See fig. 23.) Attached to the order were Ammunition Movement Order No. 12 (fig. 24), Transportation Order No. 256 for the initial stockage (fig. 25), and a map of Green, Pa., and vicinity (fig. 26). The transportation order specifies the placing of a guide at a prominent point of the terrain, since the exact location of the ASP is as yet unknown to the army ordnance officer. On the following day, after ASP No. 8 has been established, the company receives SO No. 488 (fig. 37), directing that a detachment be sent forward to Brown to establish and operate ASP No. 9. However, since the establishment and operation of ASP No. 9 parallels that of ASP No. 8, no further reference will be made to the former except for the inclusion of the records, reports, and operational forms kept by this supply point. These are included in section II.

Hq. 311th Ord Bn.
Pink, Pa.,
1 Nov 1941

Sp Orders No. 487
To: Commanding Officer, Co C, 311th Ord Bn,
Yellow, Pa.
Subject: Establishment of First Army ASP No. 8.

1. Co C, 311th Ord Bn, is relieved from present assignment and duties at Army Ammunition Depot No. 4, and will proceed to Green, Pa. and establish and operate First Army ASP No. 8 in accordance with attached Ammunition Movement Order No. 12.

2. Seven 2½-ton trucks from the 427th QM Co will arrive at Yellow at 10:00 AM, 1 Nov 1941, to assist in the movement from Yellow to Green. These trucks will be released at Green not later than 1:00 PM.

3. Route: Yellow–Purple–Green.

4. Class I supplies will be drawn from the 112th Cl I Rhd at 9:00 PM daily beginning 1 Nov. Daily strength reports will be rendered to G–4 112th Div.

V
Lt. Col., CO 311th Ord. Bn.

Encl:
TO 256
AMO 12
Map; Green, Pa. and vicinity; 1:21120

FIGURE 23.—Special orders for the establishing of ASP No. 8.

Ordnance Office
Hq. First Army
Place: Blue, Pa.
Date: 1 Nov 1941

Ammunition Movement Order No. 12

To: CO 311th Ord. Bn., Amm.

Place: Pink, Pa.

1. Ammunition:

TO No. 256 Tons: 388

Loaded on _____ Cars, 152 2½ T Trk, _____ 1½ T Trk _____ 1 T Trl

~~RR Siding~~ Trk-head at Green, Pa. (place) 2 Nov (date) 1:00 AM (hour)

2. Labor:

155 laborers and 13 NCO'S from 217th QM Co.

To report at Green, Pa. 2 Nov 12:30 AM

To be released at Green, Pa. (place) 2 Nov (date) 4:30 AM (time)

Rations to be furnished by QM. x

_____ rations to arrive at _____ at _____

on _____; to be prepared and served by Ord Co.

3. Transportation:

152 2½ T Trk _____ 1½ T Trk _____ 1 T Trl from 431st QM Co.

1 drivers per truck.

To report at Yellow, Pa. 1 Nov 6:00 PM

To be released at Green, Pa. (place) 2 Nov (date) 4:30 AM (hour)

Gasoline to be furnished by QM. x

To be drawn from _____ by _____

4. Road net:

Yellow–Purple–Green. Purple must be entered after 11:00 PM and cleared before 12:00 midnight.

Alternate: _____

5. Destination:

This ammunition to be stocked in First Army ASP No. 8 at Green, Pa. for issue to 112th Div.

6. Railroad train to be released not later than _____, _____ (date) (hour)

7. ASP opens: (if for initial stockage) 2 Nov, 8:00 AM

8. Remarks:

W
00 First Army

Distribution:
1—G-4
1—Army QM
2—311th Ord Bn, Amm.
1—File

FIGURE 24.—Ammunition movement order for initial stockage of ASP No. 8.

OFM Form No. 302A No. 256

AMMUNITION TRANSPORTATION ORDER
(Artillery Ammunition)

_____Division, _____Corps, _____Army Ammunitions (Serv Tn)
Hour:_____ Day: 1 Month: Nov Year: 1941
Charge to Allocation No. Unallo. Bal. Office:_____
To be executed (date) 1 Nov Expiration Date:_____
1. Tonnage: 380 2. Number of trucks: 152 - 2½ ton
3. Material to be transported:

Code	Quantity	Code	Quantity	Code	Quantity
P1ZAM		R1LGA		R2ZCA	90
P1ZCM		R1LHA		R2ZCH	"
P1ZAN		R1LIX	360	R2ZCJ	
P1ZAO		R1LLB		R2ZCI	
P1ZAP		R1LMX		R2ZCK	
P1ZBC		R1LOA		R2ZCL	
P1ZCN		R1MCA		R2ZCM	
P1ZBD		R1MDA		R2ZCN	
P1ZBE		R1MJX		R2ZCO	
P1ZBG		R1MKX		T1CAA	138,240
P5EAA		R1NAA		T1EDD	
P5EIX		R1NBA		T1EGA	
P5MEX		R1OAA		T1EGE	
P5MJX		R1OBA		T1IBD	54,590
P5NCA		R1QBA	7290	T2AAA	8000
P5NHX		R1QCA			
P5SCX		R1QIA			
P5SEX		R1QKA	810		
R1GBA	240	R2ZAQ	648		
R1GEA	2160	R2ZAR	648		
R1GHA		R2ZAS	162		
R1LCA		R2ZAT	162		
R1LDA	42	R2ZBW			
R1LEA		R2ZBX			
R1LFA		R2ZBZ	90		

(See reverse for code legend.)
4. Place of loading: Amm Depot No. 4, Yellow, Pa.
5. Time to reach loading point: 6:00 PM, 1 Nov
6. Destination of ammunition: Green, Pa.
7. Guide will be found at: Georgetown, Ave. and Baltimore PPike
8. Ammunition is for: ASP No. 8

WW
(Munitions officer)

Ammunition received: (date) _____

(Train commander)
_____ Div _____ Corps _____ Army

FIGURE 25.—Transportation order for initial stockage of ASP No. 8.

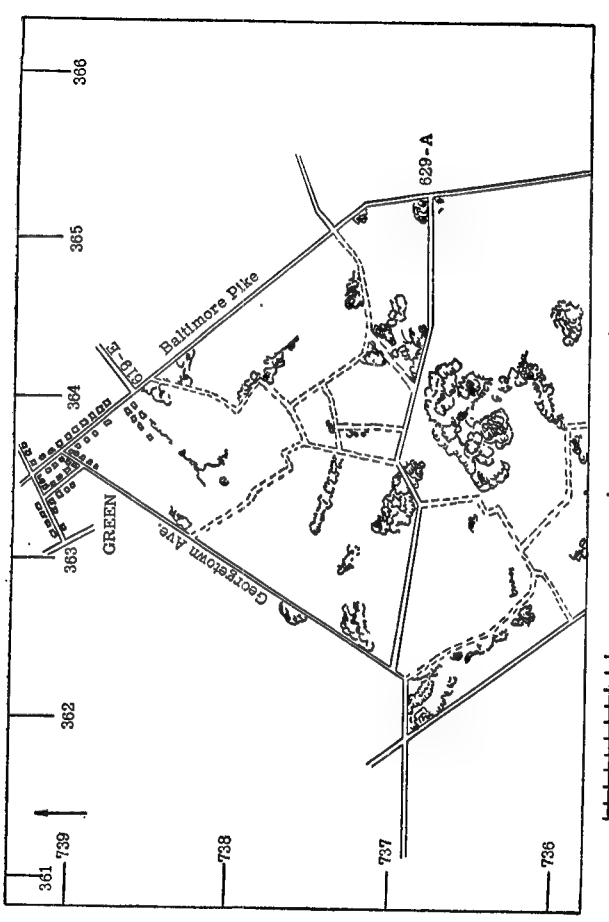


FIGURE 26.—ASP No. 8 area.

Hq., Co. C, 311th Ord. Bn.
Green, Pa.
Nov. 1, 1941.

Memo No. 216
Subject: ASP No. 8
To: CO, 311th Ord. Bn.
Pink, Pa.

1. It is requested that the Signal Service install a telephone at Co. C headquarters and connect same with the First Army net.
2. The location of the entrance to ASP No. 8 is at RJ 619–E (364–738).

X
CO Co. C, 311th Ord. Bn.

FIGURE 27.—Memo. No. 216.

■ 155. INSTALLATION OF THE ASP.—*a. Preliminary arrangements.*—The first step following the reception of the movement order mentioned in the preceding paragraph is the computation of the data for the ASP lay-out. (See pars. 98–104.) The work sheet (fig. 28) shows, for each section of the ASP, the number of stacks and number of containers of each kind of ammunition in each stack, the length of each stack, and the road space for each section. Following a reconnaissance of the site, locations of the different sections are selected and marked on the map as shown in figure 29. Other activities in connection with the movement of the company and the establishment of the ASP are given in the log of the company's actions, *d* below.

b. Stocking the ASP.—When the ammunition specified in the transportation order arrives at the ASP location, each truck is stopped at the ASP office and its contents determined. The truck is then routed to the section in which the ammunition on it is to be placed. An equitable distribution between the two sections for each caliber of ammunition is obtained by using a placement tally sheet. (See pars. 48 and 127.)

c. Initiating the records.—After the ammunition has been placed in the ASP, the stock record is initiated with Transportation Order No. 256 as the first entry. Allocation No. 86, First Army, and Allocation No. 86–11, VII Corps, are received about this time. A–86 is posted to the stock record, and credit records are set up for the corps and for the division, A–86 being the first entry on the corps credit record, and A–86–11 being the first entry on the division credit record. (See pars. 122 and 123.) The stock record is shown in figure

ASP LAY-OUT, WORKSHEET

Date: 2 Nov. 1941 First Army *Depot *ASP No. 8 Location Green, Pa. Units Served 112th Div—Arty. Level

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Cal.	Code	Cntr.	Cntr. sect.	Tons	Stacks	Tons/ stack	Cntr./ stack	Size of stack: Cntr.	Size of stack: Feet	Length of stack (yards)	Sections	Road space (yards)
.45	T2AAA	4	2	.11	1	6.28	2	2 x 1 x 1	2.1 x 0.6 x 1.4	9	B–D	10
.30	T1CAA	64	32	1.22			32	4 x 2 x 5 [1]	4.9 x 1.6 x 1.4			
SR .50	T1IBD	206	103	4.95			103	4 x 4 x 2	4.9 x 3.2 x 18.5			
37-mm	R1GBA	12	6	.30	1	3.0	6	4 x 2 x 1	5.7 x 2.2 x 1.5	5	C–E	10
	R1GEA	108	54	2.70			54	4 x 4 x 7	5.7 x 4.3 x 10.3			
75-mm	R1LDA	14	7	.24	1	2.28	7	5 x 2 x 1	3.4 x 1.3 x 2.4	7	I–K	10
	R1LIX	120	60	2.04			60	5 x 5 x 6	3.4 x 3.2 x 14.6			
105-mm	R1QBA	3645	1823	116.14	19	6.11	96	5 x 5 x 8	5.3 x 2.9 x 25.5	9	F–G	210
	R1QKA	405	203	12.96	2	6.48	102	5 x 5 x 9	5.3 x 2.9 x 28.7	10		
155-mm How												
R2ZAQ	R2ADA	648	324	15.55			108	9 x 1 x 12	5.5 x 2.2 x 7.3			See next sheet for total road-space of 155-mm How sections.
	R2LCA	108	54	1.08			18	4 x 3 x 2	4.0 x 2.8 x 4.2			
	R3BHA	26	13	.51			4	3 x 2 x 1	4.0 x 2.6 x 1.5			
	R3DAA	[1] 5	8	.01			3					
				17.15	3	5.72						

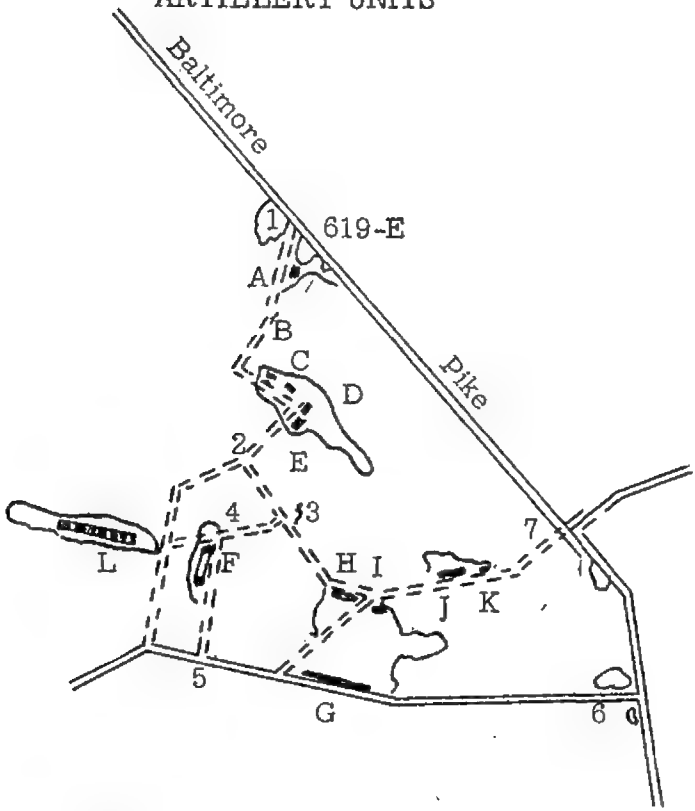
R2ZAR	R2ADA	648	324	15.55			108	9 x 1 x 12	5.5 x 2.2 x 7.3			
	R2LDA	108	.54	1.84			18	4 x 3 x 2	4.6 x 2.2 x 4.2			
	R3BHA	26	13	.51			4	3 x 2 x 1	4.0 x 2.6 x 1.5			
	R3DAA	[2] 15	8	.01			8					
				17.91	3	5.97				7		
R2ZAS	R2ADA	162	81	3.89			81	9 x 1 x 9	5.5 x 2.5 x 5.5			
	R2LCA	27	14	.28			14	4 x 2 x 2	4.0 x 1.9 x 4.2		H–J	90
	R3BJA	7	4	.16			4	3 x 2 x 1	4.0 x 2.6 x 1.5			
	R3DAA	[2] 4	2				2					
				4.33	1	4.33				6		
R2ZAT	R2ADA	162	81	3.89			81	9 x 1 x 9	5.5 x 2.2 x 5.5			
	R2LDA	27	14	.48			14	4 x 2 x 2	4.6 x 2.2 x 4.2			
	R3BJA	7	4	.16			4	3 x 2 x 1	4.0 x 2.6 x 1.5			
	R3DAA	[2] 4	2				2					
				4.53	1	4.53				6		
R2ZBZ	R2AQX	90	45	2.16		R2AQX	90	9 x 1 x 10	5.6 x 2.2 x 6.1			
	R2LCA	15	8	.16		R2LCA	8	4 x 3 x 1	4.0 x 2.8 x 2.1			
	R3BHA	4	2	.08		R2LDA	8	4 x 3 x 1	4.6 x 3.3 x 2.1			
	R3DAA	[2] 2	1			R3BHA	4	3 x 2 x 1	4.0 x 2.6 x 1.5			
				2.40		R3DAA	2					
R2ZCA	R2AQX	90	45	2.16	1	4.91				7		
	R2LDA	15	8	.27								
	R3BHA	4	2	.08								
	R3DAA	[2] 2	1									
				2.51	9							

*Delete one.
[1] Size of container assumed.
[2] Subcontainers (tins).

FIGURE 28.—ASP lay-out, works sheet.

ASP No. 8, GREEN, Pa.

ARTILLERY UNITS



1. ASP entrance—RJ 619–E (364–738)
A. ASP office
B. Small arms
C. 37-mm
D. Small arms
E. 37-mm
F. 105-mm
G. 105-mm
105-mm battalion trains, 1, 2, 3 4, 5, 6
155-mm battalion trains, 1, 2, 3, 7
H. 155-mm
I. 75-mm
J. 155-mm
K. 75-mm
6. ASP exit
7. ASP exit
L. Company bivouacs

FIGURE 29.—Map of lay-out of ASP No. 8.

OFM Form No. 301 ALLOCATION OF CREDIT No. 86

Office: Ord., First Army Hour 8:00 AM Day 2 Month Nov. Year 1941

To: C G ____ Div. VII Corps ____ Army.

Expiration time of allocatiou: Hour 8:00AM Day 4 Month Nov. Year '41

There are allocated to you at ASP No. 8, the following:

Code	Quantity	Code	Quantity	Code	Quantity
P1ZAM		R1LMX		R2ZC0	
P1ZCM		R1LOA		R4CAA	
P1ZAN		R1MCA		R4FCX	
P1ZAO		R1MDA		R4FLA	
P1ZAP		R1MJX		R4FOX	
P1ZBC		R1MKX		R4FQX	
P1ZCN		R1NAA		R7AAA	
P1ZBD		R1NBA		S3ABA	
P1ZBE		R1OAA		S4BAA	
P1ZBG		R1OBA		S4BBA	
P5EAA		R1QBA	5,832	S4BCA	
P5EIX		R1QCA		S4HGA	
P5MEX		R1QIA		S5HIA	
P5MJX		R1QKA	648	S4HKA	
P5NCA		R2ZAQ	516	S4HMA	
P5NHX		R2ZAR	516	S4HOA	
P5SCX		R2ZAS	126	S4HPA	
P5SEX		R2ZAT	126	T1CAA	110,160
R1GBA	200	R2ZBW		T1EDB	
R1GEA	1,720	R2ZBX		T1EDC	
R1GHA		R2ZBZ	72	T1EDD	
R1LCA		R2ZCA	72	T1EGA	
R1LDA	33	R2ZCH		T1EGD	
R1LEA		R2ZCJ		T1EGE	
R1LFA		R2ZCI		T1EPB	
R1LGA		R2ZCK		T1EPC	
R1LHA		R2ZCL		T1IBD	43,460
R1LIX	288	R2ZCM		T2AAA	6,000
R1LLB		R2ZCN		T2APA	

(See reverse for code legend.)

Of the above, the following: ____

will be delivered to you at: ____

by corps (army) transportation (truck, railway).

W

(Munitions officer)

Corps First Army

FIGURE 30.—Allocation of credit.

34 and the division credit record in figure 35. Since the corps credit record is not required in the solution of this exercise, it has been omitted.

d. Log of Co. C, 311th Ord. Bn.

November 1, 1941

9:00 AM CO received SO 487. He advised his personnel of the new situation and issued instructions for the move.

9:30 CO and party left in command car for Green. A clearing and staking party followed in a pick-up truck.

10:00 QM trucks arrive at Yellow to assist in the movement of the company.

10:30 CO and party arrive at Green. Make reconnaissance. Sites for ASP and Co. bivouac are selected. Guide is posted at Georgetown Ave. and Baltimore Pike. Start staking and any clearing or other preparatory work necessary.

11:00 Start of march by company from Yellow to Green.

12:00 N Company arrives at Green and establishes bivouac.

PM Plans perfected and preparation of site completed. Memo prepared and sent to Bn. Hq. requesting installation of telephone and stating location of ASP entrance.

November 2, 1941

1:00 AM Ammunition train arrives and unloading started.

4:00 Ammunition train released.

5:00 ASP office records initiated.

8:00 ASP open.

9:00 SO No. 488 received. CO discusses situation at a conference with Depot Officer, Magazine Platoon Commander, and Service Platoon Commander. He outlines general plan for operation of ASP No. 9 and organization of personnel.

10:00 CO and party left for Brown in command car. A clearing party followed in a pick-up truck. A reconnaissance was made and sites for the bivouac and ASP selected. The designated "inter-ASP" route was followed and marked. The entire party returned to Green at noon.

1:00 PM Personnel for ASP No. 9 marched to Brown. The ¼-ton truck and the two 2½-ton trucks were used. Two trips of the large trucks were required to move all personnel and equipment.

PM Plans perfected and preparation of site completed. Guide posted at RJ 707–A at midnight.

November 3, 1941

1:00 AM Ammunition train arrived. Unloading started.

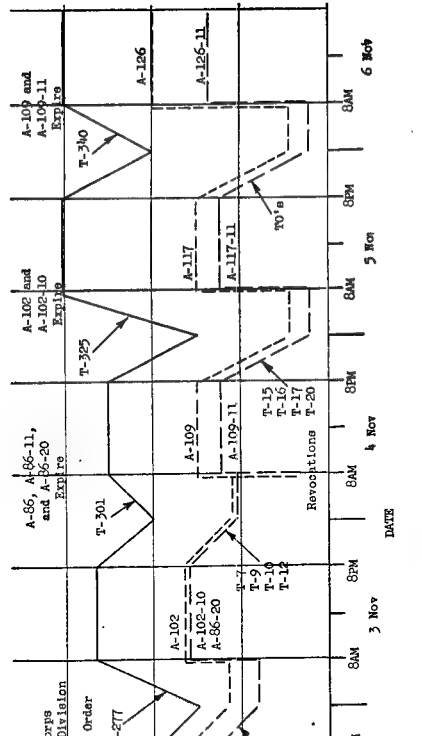
4:00 Train released.

5:00 ASP office records initiated.

8:00 ASP No. 9 open.

■ 156. OPERATIONS.—*a. Issues and replenishments* (see par. 46).—It has been assumed that all issues will be made during the first half of the night, and that replenishments will be made during the last half. Therefore, the status of stocks report submitted each morning shows the condition of the ASP in the replenished state ready for issues on the following night. Each replenishment is posted to the stock record, and each issue is posted to the stock record and to the pertinent credit record. The chart (fig. 31) shows the status of stocks and credits in the ASP throughout the problem. A summary of all the transportation orders is shown in tabular form in figure 33 (see fig. 25 for true form), and a summary of allocations of credit is shown in tabular form in figure 32 (see fig. 30 for true form).

b. Continuation of problem.—The remainder of the problem is a continuation of the foregoing procedures. Allocations of credit were checked daily for expirations, and any revocations on allocations from army to corps were posted to the stock record and to the corps credit record. Revocations of allocations from corps to division were posted to the division credit record.



ACTION BY

First Army Ordnance Office	OPM 306 Rec'd T-277 Iss'd A-102 Iss'd	OPM 306 Rec'd T-301 Iss'd A-109 Iss'd	OPM 306 Rec'd T-325 Iss'd A-117 Iss'd	OPM 306 Rec'd T-340 Iss'd A-126 Iss'd
VII Corps Ordnance Office	A-102 Rec'd A-102-10 Iss'd A-86-20 Iss'd	A-109 Rec'd A-109-11 Iss'd	A-117 Rec'd A-117-11 Iss'd	A-126 Rec'd A-126-11 Iss'd
ASP #3 Office	OPM 306 Iss'd A-102 Rec'd (copy) A-102-10 " (copy) A-86-20 " (copy) T-277 " (copy)	OPM 306 Iss'd A-109 Rec'd (copy) A-109-11 " (copy) T-301 " (copy)	OPM 306 Iss'd A-117 Rec'd (copy) A-117-11 " (copy) T-325 " (copy)	OPM 306 Iss'd A-126 Rec'd (copy) A-126-11 " (copy) T-340 " (copy)

FIGURE 31.—Stock and credit level chart.

SUMMARY OF ALLOCATIONS OF CREDIT, ASP NO. 8

Al. No.	From	To	Code symbol														
			R1GBA	R1GEA	R1LDA	R1LIX	R1QBA	R1QKA	R2ZAQ	R2ZAR	R2ZAS	R2ZAT	R2ZBZ	R2ZCA	T1CAA	T1IBD	T2AAA
Effective: 11/2/41 Expires: 11/4/41																	
86	1st Army	VII Corps	200	1720	33	288	5832	648	516	516	126	126	72	72	110160	43460	6000
86–11	VII Corps	112 Div	160	1300	27	222	4400	500	390	390	96	96	60	60	84240	32860	6000
Effective: 11/3/41 Expires: 11/5/41																	
102	1st Army	VII Corps	40	440	9	72	1458	162	132	132	36	36	18	18	28080	11130	2000
102–10	VII Corps	112 Div	40	440	9	72	1458	162	132	132	36	36	18	18	28080	11130	2000
Effective: 11/3/41 Expires: 11/4/41																	
86–20	VII Corps	112 Div	40	420	6	66	1432	148	126	126	30	30	12	12	25920	10600	------
Effective: 11/4/41 Expires: 11/6/41																	
109	1st Army	VII Corps	120	1080	21	180	3600	400	324	324	84	84	48	48	69120	27295	4000
109–11	VII Corps	112 Div	100	880	18	144	2880	320	264	264	72	72	42	42	56160	21995	4000
Effective: 11/5/41 Expires: 11/8/41																	
117	1st Army	VII Corps	100	1140	21	210	3488	424	372	348	84	72	54	36	60480	25175	------
117–11	VII Corps	112 Div	100	1140	21	210	3488	424	372	348	84	72	54	36	60480	25175	------

FIGURE 32.—Summary of allocations of credit, ASP No. 8.

SUMMARY OF TRANSPORTATION ORDERS (ASP No. 8)

To No.	Unit	Code symbol R1GBA	R1GEA	R1LDA	R1LIX	R1QBA	R1QKA	R2ZAQ	R2ZAR	R2ZAS	R2ZAT	R2ZBZ	R2ZCA	T1CAA	T1IBD	T2AAA	Expiration date
							November 1, 1941										
256	Dep #4	240	2160	42	360	7290	810	648	648	162	162	90	90	138240	54590	8000	Initial stock
							November 2, 1941										
1	410 FA		500			500									7950		11/3/41
2	421 FA	40	440			260	250								10600		11/3/41
3	217 FA		200		210			360		78		54		17280			11/3/41
277	Dep #4	120	1060	21	180	3600	400	324	324	84	84	48	48	69120	27295	4000	Replenishment
							November 3, 1941										
7	410 FA	20	120			610	70							10800	3180		11/4/41
9	421 FA	40	140			580	60							12960	2915	2000	11/4/41
10	412 FA	20	260			1200	100							15120	6095	2000	11/4/41
12	217 FA	20	120	12	96			144	168	42	54	24	36	10800	6095	2000	11/4/41
301	Dep #4	40	1140		210	806	256	360		78		54		17280	18550		Replenishment
							November 4, 1941										
15	410 FA	40	280			1250	100							15120	6360	2000	11/5/41
16	421 FA	80	240			1500	50							19440	6095		11/5/41
17	412 FA		220			1400	150							21600	5830	2000	11/5/41
20	217 FA		320	21	162			360	300	90	60	42		21600	7420		11/5/41
325	Dep #4	220	1720	33	282	6034	634	468	492	120	132	66	78	116640	45580	10000	Replenishment

FIGURE 33.—Summary of transportation orders, ASP No. 8.

■ 157. RECORDS AND REPORTS.—For simplicity and convenience of reference, the records and reports involved in the solution of this problem have been grouped together at the end of this paragraph. They consist of the following:

a. Stock record.—In the pages that follow (fig. 34) is given the complete stock record maintained in ASP No. 8, covering the operations listed in the preceding paragraph.

b. Credit record.—Since the corps credit record is not essential to the solution of this problem, it has been omitted from the following records. The status of corps credits may be obtained by reference to the stock record and divisional credit record. In figure 35 is given the credit record for the 112th Division.

c. Reports.—The reporting period has been taken as ending at 8:00 AM daily. Consequently, at 8:00 AM, November 2, the first status of stocks report was prepared and forwarded to the army ordnance officer. At the same time each morning thereafter, other reports were similarly prepared and forwarded. These reports appear in figure 36.

OFM Form 307

AMMUNITION STOCK RECORD

Item: R1GBA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7 - 9)
				2 Nov 1941					
T-256	D 4	240	240			240			240
A-86	VII					240	200	200	40
T-2	421st			40	40	200		160	40
				3 Nov 1941					
T-277	D 4	120	120			320		160	160
A-102	VII					320	40	200	120
T-7	410th			20	20	300		180	120
T-9	421st			40	60	260		140	120
T-10	412th			20	80	240		120	120
T-12	217th			20	100	220		100	120
				4 Nov 1941					
T-301	D 4	40	40			260		100	160
A-86	Revo					260	-60	40	220
A-109	VII					260	120	160	100
T-15	410th			40	40	220		120	100
T-16	421st			80	120	140		40	100
				5 Nov 1941					
T-325	D 4	220	220			360		40	320
A-117	VII					360	100	140	220

① Ammunition stock record—R1GBA.

OFM Form 307 AMMUNITION STOCK RECORD Item: R1GEA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
				2 Nov	1941				
T-256	D 4	2160	2160			2160			2160
A-86	VII					2160	1720	1720	440
T-1	410th			500	500	1660		1220	440
T-2	421st			440	940	1220		780	440
T-3	217th			200	1140	1020		580	440
				3 Nov	1941				
T-277	D 4	1080	1080			2100		580	1520
A-102	VII					2100	440	1020	1080
T-7	410th			120	120	1980		900	1080
T-9	421st			140	260	1840		760	1080
T-10	412th			260	520	1580		500	1080
T-12	217th			120	640	1460		380	1080
				4 Nov	1941				
T-301	D 4	1140	1140			2600		380	2220
A-109	VII					2600	1080	1460	1140
T-15	410th			280	280	2320		1180	1140
T-16	421st			240	520	2080		940	1140
T-17	412th			220	740	1860		720	1140
T-20	217th			320	1060	1540		400	1140
				5 Nov	1941				
T-325	D 4	1720	1720			3260		400	2860
A-117	VII					3260	1140	1540	1720

② Ammunition stock record—R1GEA.

FIGURE 34.

OFM Form 307

AMMUNITION STOCK RECORD

Item: R1LDA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
				2 Nov 1941					
T-256	D 4	42	42			42			42
A-86	VII					42	33	33	9
				3 Nov 1941					
T-277	D 4	21	21			63		33	30
AA-102	VII					63	9	42	21
T-12	217th			12	12	51		30	21
				4 Nov 1941					
A-86	Revo					51	-21	9	42
A-109	VII					51	21	30	21
T-20	217th			21	21	30		9	21
				5 Nov 1941					
T-325	D 4	33	33			63		9	54
A-117	VII					63	21	30	33

③ Ammunition stock record—R1LDA.

OFM Form 307 AMMUNITION STOCK RECORD Item: R1LIX

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
				2 Nov 1941					
T-256	D 4	360	360			360			360
A-86	VII					360	288	288	72
T-3	217th			210	210	150		78	72
				3 Nov 1941					
T-277	D 4	180	180			330		78	252
A-102	VII					330	72	150	180
T-12	217th			96	96	234		54	180
				4 Nov 1941					
T-301	D 4	210	210			444		54	390
A-109	VII					444	180	234	210
T-20	217th			162	162	282		72	210
				5 Nov 1941					
T-325	D 4	282	282			564		72	492
A-117	VII					564	210	282	282

④ Ammunition stock record—R1LIX.

FIGURE 34—Continued.

OFM Form 307

AMMUNITION STOCK RECORD

Item: R1QBA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK	ALLOCATED		
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period	ON HAND RUNNING BAL.	Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	UNALLOCATED RUNNING BALANCE
1	2	3	4	5	6	7	8	9	10 (7-9)
				2 Nov 1941					
T-256	D 4	7290	7290			7290			7290
A-86	VII					7290	5832	5832	1458
T-1	410th			500	500	6790		5332	1458
T-2	421st			260	760	6530		5072	1458
				3 Nov 1941					
T-277	D 4	3600	3600			10,130		5072	5058
A-102	VII					10,130	1458	6530	3600
T-7	410th			610	610	9520		5920	3600
T-9	421st			580	1190	8940		5340	3600
T-10	412th			1200	2390	7740		4140	3600
				4 Nov 1941					
T-301	D 4	806	806			8546		4140	4406
A-86	Revo					8546	-2682	1458	7088
A-109	VII					8546	3600	5058	3488
T-15	410th			1250	1250	7296		3808	3488
T-16	421st			1500	2750	5796		2308	3488
T-17	412th			1400	4150	4396		908	3488
				5 Nov 1941					
T-325	D 4	6034	6034			10,430		908	9522
A-117	VII					10,430	3488	4396	6034

⑤ Ammunition stock record—**R1QBA.**

OFM Form 307 AMMUNITION STOCK RECORD Item: R1QKA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
				2 Nov	1941				
T-256	D 4	810	810			810			810
A-86	VII					810	648	648	162
T-2	421st			250	250	560		398	162
				3 Nov	1941				
T-277	D 4	400	400			960		398	562
A-102						960	162	560	400
T-7				70	70	890		490	400
T-9				60	130	830		420	400
T-10				100	230	730		330	400
				4 Nov	1941				
T-301	D 4	256	256			986		330	656
A-86	Revo					986	-168	162	824
A-109	VII					986	400	562	424
T-15	410th			100	100	886		462	424
T-16	421st			50	150	836		412	424
T-17	412th			150	300	686		262	424
				5 Nov	1941				
T-325	D 4	634	634			1320		262	1058
A-117	VII					1320	424	686	634

⑥ Ammunition stock record—R1QKA.

FIGURE 34—Continued.

OFM Form 307 AMMUNITION STOCK RECORD Item: R2ZAQ

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
				2 Nov	1941				
T-256	D 4	648	648			648			648
A-86	VII					648	516	516	132
T-3	217th			360	360	288		156	132
				3 Nov	1941				
T-277	D 4	324	324			612		156	456
A-102	VII					612	132	288	324
T-12	217th			144	144	468		144	324
				4 Nov	1941				
T-301	D 4	360	360			828		144	684
A-86	Revo					828	-12	132	696
A-109	VII					828	324	456	372
T-20	217th			360	360	468		96	372
				5 Nov	1941				
T-325	D 4	468	468			936		96	840
A-117	VII					936	372	468	468

⑦ Ammunition stock record—R2ZAQ.

OFM Form 307

AMMUNITION STOCK RECORD Item: R2ZAR

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
				2 Nov 1941					
T-256	D 4	648	648			648			648
A-86	VII					648	516	516	132
				3 Nov 1941					
T-277	D 4	324	324			972		516	456
A-102	VII					972	132	648	324
T-12	217th			168	168	804		480	324
				4 Nov 1941					
A-86	Revo					804	-348	132	672
A-109	VII					804	324	456	348
T-20	217th			300	300	504		156	348
				5 Nov 1941					
T-325	D 4	492	492			996		156	840
A-117	VII					996	348	504	492

⑧ Ammunition stock record—R2ZAR.

FIGURE 84—Continued.

OFM Form 307

AMMUNITION STOCK RECORD Item: R2ZAS

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7 - 9)
				2 Nov 1941					
T-256	D 4	162	162			162			162
A-86	VII					162	126	126	36
T-3	217th			78	78	84		48	36
				3 Nov 1941					
T-277	D 4	84	84			168		48	120
A-102	VII					168	36	84	84
T-12	217th			42	42	126		42	84
				4 Nov 1941					
T-301	D 4	78	78			204		42	162
A-88	Revo					204	-6	36	168
A-109	VII					204	84	120	84
T-20	217th			90	90	114		30	84
				5 Nov 1941					
T-325	D 4	120	120			234		30	204
A-117	VII					234	84	114	120
	VII								

⑥ Ammunition stock record—R2ZAS.

OFM Form 307 AMMUNITION STOCK RECORD Item: R2ZAT

Voucher Number	UNIT	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10
				2 Nov 1941					
T-256	D 4	162	162			162			162
A-86	VII					162	126	126	36
				3 Nov 1941					
T-277	D 4	84	84			246		126	120
A-102	VII					246	36	162	84
T-12	217th			54	54	192		108	84
				4 Nov 1941					
A-86	Revo					192	72	36	156
A-109	VII					192	84	120	72
T-20	217th			60	60	132		60	72
				5 Nov 1941					
T-325	D 4	132	132			264		60	204
A-117	VII					264	72	132	132

⑩ Ammunition stock record—R2ZAT.

FIGURE 34—Continued.

OFM Form 307 AMMUNITION STOCK RECORD Item: R2ZBZ

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
				2 Nov 1941					
T-256	D 4	90	90			90			90
A-86	VII					90	72	72	18
T-3	217th			54	54	36		18	18
				3 Nov 1941					
T-277	D 4	48	48			84		18	66
A-102	VII					84	18	36	48
T-12	217th			24	24	60		12	48
				4 Nov 1941					
T-301	D 4	54	54			114		12	102
A-109	VII					114	48	60	54
T-20	217th			42	42	72		18	54
				5 Nov 1941					
T-325	D 4	66	66			138		18	120
A-117	VII					138	54	72	66

Ammunition stock record—R2ZBZ

OPM Form 307 — AMMUNITION STOCK RECORD — Item: R2ZCA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
				2 Nov 1941					
T-256	D 4	90	90			90			90
A-86	VII					90	72	72	18
				3 Nov 1941					
T-277	D 4	48	48			138		72	66
A-102	VII					138	18	90	48
T-12	217th			36	36	102		54	48
				4 Nov 1941					
A-86	Revo					102	-36	18	84
A-109	VII					102	48	66	36
				5 Nov 1941					
T-325	D 4	78	78			180		66	114
A-117	VII					180	36	102	78
A-102	Revo					180	-18	84	96

(13) Ammunition stock record—R2ZCA.

FIGURE 34—Continued.

OFM Form 307 AMMUNITION STOCK RECORD Item: T1CAA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7 - 9)
				2 Nov 1941					
T-256	D 4	138,240	138,240			138,240			138,240
A-66	VII					138,240	110,160	110,160	28,080
T-3	217th			17,280	17,280	120,960		92,880	28,080
				3 Nov 1941					
T-277	D 4	69,120	69,120			190,080		92,880	97,200
A-102	VII					190,080	28,080	120,960	69,120
T-7	410th			10,800	10,800	179,280		110,160	69,120
T-9	421st			12,960	23,760	166,320		97,200	69,120
T-10	412th			15,120	38,880	151,200		82,080	69,120
T-12	217th			10,800	49,680	140,400		71,280	69,120
				4 Nov 1941					
T-301	D 4	17,280	17,280			157,680		71,280	86,400
A-86	Revo					157,680	-43,200	28,080	129,600
A-109	VII					157,680	69,120	97,200	60,480
T-15	410th			15,120	15,120	142,560		82,080	60,480
T-16	421st			19,440	34,560	123,120		62,640	60,480
T-17	412th			21,600	56,160	101,520		41,040	60,480
T-20	217th			21,600	77,760	79,920		19,440	60,480
				5 Nov 1941					
T-325	D4	116,640	116,640			196,560		19,440	177,120
A-117	VII					196,560	60,480	79,920	116,640

⑱ Ammunition stock record—T1CAA.

OFM Form 307 AMMUNITION STOCK RECORD Item T1IBD

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal Dues Out (Allo +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
				2 Nov	1941				
T-256	D 4	54,590	54,590			54,590			54,590
A-86	VII					54,590	43,460	43,460	11,130
T-1	410th			7,950	7,950	46,640		35,510	11,130
T-2	421st			10,600	18,550	36,040		24,910	11,130
				3 Nov	1941				
T-277	D 4	27,295	27,295			63,335		24,910	38,425
A-102	VII					63,335	11,130	36,040	27,295
T-7	410th			3,180	3,180	60,155		32,860	27,295
T-9	421st			2,915	6,095	57,240		29,945	27,295
T-10	412th			6,095	12,190	51,145		23,850	27,295
T-12	217th			6,095	18,285	45,050		17,755	27,295
				4 Nov	1941				
T-301	D 4	18,550	18,550			63,600		17,755	45,845
A-86	Revo					63,600	-6,625	11,130	52,470
A-109	VII					63,600	27,295	38,425	25,175
T-15	410th			6,360	6,360	57,240		32,065	25,175
T-16	421st			6,095	12,455	51,145		25,970	25,175
T-17	412th			5,830	18,285	45,315		20,140	25,175
T-20	217th			7,420	25,705	37,895		12,720	25,175
				5 Nov	1941				
T-325	D 4	45,580	45,580			83,475		12,720	70,755
A-117	VII					83,475	25,175	37,895	45,580

⑭ Ammunition stock record—T1IBD.

FIGURE 34—Continued.

OFM Form 307 AMMUNITION STOCK RECORD Item: T2AAA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
				2 Nov 1941					
T-256	D 4	8000	8000			8000			8000
A-86	VII					8000	6000	6000	2000
				3 Nov 1941					
T-277	D 4	4000	4000			12,000		6000	6000
A-102	VII					12,000	2000	8000	4000
T-9	421st			2000	2000	10,000		6000	4000
T-10	412th			2000	4000	8,000		4000	4000
T-12	217th			2000	6000	6,000		2000	4000
				4 Nov 1941					
A-109						6,000	4000	6000	----
T-15	410th			2000	2000	4,000		4000	----
T-17	412th			2000	4000	2,000		2000	----
				5 Nov 1941					
T-325	D 4	10,000	10,000			12,000		2000	10,000

⑭ Ammunition stock record—T2AAA.

FIGURE 34—Continued.

OFM 308

CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
2 Nov	86-11	VII C	160			160
	T 2	42lst		40		120
3 Nov	T 7	410th		20		100
	T 9	42lst		40		60
	T 10	412th		20		40
	T 12	217th		20		20
4 Nov	86-11	Rev	- 20			-
	100-10	VII C	40			40
	T 15	410th		40		-
	109-11	VII C	100			100
	T 16	42lst		80		20

ALLOCATED BUT NOT POSTED:

Allo.No.	Unit	Amount	Date Eff.	Exp. Date	
~~86-11~~	~~VII C~~	~~160~~	~~8A 2 Nov~~	~~8A 4 Nov~~	
~~86-20~~	~~VII C~~	~~40~~	~~8A 3 Nov~~	~~8A 4 Nov~~	Rev
~~102-10~~	~~VII C~~	~~40~~	~~8A 3 Nov~~	~~8A 5 Nov~~	
~~109-11~~	~~VII C~~	~~100~~	~~8A 4 Nov~~	~~8A 6 Nov~~	
117-11	VII C	100	8A 5 Nov	8A 8 Nov	

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 8

Code R1GBA Description 37 mm HE Sheet No. _____

OFM 308

CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
2 Nov	86-11	VII C	1300			1300
	T 1	410th		500		800
	T 2	42lst		440		360
	T 3	217th		200		160
3 Nov	T 7	410th		120		40
	86-20	VII C	420			460
	T 9	42lst		140		320
	T 10	412th		260		60
	102-10	VII C	440			500
	T 12	217th		120		380
4 Nov	T 15	410th		280		100
	109-11	VII C	880			980
	T 16	42lst		240		740
	T 17	412th		220		520
	T 20	217th		320		200

ALLOCATED BUT NOT POSTED:

Allo.No	Unit	Amount	Date Eff	Exp. Date
~~86-11~~	~~VII C~~	~~1300~~	~~8A 2 Nov~~	~~8A 4 Nov~~
~~86-20~~	~~VII C~~	~~420~~	~~8A 3 Nov~~	~~8A 4 Nov~~
~~102-10~~	~~VII C~~	~~440~~	~~8A 3 Nov~~	~~8A 5 Nov~~
~~109-11~~	~~VII C~~	~~880~~	~~8A 4 Nov~~	~~8A 6 Nov~~
117-11	VII C	1140	8A 5 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 8

Code R1GEA Description 37 mm AP Sheet No. _____

①

FIGURE 35.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
2 Nov	86-11	VII C	27			27
3 Nov	T 12	217th		12		15
4 Nov	86-11	Rev	- 15			-
	102-10	VII C	9			9
	109-11	VII C	18			27
	T 20	217th		21		6

ALLOCATED BUT NOT POSTED:

Allo.No.	Unit	Amount	Date Eff.	Exp. Date	
~~86-11~~	~~VII C~~	~~27~~	~~8A 2 Nov~~	~~8A 4 Nov~~	
~~86-20~~	~~VII C~~	~~6~~	~~8A 3 Nov~~	~~8A 4 Nov~~	Rev
~~102-10~~	~~VII C~~	~~9~~	~~8A 3 Nov~~	~~8A 5 Nov~~	
~~109-11~~	~~VII C~~	~~18~~	~~8A 4 Nov~~	~~8A 6 Nov~~	
117-11	VII C	21	8A 5 Nov	8A 8 Nov	

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 8

Code R1LDA Description 75 mm HE Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
2 Nov	86-11	VII C	222			222
	T 3	217th		210		12
3 Nov	86-20	VII C	66			78
	102-10	VII C	72			150
	T 12	217th		96		54
4 Nov	109-11	VII C	144			198
	T 20	217th		162		36

ALLOCATED BUT NOT POSTED:

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~86-11~~	~~VII C~~	~~222~~	~~8A 2 Nov~~	~~8A 4 Nov~~
~~86-20~~	~~VII C~~	~~66~~	~~8A 3 Nov~~	~~8A 4 Nov~~
~~102-10~~	~~VII C~~	~~72~~	~~8A 3 Nov~~	~~8A 5 Nov~~
~~109-11~~	~~VII C~~	~~144~~	~~8A 4 Nov~~	~~8A 6 Nov~~
117-11	VII C	210	8A 5 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 8

Code R1LIX Description 75 mm AP Sheet No. _____

②

FIGURE 35—Continued.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES ISSUED	ISSUES RUNNING BAL.	BALANCE
1941						
2 Nov	86-11	VII C	4400			4400
	T 1	410th		500		3900
	T 2	421st		260		3640
3 Nov	T 7	410th		610		3030
	T 9	421st		580		2450
	T 10	412th		1200		1250
4 Nov	86-11	Rev	-1250			-
	102-10	VII C	1458			1458
	T 15	410th		1250		208
	109-11	VII C	2880			3088
	T 16	421st		1500		1588
	T 17	412th		1400		188

ALLOCATED BUT NOT POSTED.

Allo. No.	Unit	Amount	Date Eff.	Exp. Date	
~~86-11~~	~~VII C~~	~~4400~~	~~8A 2 Nov~~	~~8A 4 Nov~~	
~~86-20~~	~~VII C~~	~~1432~~	~~8A 3 Nov~~	~~8A 4 Nov~~	Rev
~~102-10~~	~~VII C~~	~~1458~~	~~8A 3 Nov~~	~~8A 5 Nov~~	
~~109-11~~	~~VII C~~	~~2880~~	8A 4 Nov	8A 6 Nov	
117-11	VII C	3488	8A 5 Nov	8A 8 Nov	

ORDNANCE OFFICE _____ Unit 112th Div Depot No. 8

ASP

Code R1QBA Description 105 mm HE Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES ISSUED	ISSUES RUNNING BAL.	BALANCE
1941						
2 Nov	86-11	VII C	500			500
	T 2	421st		250		250
3 Nov	T 7	410th		70		180
	T 9	421st		60		120
	T 10	412th		100		20
4 Nov	86-11	Rev	-20			-
	102-10	VII C	162			162
	T 15	410th		100		62
	T 16	421st		50		12
	109-11	VII C	320			332
	T 17	412th		150		182

ALLOCATED BUT NOT POSTED:

Allo.No.	Unit	Amount	Date Eff.	Exp. Date	
~~86-11~~	~~VII C~~	~~500~~	~~8A 2 Nov~~	~~8A 4 Nov~~	
~~86-20~~	~~VII C~~	~~148~~	~~8A 3 Nov~~	~~8A 4 Nov~~	Rev
~~102-10~~	~~VII C~~	~~162~~	~~8A 3 Nov~~	~~8A 5 Nov~~	
~~109-11~~	~~VII C~~	~~320~~	~~8A 4 Nov~~	~~8A 6 Nov~~	
117-11	VII C	424	8A 5 Nov	8A 8 Nov	

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No 8

Code R1QKA Description 105 mm Smoke Sheet No. _____

③

FIGURE 35—Continued.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
2 Nov	86-11	VII C	390			390
	T 3	217th		360		30
3 Nov	86-20	VII C	126			156
	T 12	217th		144		12
4 Nov	86-20	Rev	-12			-
	102-10	VII C	132			132
	109-11	VII C	264			396
	T 20	217th		360		36

ALLOCATED BUT NOT POSTED:

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
86-11	VII C	390	8A 2 Nov	8A 4 Nov
86-20	VII C	126	8A 3 Nov	8A 4 Nov
102-10	VII C	132	8A 3 Nov	8A 5 Nov
109-11	VII C	264	8A 4 Nov	8A 6 Nov
117-11	VII C	372	8A 5 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 8

Code R2ZAQ Description 155 How HE Sheet No. _____
M1A1 Prp Chg M51 Fuze

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
2 Nov	86-11	VII C	390			390
3 Nov	T 12	217th		168		222
4 Nov	86-11	Rev	- 222			-
	102-10	VII C	132			132
	109-11	VII C	264			396
	T 20	217th		300		96

ALLOCATED BUT NOT POSTED:

Allo.No.	Unit	Amount	Date Eff.	Exp. Date	
86-11	VII C	390	8A 2 Nov	8A 4 Nov	
86-20	VII C	126	8A 3 Nov	8A 4 Nov	Rev
102-10	VII C	132	8A 3 Nov	8A 5 Nov	
109-11	VII C	264	8A 4 Nov	8A 6 Nov	
117-11	VII C	348	8A 5 Nov	8A 8 Nov	

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 8

Code R2ZAR Description 155 How HE Sheet No. _____
M2 Prp Chg M51 Fuze

④

FIGURE 35—Continued.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
2 Nov	86-11	VII C	96			96
	T 3	217th		78		18
3 Nov	86-20	VII C	30			48
	T 12	217th		42		6
4 Nov	86-20	Rev	-6			-
	102-10	VII C	36			36
	109-11	VII C	72			108
	T 20	217th		90		18

ALLOCATED BUT NOT POSTED:

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~86-11~~	~~VII C~~	~~96~~	~~8A 2 Nov~~	~~8A 4 Nov~~
~~86-20~~	~~VII C~~	~~30~~	~~8A 3 Nov~~	~~8A 4 Nov~~
~~102-10~~	~~VII C~~	~~36~~	~~8A 3 Nov~~	~~8A 5 Nov~~
~~109-11~~	~~VII C~~	~~72~~	~~8A 4 Nov~~	~~8A 6 Nov~~
117-11	VII C	84	8A 5 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 8

Code R2ZAS Description 155 mm How HE MIAl Prp Chg M55 Fuze Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
2 Nov	86-11	VII C	96			96
3 Nov	T 12	217th		54		42
4 Nov	86-11	Rev	-42			-
	102-10	VII C	36			36
	109-11	VII C	72			108
	T 20	217th		60		48

ALLOCATED BUT NOT POSTED:

Allo.No.	Unit	Amount	Date Eff.	Exp. Date	
~~86-11~~	~~VII C~~	~~96~~	~~8A 2 Nov~~	~~8A 4 Nov~~	
~~86-20~~	~~VII C~~	~~30~~	~~8A 3 Nov~~	~~8A 4 Nov~~	Rev
~~102-10~~	~~VII C~~	~~36~~	~~8A 3 Nov~~	~~8A 5 Nov~~	
~~109-11~~	~~VII C~~	~~72~~	~~8A 4 Nov~~	~~8A 6 Nov~~	
117-11	VII C	72	8A 5 Nov	8A 8 Nov	

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 8

Code R2ZAT Description 155 mm How HE M2 Prp Chg M55 Fuze Sheet No. ___

⑧

FIGURE 35—Continued.

OFM 308

CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
2 Nov	86-11	VII C	60			60
	T 3	217th		54		6
3 Nov	86-20	VII C	12			18
	102-10	VII C	18			36
	T 12	217th		24		12
4 Nov	109-11	VII C	42			54
	T 20	217th		42		12

ALLOCATED BUT NOT POSTED:

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~86-11~~	~~VII C~~	~~60~~	~~8A 2 Nov~~	~~8A 4 Nov~~
~~86-20~~	~~VII C~~	~~12~~	~~8A 3 Nov~~	~~8A 4 Nov~~
~~102-10~~	~~VII C~~	~~18~~	~~8A 3 Nov~~	~~8A 5 Nov~~
~~109-11~~	~~VII C~~	~~42~~	~~8A 4 Nov~~	~~8A 6 Nov~~
117-11	VII C	54	8A 5 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 8

Code R2ZBZ Description 155 How Smoke M1A1 Prp Chg M51 Fuze Sheet No, _____

OFM 308

CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
2 Nov	86-11	VII C	60			60
3 Nov	T 12	217th		36		24
4 Nov	86-11	Rev	-24			-

ALLOCATED BUT NOT POSTED:

Allo.No.	Unit	Amount	Date Eff.	Exp. Date	
~~86-11~~	~~VII C~~	~~60~~	~~8A 2 Nov~~	~~8A 4 Nov~~	
~~86-20~~	~~VII C~~	~~12~~	~~8A 3 Nov~~	~~8A 4 Nov~~	Rev
~~102-10~~	~~VII C~~	~~18~~	~~8A 3 Nov~~	~~8A 5 Nov~~	Rev
109-11	VII C	42	8A 4 Nov	8A 6 Nov	
117-11	VII C	36	8A 5 Nov	8A 8 Nov	

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 8

Code R2ZCA Description 155 How Smoke M2 Prp Chg M51 Fuze Sheet No. _____

©

FIGURE 35—Continued.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
2 Nov	86-11	VII C	84240			84240
	T 3	217th		17280		66960
3 Nov	T 7	410th		10800		56160
	T 9	421st		12960		43200
	T 10	412th		15120		28080
	T 12	217th		10800		17280
4 Nov	96-11	Rev	- 17280			-
	102-10	VII C	28080			28080
	T 15	410th		15120		12960
	109-11	VII C	56160			69120
	T 16	421st		19440		49680
	T 17	412th		21600		28080
	T 20	217th		21600		6480

ALLOCATED BUT NOT POSTED:

Allo.No.	Unit	Amount	Date Eff.	Exp. Date	
~~86-11~~	~~VII C~~	~~84240~~	~~8A 2 Nov~~	~~8A 4 Nov~~	
~~86-20~~	~~VII C~~	~~25020~~	~~8A 3 Nov~~	~~8A 4 Nov~~	Rev
~~102-10~~	~~VII C~~	~~28080~~	~~8A 3 Nov~~	~~8A 5 Nov~~	
~~109-11~~	~~VII C~~	~~56160~~	~~8A 4 Nov~~	~~8A 6 Nov~~	
117-11	VII C	60480	8A 5 Nov	8A 8 Nov	

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 8

Code T1CAA Description Cal..30 Carbine Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
2 Nov	86-11	VII C	32860			32860
	T 1	410th		7950		24910
	T 2	421st		10600		14310
3 Nov	T 7	410th		3180		11130
	T 9	421st		2915		8215
	T 10	412th		6095		2120
	86-20	VII C	10600			12720
	T 12	217th		6095		6625
4 Nov	86-20	Rev	- 6625			-
	102-10	VII C	11130			11130
	T 15	410th		6360		4770
	109-11	VII C	21995			26765
	T 16	421st		6095		20670
	T 17	412th		5830		14840
	T 20	217th		7420		7420

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~86-11~~	~~VII C~~	~~32860~~	~~8A 2 Nov~~	~~8A 4 Nov~~
~~86-20~~	~~VII C~~	~~10600~~	~~8A 3 Nov~~	~~8A 4 Nov~~
~~102-10~~	~~VII C~~	~~11130~~	~~8A 3 Nov~~	~~8A 5 Nov~~
~~109-11~~	~~VII C~~	~~21995~~	~~8A 4 Nov~~	~~8A 6 Nov~~
117-11	VII C	25175	8A 5 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 8

Code T1IBD Description Cal..50 - 80$ AP Sheet No. _____

⑦

FIGURE 35—Continued.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES		BALANCE
				Issued	Running Bal.	
1941						
2 Nov	86-11	VII C	6000			6000
3 Nov	T 9	421st		2000		4000
	T 10	412th		2000		2000
	T 12	217th		2000		-
4 Nov	102-10	VII C	2000			2000
	T 15	410th		2000		-
	109-11	VII C	4000			4000
	T 17	412th		2000		2000

ALLOCATED BUT NOT POSTED:

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~86-11~~	~~VII C~~	~~6000~~	~~8A 2 Nov~~	~~8A 4 Nov~~
~~102-10~~	~~VII C~~	~~2000~~	~~8A 3 Nov~~	~~8A 5 Nov~~
~~109-11~~	~~VII C~~	~~4000~~	~~8A 4 Nov~~	~~8A 6 Nov~~

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 8

Code T2AAA Description Cal..45 ball Sheet No. _____

(8)

FIGURE 35—Continued.

OFM Form No. 306 STATUS OF STOCKS REPORT

Establishment ASP No. 8

Location Green, Pa.

From Initial Stockage

To 8:00 AM 2 Nov 1941.

Code	Balance last report	Received	Issued	Balance on hand	Dues out	Unallocated
R1GBA		240		240	200	40
R1GEA		2160		2160	1720	440
R1LDA		42		42	33	9
R1LIX		360		360	288	72
R1QBA		7290		7290	5832	1458
R1QKA		810		810	648	162
R2ZAQ		648		648	516	132
R2ZAR		648		648	516	132
R2ZAS		162		162	126	36
R2ZAT		162		162	126	36
R2ZBZ		90		90	72	18
R2ZCA		90		90	72	18
T1CAA		138240		138240	110160	28080
T1IBD		54590		54590	43460	11130
T2AAA		8000		8000	6000	2000

X

CO, Co C, 311th Ord Bn

FIGURE 36.

OFM Form No. 306 STATUS OF STOCKS REPORT

Establishment ASSP No. 8

Location Green, , Pa.

From 8:00 AM : 2 Nov 1941

To 8:00 AM 3 : Nov 1941

Code	Balance last report	Received	Issued	Balance on hand	Dues out	Unallocated
R1GBA	240	120	40	320	2000	120
R1GEA	2160	1080	1140	2100	10200	1080
R1LDA	42	21		63	422	21
R1LIX	360	180	210	330	1500	180
R1QBA	7290	3600	760	10130	65300	3600
R1QKA	810	400	250	960	5600	400
R2ZAQ	648	324	360	612	2888	324
R2ZAR	648	324		972	6488	324
R2ZAS	162	84	78	168	844	84
R2ZAT	162	84		246	1632	84
R2ZBZ	90	48	54	84	366	48
R2ZCA	90	48		138	900	48
T1CAA	138240	69120	17280	190080	1209660	69120
T1IBD	54590	27295	18550	63335	360460	27295
T2AAA	8000	4000		12000	80000	4000

: X

CO, Co I C, 31ith Ord Bn

FIGURE 36—Continued.

OFM Form No. 306

STATUS OF STOCKS REPORT

Establishment ASP No. 8

Location Green, Pa.

From 8:00 AM 3 Nov 1941

To 8:00 AM 4 Nov 1941

Code	Balance last report	Received	Issued	Balance on hand	Dues out	Unallocated
R1GBA	320	40	100	260	160	100
R1GEA	2100	1140	640	2600	1460	1140
R1LDA	63	–	12	51	30	21
R1LIX	330	210	96	444	234	210
R1QBA	10130	806	2390	8546	5058	3488
R1QKA	960	256	230	986	562	424
R2ZAQ	612	360	144	828	456	372
R2ZAR	972	–	168	804	456	348
R2ZAS	168	78	42	204	120	84
R2ZAT	246	–	54	192	120	72
R2ZBZ	84	54	24	114	60	54
R2ZCA	138	–	36	102	66	36
T1CAA	190080	17280	49680	157680	97200	60480
T1IBD	63335	18550	18285	63600	38425	25175
T2AAA	12000	–	6000	6000	6000	–

X

CO, Co C, 311th Ord Bn

FIGURE 36—Continued.

OFM Form No. 306

STATUS OF STOCKS REPORT

Establishment ASP No. 8

Location Green, Pa.

From 8:00 AM 4 Nov 1941

To 8:00 AM 5 Nov 1941

Code	Balance last report	Received	Issued	Balance on hand	Dues out	Unallocated
R1GBA	260	220	120	360	140	220
R1GEA	2600	1720	1060	3260	1540	1720
R1LDA	51	33	21	63	30	33
R1LIX	444	282	162	564	282	282
R1QBA	8546	6034	4150	10430	4396	6034
R1QKA	986	634	300	1320	686	634
R2ZAQ	828	468	360	936	468	468
R2ZAR	804	492	300	996	504	492
R2ZAS	204	120	90	234	114	120
R2ZAT	192	132	60	264	132	132
R2ZBZ	114	66	42	138	72	66
R2ZCA	102	78	–	180	84	96
T1CAA	157680	116640	77760	196560	79920	116640
T1IBD	63600	45580	25705	83475	37895	45580
T2AAA	6000	10000	4000	12000	2000	10000

X

CO, Co C, 112th Ord Bn

FIGURE 36—Continued.

SECTION II

INFANTRY ASP (ASP No. 9)

■ **158. PLAN FOR OPERATION.**—The following is an outline of the company commander's plan for the operation of ASP No. 9:

a. Bivouac.—A separate bivouac will be established at Brown for shelter.

b. Mess.—Personnel will be fed from the company mess at Green by the transportation of cooked food from Green

to Brown. A ½-ton pick-up truck and driver will be furnished by the service platoon for this purpose.

c. Communication.—The truck mentioned in *b* above will also serve for liaison. The service platoon will install one of the company telephones in the ASP No. 9 office.

d. Route.—RJ 657–B, RJ 531, RJ 572–E, RJ 564–B, CR 665–A, CR 686, RJ 628–A, RJ 658–D.

e. Transportation.—A ¼-ton truck will be furnished for general use.

■ 159. ORGANIZATION.—The following is the company commander's plan for the organization of the personnel to comprise the detachment for the operation of ASP No. 9:

a. ASP commander.—Lt. (magazine platoon).

b. ASP office.

1 S sgt., chief clerk.
1 Pvt., basic.
1 Sgt., clerk, SR section.
1 Pvt., clerk, SR section.
1 Cpl., clerk, CR section.
1 Pvt., clerk, files.

c. Magazine section.—1 section from magazine platoon:

1 T sgt., section chief.
1 Sgt., camouflage.
1 Sgt.
2 Cpls.
19 Pvts.

d. Service section.

1 Cpl., guard, guide, traffic, and labor.
10 Pvts., guard, guide, traffic, and labor.
1 Pvt., chauffeur, transportation.

■ 160. DISCUSSION.—The installation and operation of this ASP closely parallel that of ASP No. 8. (See sec. I.) Therefore, there are included herein only the forms maintained in this installation without further comment.

Hq., 311th Ord. Bn.
Pink, Pa.
November 1, 1941

SO No. 488
To: Commanding Officer
Co. C, 311th Ord. Bn.
Green, Pa.
Subject: Establishment of First Army ASP No. 9.

1. Co. C, 311th Ord. Bn., in addition to its present assignment and duties at First Army ASP No. 8, will establish and operate First Army ASP No. 9 in accordance with attached Ammunition Movement Order No. 14.

V
Lt. Col.
CO 311th Ord. Bn.

Encl:
TO No. 260
AMO No. 14
Map, Brown, Md. and vicinity, 1:21120.

FIGURE 37.—Special orders for establishing ASP No. 9.

Ordnance Office
Hq. First Army
Place: Blue, Pa.
Date: Nov. 2, 1941

Ammunition Movement Order No. 14

TO: CO 311th Ord. Bn., Amm.
Pink, Pa.

1. Ammunition:

TO ~~B L~~ No. 260 Tons: 152

Loaded on ____ Cars 61 2½ ton trks. ____ 1½ ton trks. ____ 1 ton trlr.

~~RR Siding~~ Trk-hd at Brown, Md. (place) Nov. 3 (date) 1:00 AM (hour)

2. Labor:

60 laborers and 6 NCO's from 217th Qm Co.

To report at Brown, Md. (place) Nov. 3 (date) 12:30 AM (hour)

Rations to be furnished by QM x

____ rations to arrive at ____ at ____

on ____, to be prepared and served by Ord. Co.

3. Transportation:

61 2½ ton trks ____ 1½ ton trks. ____ 1 ton trlr. from 431st QM Co

with 1 driver per truck.

To report at Yellow, Pa. Nov. 2 6:00 PM

To be released at Brown, Md. (place) Nov. 3 (date) 4:30 AM (hour)

Gasoline to be furnished by QM x

To be drawn from ____ by ____

____

4. Road net:

Yellow–Purple–Green–Brown

Priority from 9:00 PM to 1:00 AM

Alternate ____

5. Destination:

This ammunition is to be stocked in First Army ASP

No. 9 at Brown, Md. for 112th Div. issue

6. RR Trk train to be released not later than ____ (date) ____ (time)

7. ASP opens: (if for initial stockage) Nov. 3 8:00 AM

8. Remarks: ____

W
00 First Army

Distribution:
1 to G–4
1 to Army QM
2 to 311th Ord. Bn., Amm.
1 to File

FIGURE 38.—Ammunition movement order for initial stockage of ASP No. 9.

OFM Form No. 302B No. 260

AMMUNITION TRANSPORTATION ORDER
(Infantry Ammunition)

_____ Division _____ Corps. First Army Ammunition (serv.) train

Hour _____ Day 1 Month Nov. Year 1941.

Charge to Allocation No. Unall. Balance Office _____

To be executed (date) Nov. 2 Expiration date _____

1. Tonnage: 152 2. Number of trucks 61 - 2½ ton

3. Material to be transported:

Code	Quantity	Code	Quantity	Code	Quantity
R1GBA	800	S4BBA	1,008		
R1GEA	7,300	S4BCA	1,008		
R1GHA		S4HGA	150		
R1LCA		S4HIA	100		
R1LDA		S4HKA	100		
R1LEA		S4HMA	100		
R1LFA		S4HOA	100		
R1LGA		S4HPA	100		
R1LHA		T1CAA	224,640		
R1LIX		T1EDB	139,200		
R1LLB		T1EDC			
R1LMX		T1EDD	66,250		
R1LOA		T1EGA			
R1NAA		T1EGD	912,000		
R1NBA		T1EGE	435,000		
R1OAA		T1EPB	258,000		
R1OBA		T1EPC			
R4CAA	8,100	T1IBD	18,285		
R4FAA	2,520	T2AAA	28,000		
R4FLA	360	T2APA	4,000		
R4FOX	720				
R4FQX					
R7AAA	540				
S3ABA	1,350				
S4BAA	1,008				

(See reverse for code legend.)

FIGURE 39.—Ammunition transportation order.

4. Place of loading: Amm Depot No. 4, Yellow, Pa.
5. Time to reach loading point: 6:00 PM, Nov. 2
6. Destination of ammunition: Brown, Md.
7. Place where guide will be found: RJ 707-A (367-732)
8. Ammunition is for: ASP No. 9

W
(Munitions officer)

Ammunition received (date) _____

(Train commander)

_____ Div. _____ Corps _____ Army

FIGURE 39.—Ammunition transportation order—Continued

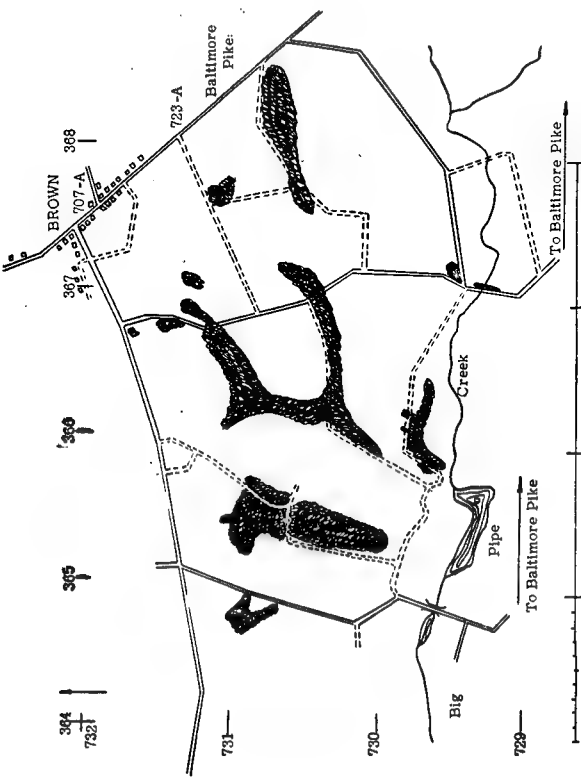


FIGURE 40.—Map of Brown, Md., and vicinity.

ASP LAY-OUT, WORKSHEET

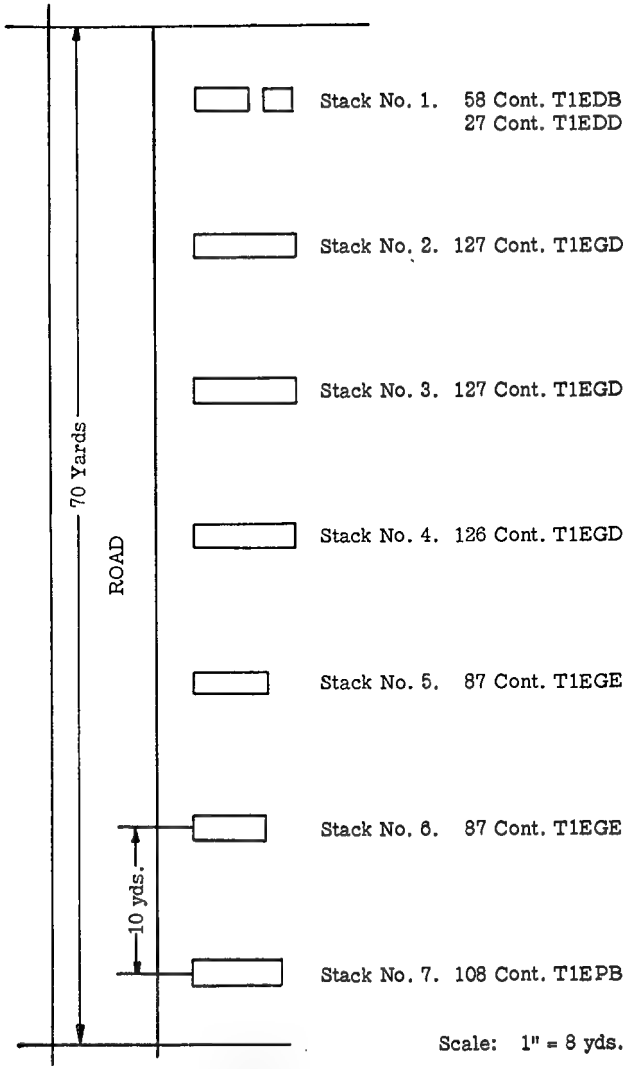
Date: 2 Nov. 1941 First Army *Depot *ASP No. 9 Location Brown, Md. Units served 112th Div–Inf Level 1 U/F

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Cal.	Code	Cntr.	Cntr./ sect.	Tons	Stacks	Tons/ stack	Cntr./ stack	Size of stack: Cntr.	Size of stack: Feet	Length of stack (yards)	Sections	Road space (yards)
.45	T2AAA	14	7	.39	1	2.44	7	4 x 2 x 1	4.2 x 1.3 x 1.4	7	B–I	10
	T2APA	2	1	.05			1	1 x 1 x 1	1.1 x .6 x 1.4			
.30	T1CAA	104	52	1.98			52	4 x 4 x 7[1]	*4.9 x 3.2 x 10.8			
SR .30				2.42								
	T1EDB	116	58	2.90	1	4.23	58	4 x 4 x 7	4.9 x 3.2 x 10.8	7	C–J	70
	T1EDD	53	27	1.38			27	4 x 3 x 4	4.9 x 2.4 x 6.2			
	T1EGD	760	380	19.38	3	6.46	127	4 x 4 x 14	4.9 x 3.2 x 21.2	7		
	T1EGE	348	174	8.87	2	4.44	87	4 x 4 x 10	4.9 x 3.2 x 15.4	5		
	T1EPB	215	108	5.40	1	5.40	108	4 x 4 x 12	4.9 x 3.2 x 18.5	6		
.50	T1IDB	69	35	37.93 1.68	1	1.68	35	4 x 4 x 5	4.9 x 3.2 x 7.7	3	D–K	10
37-mm	R1GBA	40	20	1.00	2	5.08	10	4 x 2 x 2	5.7 x 2.2 x 2.9	8	E–L	20
	R1GEA	365	183	9.15			92	4 x 4 x 11	5.7 x 4.3 x 16.2			
60-mm	R4CAA	450	225	10.15 9.23	2	4.61	113	4 x 4 x 13	4.7 x 4.4 x 25.0	8	F–M	20
81-mm	R4FAA	315	158	7.27	1	7.27	158	5 x 5 x 12	4.1 x 4.1 x 34.4	12	G–N	20
	R4FLA	120	60	1.26	1	4.14	60	5 x 5 x 6	3.4 x 3.2 x 12.9	12		
	R4FOX	240	120	2.88			120	5 x 5 x 10	3.4 x 3.2 x 21.5			
				11.41								

Misc.												
	R7AAA	108	54	2.32	1	3.30	54	4 x 4 x 71	4 x 4 x 17.5	13	H-O	10
	S3A1A	54	27	.68			27	4 x 3 x 4	5.4 x 1.7 x 5.4			
	S4H—	13	6	.20			6	3 x 1 x 2	3.5 x .9 x 4.1			
	S4B—	12	6	.10			6	3 x 1 x 2	2.5 x .8 x 2.9			
				3.30								
				76.12								

*Delete one.
1 Container dimensions assumed.

FIGURE 41.—ASP lay-out, worksheet.



① Arrangement of section J.

FIGURE 42.

② Section J, stack No. 1.

FIGURE 42—Continued.

SUMMARY OF ALLOCATIONS OF CREDIT IN ASP No. 9

Allo. No.	103	103-4	110	110-4
From	First Army	VII Corps	First Army	VII Corps
To	VII Corps	112th Div	VII Corps	112th Div
Eff.Date	11/3/41	11/3/41	11/4/41	11/4/41
Exp.Date	11/5/41	11/5/41	11/6/41	11/6/41
Code	Quantity			
R1GBA	640	520	160	160
R1GEA	5,840	4,400	1,460	1,460
R4CAA	6,480	4,860	1,620	1,620
R4FAA	2,016	1,520	504	504
R4FLA	288	225	72	72
R4F0X	576	450	144	144
R7AAA	430	325	110	110
S3ABA	1,075	850	275	275
S4BAA	756	504	252	252
S4BBA	756	504	252	252
S4BCA	756	504	252	252
S4HGA	100	100	50	50
S4HIA	100	100		
S4HKA	100	100		
S4HMA	100	100		
S4H0A	100	100		
S4HPA	100	100		
T1CAA	179,280	138,240	45,360	45,360
T1EDB	111,600	84,000	27,600	27,600
T1EDD	52,500	41,250	13,750	13,750
T1EGD	729,600	547,200	182,400	182,400
T1EGE	347,500	262,500	87,500	87,500
T1EPB	206,400	154,800	51,600	51,600
T1IBD	14,575	11,130	3,710	3,710
T2AAA	22,000	18,000	6,000	6,000
T2APA	4,000	4,000		

FIGURE 43.

FORMS NOS. 301 AND 302—ASP No. 9

SUMMARY OF TRANSPORTATION ORDERS IN ASP No. 9

No.	260	6	8	302
Unit	Dep 4	89th Inf	95th Inf	Dep 4
Eff. Date	11/1/41	11/3/41	11/3/41	11/3/41
Exp. Date		11/4/41	11/4/41	
Code	Quantity			
R1GBA	800	120		400
R1GEA	7,300	1,080	540	3,660
R4CAA	8,100	1,350	684	4,050
R4FAA	2,520	416	208	1,256
R4FLA	360	60		180
R4FOX	720	120	90	360
R7AAA	540			270
S3ABA	1,350	225		675
S4BAA	1,008			504
S4BBA	1,008			504
S4BCA	1,008			504
S4HGA	150	50	50	100
S4HIA	100			50
S4HKA	100			50
S4HMA	100			50
S4HOA	100	50		50
S4HPA	100		50	50
T1CAA	224,640	32,400	15,120	112,320
T1EDB	139,200	20,400		69,600
T1EDD	66,250			33,750
T1EGD	912,000	142,800	72,000	456,000
T1EGE	435,000	53,750	26,250	217,500
T1EPB	258,000	39,600	20,400	129,600
T1IBD	18,285			9,275
T2AAA	28,000	2,000		14,000
T2APA	4,000			2,000

FIGURE 43.

LAYOUT OF ASP No. 9, BROWN, MD.

(Infantry Units)

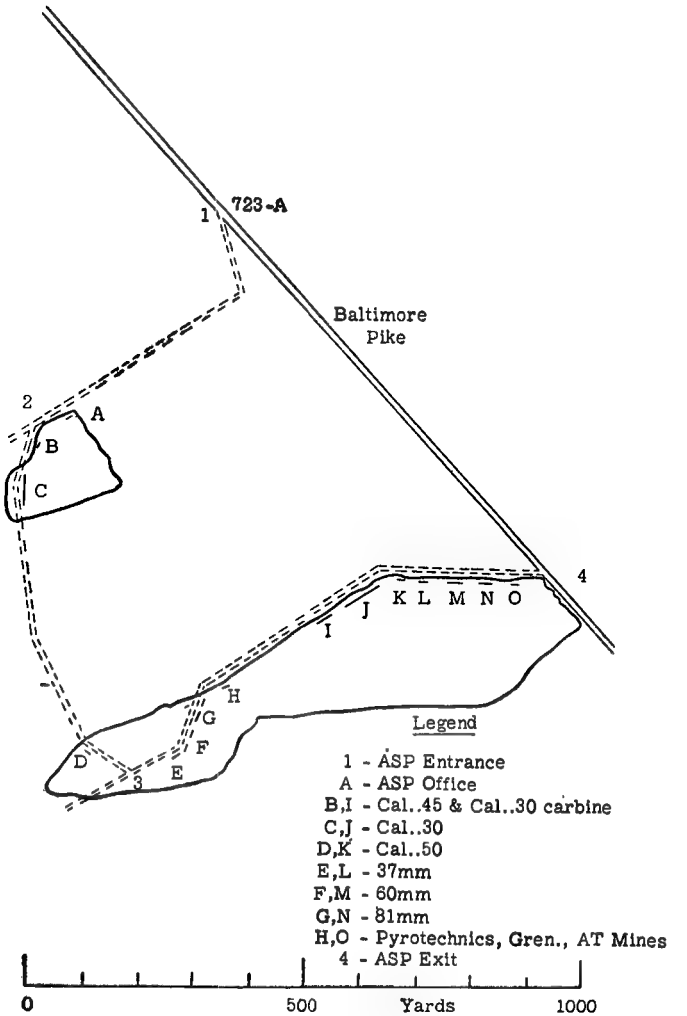


FIGURE 44.—Lay-out of ASP No. 9.

OFM Form 307 AMMUNITION STOCK RECORD Item: R1GBA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
				3 Nov	1941				
T-260	D 4	800	800			800			800
A-103	VII C					800	640	640	160
T-6	89th			120	120	680		520	160
				4 Nov	1941				
T-302	D 4	400	400			1080		520	560
A-110	VII C					1080	160	680	400

Item: R1GEA

				3 Nov	1941				
T-260	D 4	7300	7300			7300			7300
A-103	VII C					7300	5840	5840	1460
T-6	89th			1080	1080	6220		4760	1460
T-8	95th			540	1620	5680		4220	1460
				4 Nov	1941				
T-302	D 4	3660	3660			9340		4220	5120
A-110	VII C					9340	1460	5680	3660

Item: R4CAA

				3 Nov	1941				
T-260	D 4	8100	8100			8100			8100
A-103	VII C					8100	6480	6480	1620
T-6	89th			1350	1350	6750		5130	1620
T-8	95th			684	2034	6066		4446	1620
				4 Nov	1941				
T-302	D 4	4050	4050			10,116		4446	5670
A-110	VII C					10,116	1620	6066	4050

① Ammunition stock records—R1GBA, R1GEA, R4CAA.

FIGURE 45.

OFM Form 307 AMMUNITION STOCK RECORD Item: R4FAA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND, RUNNING BAL.	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
				3 Nov 1941					
T-260	D 4	2520	2520			2520			2520
A-103	VII C					2520	2016	2016	504
T-6	89th			416	416	2104		1600	504
T-8	95th			208	624	1896		1392	504
				4 Nov 1941					
T-302	D 4	1256	1256			3152		1392	1760
A-110	VII C					3152	504	1896	1256

Item: R4FLA

				3 Nov 1941					
T-260	D 4	360	360			360			360
A-103	VII C					360	288	288	72
T-6	89th			60	60	300		228	72
				4 Nov 1941					
T-302	D 4	180	180			480		228	252
A-110	VII C					480	72	300	180

Item: R4FOX

				3 Nov 1941					
T-260	D 4	720	720			720			720
A-103	VII C					720	576	576	144
T-6	89th			120	120	600		456	144
T-8	95th			90	210	510		366	144
				4 Nov 1941					
T-302	D 4	360	360			870		366	504
A-110	VII C					870	144	510	360

160

② Ammunition stock records—R4FAA, R4FLA, R4FOX.

OFM Form 307

AMMUNITION STOCK RECORD

Item. R7AAA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. -) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
					3 Nov 1941				
T-260	D 4	540	540			540			540
A-103	VII C					540	430	430	110
					4 Nov 1941				
T-302	D 4	270	270			810		430	380
A-110	VII C					810	110	540	270

Item: S3ABA

					3 Nov 1941				
T-260	D 4	1350	1350			1350			1350
A-103	VII C					1350	1075	1075	275
T-6	89th			225	225	1125		850	275
					4 Nov 1941				
T-302	D 4	675	675			1800		850	950
A-110	VII C					1800	275	1125	675

Item: S4BAA

					3 Nov 1941				
T-260	D 4	1008	1008			1008			1008
A-103	VII C					1008	756	756	252
					4 Nov 1941				
T-302	D 4	504	504			1512		756	756
A-110	VII C					1512	252	1008	504

⑨ **Ammunition stock records—R7AAA, S3ABA, S4BAA.**

FIGURE 45—Continued.

OFM Form 307 AMMUNITION STOCK RECORD Item: S4BBA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
					3 Nov 1941				
T-260	D 4	1008	1008			1008			1008
A-103	VII C						756	756	252
					4 Nov 1941				
T-302	D 4	504	504			1512			756
A-110	VII C						252	1008	504

Item: S4BCA

					3 Nov 1941				
T-260	D 4	1008	1008			1008			1008
A-103	VII C						756	756	252
					4 Nov 1941				
T-302	D 4	504	504			1512			756
A-110	VII C						252	1008	504

④ Ammunition stock records—S4BBA, S4BCA.

OFM Form 307 AMMUNITION STOCK RECORD Item: S4HGA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo.) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
					3 Nov 1941				
T-260	D 4	150	150			150			150
A-103	VII C						100	100	50
T-6	89th			50	50	100		50	
T-8	95th			50	100	50			
					4 Nov 1941				
T-302	D 4	100	100			150			150
A-110	VII C						50	50	100
							Item. S4HIA		
					3 Nov 1941				
T-260	D 4	100	100			100			100
A-103	VII C						100	100	-
					4 Nov 1941				
T-302	D 4	50	50			150			50
							Item. S4HKA		
					3 Nov 1941				
T-260	D 4	100	100			100			100
A-103	VII C						100	100	-
					4 Nov 1941				
T-302	D 4	50	50			150			50

⑤ Ammunition stock records—S4HGA, S4HIA, S4HKA.

FIGURE 45—Continued.

OFM Form 307 AMMUNITION STOCK RECORD Item. S4HMA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo. +) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
					3 Nov 1941				
T-260	D 4	100	100			100			100
A-103	VII C						100	100	
					4 Nov 1941				
T-302	D 4	50	50			150			50

Item S4HOA

					3 Nov 1941				
T-260	D 4	100	100			100			100
A-103	VII C						100	100	-
T-6	89th			50	50	50		50	
					4 Nov 1941				
T-302	D 4	50	50			100			50

Item S4HPA

					3 Nov 1941				
T-260	D 4	100	100			100			100
A-103	VII C						100	100	-
T-8	95th			50	50	50		50	
					4 Nov 1941				
T-302	D 4	50	50			100			50

⑥ Ammunition stock records—S4HMA, S4HOA, S4HPA.

OFM Form 307 — AMMUNITION STOCK RECORD — Item: T1CAA

Voucher Number	Unit	RECEIVED: Enter each Receipt	RECEIVED: Running Total of Receipts for Reporting Period	ISSUED: Enter each Issue	ISSUED: Running Total of Issues for Reporting Period	STOCK ON HAND RUNNING BALANCE	ALLOCATED: Enter each Allocation	ALLOCATED: Running Bal. Dues Out (Allo. +) (Issues -)	UNALLOCATED RUNNING BALANCE
1	2	3	4	5	6	7	8	9	10 (7-9)
					3 Nov 1941				
T-260	D 4	224640	224640			224640			224640
A-103	VII C						179280	179280	45360
T-6	89th			32400	32400	192240		146880	
T-8	95th			15120	47520	177120		131760	
					4 Nov 1941				
T-302	D 4	112320	112320			289440			157680
A-110	VII C						45360	177120	112320

Item: T1EDB

					3 Nov 1941				
T-260	D 4	139200	139200			139200			139200
A-103	VII C						111600	111600	27600
T-6	89th			20400	20400	118800		91200	
					4 Nov 1941				
T-302	D 4	69600	69600			188400			97200
A-110	VII C						27600	118800	69600

Item: T1EDD

					3 Nov 1941				
T-260	D 4	66250	66250			66250			66250
A-103	VII C						52500	52500	13750
					4 Nov 1941				
T-302	D 4	33750	33750			100000			47500
A-110	VII C						13750	66250	33750

⑦ Ammunition stock records—T1CAA, T1EDB, T1EDD.

FIGURE 45—Continued.

OFM Form 307

AMMUNITION STOCK RECORD

Item: T1EGD

Voucher Number	Units	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo.) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7 - 9)
				3 Nov 1941					
T-260	D 4	912000	912000			912000			912000
A-103	VII C						729600	729600	182400
T-6	89th			142800	142800	769200		586800	
T-8	95th			72000	214800	697200		514800	
				4 Nov 1941					
T-302	D 4	456000	456000			1153200			638400
A-110	VII C						182400	697200	456000

Item: T1EGE

				3 Nov 1941					
T-260	D 4	435000	435000			435000			435000
A-103	VII C						347500	347500	87500
T-6	89th			53750	53750	381250		293750	
T-8	95th			26250	80000	355000		267500	
				4 Nov 1941					
T-302	D 4	217500	217500			572500			305000
A-110	VII C						87500	355000	217500

⑧ Ammunition stock records—T1EGD, T1EGE.

OFM Form 307 — AMMUNITION STOCK RECORD — Item: T1EPB

Voucher Number	Unit	RECEIVED: Enter each Receipt	RECEIVED: Running Total of Receipts for Reporting Period	ISSUED: Enter each Issue	ISSUED: Running Total of Issues for Reporting Period	STOCK ON HAND RUNNING BALANCE	ALLOCATED: Enter each Allocation	ALLOCATED: Running Bal. Dues Out (Allo. +) (Issues -)	UNALLOCATED RUNNING BALANCE
1	2	3	4	5	6	7	8	9	10 (7-9)
					3 Nov 1941				
T-260	D 4	258000	258000			258000			258000
A-103	VII C						206400	206400	51600
T-6	89th			38600	39600	218400		166800	
T-8	95th			20400	60000	198000		146400	
					4 Nov 1941				
T-302	D 4	129600	129600			327600			181200
A-110	VII C						51600	198000	129600

Item: T1IBD

					3 Nov 1941				
T-260	D 4	18285	18285			18285			18285
A-103	VII C						14575	14575	3710
					4 Nov 1941				
T-302	D 4	9275	9275			27560			12985
A-110	VII C						3710	18285	9275

⑨ Ammunition stock records—T1EPB, T1IBD.

FIGURE 45—Continued.

OFM Form 307 AMMUNITION STOCK RECORD Item: T2AAA

Voucher Number	Unit	RECEIVED		ISSUED		STOCK ON HAND RUNNING BALANCE	ALLOCATED		UNALLOCATED RUNNING BALANCE
		Enter each Receipt	Running Total of Receipts for Reporting Period	Enter each Issue	Running Total of Issues for Reporting Period		Enter each Allocation	Running Bal. Dues Out (Allo.+) (Issues -)	
1	2	3	4	5	6	7	8	9	10 (7-9)
					3 Nov 1941				
T-260	D 4	28000	28000			28000			28000
A-103	VII C						22000	22000	6000
T-6	89th			2000	2000	26000		20000	
					4 Nov 1941				
T-302	D 4	14000	14000			40000			20000
A-110	VII C						6000	26000	14000

Item: T2APA

					3 Nov 1941				
T-260	D 4	4000	4000			4000			4000
A-103	VII C						4000	4000	
					4 Nov 1941				
T-302	D 4	2000	2000			6000			2000

⑩ Ammunition stock records—**T2AAA, T2APA.**

FIGURE 45—Continued.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	520			520
	T 6	89th		120		400

Allo. No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~520~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	160	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code R1GBA Description 37 mm HE Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	4400			4400
	T 6	89th		1080		3320
	T 8	95th		540		2780

Allo.No.	Unit	Amount	Date Eff.	Exp.Date
~~103-4~~	~~VII C~~	~~4400~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	1460	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code R1GEA Description 37 mm AP Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	4860			4860
	T 6	89th		1350		3510
	T 8	95th		684		2826

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~4860~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	1620	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code R4CAA Description 60 mm Mortar HE Sheet No. _____

①

FIGURE 46.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	1520			1520
	T 6	89th		416		1104
	T 8	95th		208		896

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~1520~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	504	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot No. 9 ASP

Code R4FAA Description 81 mm Mortar HE Lt Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	225			225
	T 6	89th		60		165

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~225~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	72	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot No. 9 ASP

Code R4FLA Description 81 mm Mortar HE Hv Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	450			450
	T 6	89th		120		330
	T 8	95th		90		240

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~450~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	144	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot No. 9 ASP

Code R4FOX Description 81 mm Mortar Smoke Sheet No. _____

②

FIGURE 46—Continued.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	325			325

Allo. No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~325~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	110	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code R7AAA Description AT Mine Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	850			850
	T 6	89th		225		625

Allo. No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~850~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	275	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code S3ABA Description Grenade, Frag. Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	504			504

Allo. No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~504~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	252	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code S4BAA Description Very Pistol, Green 10 ga. Sheet No. _____

③

FIGURE 46—Continued.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES		BALANCE
				Issued	Running Bal.	
1941						
3 Nov	103-4	VII C	504			504

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~504~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	252	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code S4BBA Description Very Pistol, Red 10 ga. Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES		BALANCE
				Issued	Running Bal.	
1941						
3 Nov	103-4	VII C	504			504

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~504~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	252	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code S4BCA Description Very Pistol, White 10 ga. Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES		BALANCE
				Issued	Running Bal.	
1941						
3 Nov	103-4	VII C	100			100
	T 6	89th		50		50
	T 8	95th		50		-

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~100~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	50	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code S4HGA Description Sig M17 Sheet No. _____

④

FIGURE 46—Continued.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	100			100

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~100~~	~~8A 3 Nov~~	~~8A 7 Nov~~

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code S4HIA Description Sig M18 Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	100			100

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~100~~	~~8A 3 Nov~~	~~8A 7 Nov~~

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code S4HKA Description Sig M19 Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	100			100

Allo. No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~100~~	~~8A 3 Nov~~	~~8A 7 Nov~~

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code S4HMA Description Sig M20 Sheet No. _____

⑤

FIGURE 46—Continued.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	100			100
	T 6	89th		50		50

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~100~~	~~8A 3 Nov~~	~~8A 7 Nov~~

ORDNANCE OFFICE _____ Unit 112th Div Depot No. 9 ASP

Code S4HOA Description Sig M21 Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	100			100
	T 8	95th		50		50

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~100~~	~~8A 3 Nov~~	~~8A 7 Nov~~

ORDNANCE OFFICE _____ Unit 112th Div Depot No. 9 ASP

Code S4HPA Description Sig M22 Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	138240			138240
	T 6	89th		32400		105840
	T 8	95th		15120		90720

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~138240~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	45360	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot No. 9 ASP

Code T1CAA Description Cal..30 Carbine Sheet No. _____

⑥

FIGURE 46—Continued.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	84000			84000
	T 6	89th		20400		63600

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~84000~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	27600	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Depot ASP No. 9

Code T1EDB Description Cal..30 AP 8/cp Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal	BALANCE
1941						
3 Nov	103-4	VII C	41250			41250

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~41250~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	13750	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code T1EDD Description Cal..30 80% AP 250 fab belt Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal	BALANCE
1941						
3 Nov	103-4	VII C	547200			547200
	T 6	89th		142800		404400
	T 8	95th		72000		332400

Allo.No	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~547200~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	182400	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code T1EGD Description Cal..30 ball 8/cp Sheet No. _____

⑦

FIGURE 46—Continued.

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal	BALANCE
1941						
3 Nov	103-4	VII C	262500			2625000
	T 6	89th		53750		2087500
	T 8	95th		26250		1825000

Allo. No.	Unit	Amount	Date Eff.	Exp. Date
103-4	VII C	262500	8A 3 Nov	8A 7 Nov
110-4	VII C	87500	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code T1EGE Description Cal..30 80% ball 250 fab belt Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal	BALANCE
1941						
3 Nov	103-4	VII C	154800			1548000
	T 6	89th		39600		1152000
	T 8	95th		20400		945000

Allo. No	Unit	Amount	Date Eff.	Exp. Date
103-4	VII C	154800	8A 3 Nov	8A 7 Nov
110-4	VII C	52600	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code T1EPB Description Cal..30 Tr 8/cp Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	111?0			111?0

Allo. No	Unit	Amount	Date Eff.	Exp. Date
103-4	VII C	111?0	8A 3 Nov	8A 7 Nov
110-4	VII C	5?10	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot ASP No. 9

Code T1IBD Description Cal..50 80% AP 265 mlb Sheet No. _____

(8)

FIGURE 46—Continued.

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	18000			18000
	T 6			2000		16000

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~18000~~	~~8A 3 Nov~~	~~8A 7 Nov~~
110-4	VII C	6000	8A 4 Nov	8A 8 Nov

ORDNANCE OFFICE _____ Unit 112th Div Depot No. 9 ASP

Code T2AAA Description Cal..45 ball Sheet No. _____

OFM 308 CREDIT RECORD

DATE	VOU. NO.	UNIT	CREDITED	ISSUES Issued	ISSUES Running Bal.	BALANCE
1941						
3 Nov	103-4	VII C	4000			4000

Allo.No.	Unit	Amount	Date Eff.	Exp. Date
~~103-4~~	~~VII C~~	~~4000~~	~~8A 3 Nov~~	~~8A 7 Nov~~

ORDNANCE OFFICE _____ Unit 112th Div Depot No. 9 ASP

Code T2APA Description Cal..45 Tr Sheet No. _____

⑨

FIGURE 46—Continued.

OFM Form No. 306

STATUS OF STOCKS REPORT

Establishment ASP No. 9
Location Brown, Md.
From Initial Stockage
To 8:00 AM 3 Nov 1941

Code	Balance last report	Received	Issued	Balance on hand	Dues out	Unallocated
R1GBA		800		800	640	160
R1GEA		7300		7300	5840	1460
R4CAA		8100		8100	6480	1620
R4FAA		2520		2520	2016	504
R4FLA		360		360	288	72
R4FOX		720		720	576	144
R7AAA		540		540	430	110
S3ABA		1350		1350	1075	275
S4BAA		1008		1008	756	252
S4BBA		1008		1008	756	252
S4BCA		1008		1008	756	252
S4HGA		150		150	100	50
S4HIA		100		100	100	—
S4HKA		100		100	100	—
S4HMA		100		100	100	—
S4HOA		100		100	100	—
S4HPA		100		100	100	—
T1CAA		224640		224640	179280	45360
T1EDB		139200		139200	111600	27600
T1EDD		66250		66250	52500	13750
T1EGD		912000		912000	729600	182400
T1EGE		435000		435000	347500	87500
T1EPB		258000		258000	206400	51600
T1IBD		18285		18285	14575	3710
T2AAA		28000		28000	22000	6000
T2APA		4000		4000	4000	—

X
CO, Co C, 311th Ord Bn.

FIGURE 47.

OFM Form No. 306 STATUS OF STOCKS REPORT

Establishment ASP No. 9

Location Brown, Md.

From 8:00 AM 3 Nov 1941

To 8:00 AM 4 Nov 1941

Code	Balance last report	Received	Issued	Balance on hand	Dues out	Unallocated
R1GBA	800	400	120	1080	680	400
R1GEA	7300	3660	1620	9340	5680	3660
R4CAA	8100	4050	2034	10116	6066	4050
R4FAA	2520	1256	624	3152	1896	1256
R4FLA	360	180	60	480	300	180
R4F0X	720	360	210	870	510	360
R7AAA	540	270		810	540	270
S3ABA	1350	675	225	1800	1125	675
S4BAA	1008	504		1512	1008	504
S4BBA	1008	504		1512	1008	504
S4BCA	1008	504		1512	1008	504
S4HGA	150	100	100	150	50	100
S4HIA	100	50		150	100	50
S4HKA	100	50		150	100	50
S4HMA	100	50		150	100	50
S4H0A	100	50	50	100	50	50
S4HPA	100	50	50	100	50	50
T1CAA	224640	112320	47520	289440	177120	112320
T1EDB	139200	69600	20400	188400	118800	69600
T1EDD	66250	33750		100000	66250	33750
T1EGD	912000	456000	214800	1153200	697200	456000
T1EGE	435000	217500	80000	572500	355000	217500
T1EPB	258000	129600	60000	327600	198000	129600
T1IBD	18285	9275		27560	18285	9275
T2AAA	28000	14000	2000	40000	26000	14000
T2APA	4000	2000		6000	4000	2000

X

CO, Co C, 311th Ord Bn

①

FIGURE 47—Continued.

SECTION III

TABULATED DATA

■ **161. DISCUSSION.**—In order to facilitate the solution of this problem, the following data were extracted from various sources and combined into a compact form in the paragraphs below. They are believed to be accurate as of January 1942. Values which have been estimated have been marked with a question mark.

■ **162. AMMUNITION PERCENTAGES.**—In the following table is given the percentages of the various types of ammunition contained in a basic load of each type of weapon for the various arms and services. The percentages for artillery ammunition (assumed below) will be prescribed by the appropriate artillery commander.

TABLE OF AMMUNITION PERCENTAGES IN BASIC LOADS (JAN. 1942).

Weapon	Caliber	AP	Ball	Tr	Arm or service
Pistol	.45		100		All.
SMG	.45		100		Infantry.
			67	33	Cavalry.
Carbine	.30		100		All.
Rifle, BAR	.30	10	70	20	Infantry.
		80		20	Cavalry, Artillery
MG	.30	10	70	20	*Infantry.
		80		20	Cavalry, Artillery.
MG	.50	80		20	All.
Mortar	60-mm	100 HE			Infantry.
Mortar	81-mm	70 M43, 10 M56, 20 M57			Infantry.
Gun, AT	37-mm	90 AP	10 HE		Infantry.
Gun, AT	75-mm	90 AP	10 HE		Assumed.
Howitzer	105-mm	90 HE	10 Smoke		Assumed.
Howitzer	155-mm—Proj	90 HE	10 Smoke		Assumed.
	Prop. Chg. 50 Gr., 50 White				Bag—Assumed.
	Fuzes HE 80 M51, 20 M55				Assumed.
	Smoke 100 M51				
	Primers 110%				

* Will be furnished as 80 ball, 20 tracer.

■ **163. COMPLETE ROUNDS.**—In the following table are given the components of the various complete rounds of separate loading ammunition used in this problem.

COMPLETE ROUNDS FOR 155-MM HOWITZER

Code	Projectiles		Prop. Chgs.		Fuzes		Primers
	HE R2ADA	Smoke R2AQX	M1A1 R2LCA	M2 R2LDA	M51 R3BHA	M55 R3BJA	Mk. IIA R3DAA
R2ZAQ	1		1		1		1.1
R2ZAR	1			1	1		1.1
R2ZAS	1		1			1	1.1
R2ZAT	1			1		1	1.1
R2ZBZ		1	1		1		1.1
R2ZCA		1		1	1		1.1

■ 164. AMMUNITION LOADING AND PACKING DATA.—On the following pages are given the loading and packing data for all the types of ammunition used in this problem. For additional information, see OSSC sections P, R, S, and T.

■ 165. UNIT OF FIRE COMPUTATION, INFANTRY DIVISION.—On the pages which follow the loading and packing data mentioned in the preceding paragraph is given the computation of the unit of fire for a triangular infantry division.

*Weapons			Ammunition				Containers				Cont. per truck		
Type	Model	Cal.	Kind	Model	Packing	Code	Rnds./	Lb./	Tons/	Size (feet)	1 T.	1½ T.	2½ T.
Pistol	All	.45	Ball	M1911		T2AAA	2,000	110	0.055	1.37 x 1.06 x 0.64	18	27	45
SMG	All	.45	Ball	M1911		T2AAA	2,000	110	.055	1.37 x 1.06 x .64	18	27	45
			Trac	M1		T2APA	2,000	103	.052	1.37 x 1.06 x .64	19	29	48
Carbine	M1	.30	Ball	M1		T1CAA	2,160	75(?)	.038		26	40	66
Rifle	M1903A1	.30	Ball	M2	5/cp in bls	T1EGA	1,200	98	.049	1.54 x 1.23 x .79	20	30	51
			Trac	M1	5/cp in bls	T1EPC	1,200	97	.049	1.54 x 1.23 x .79	20	31	51
			AP	M2	5/cp in bls	T1EDC	1,200	96	.048	1.54 x 1.23 x .79	20	31	52
	M1	.30	Ball	M2	8/cp in bls	T1EGD	1,200	101	.051	1.54 x 1.23 x .79	19	29	49
			Trac	M1	8/cp in bls	T1EPB	1,200	100	.050	1.54 x 1.23 x .79	20	30	50
			AP	M2	8/cp in bls	T1EDB	1,200	99	.050	1.54 x 1.23 x .79	20	30	50
BAR	All	.30	Use ammunition for the rifle with which the unit is armed										
MG	All	.30	80% Ball	M1	250 rnd	T1EGE	1,250	101	.051	1.54 x 1.23 x .79	19	29	49
			20% Tr	M1	Fab. belt								
			80% AP	M2	250 rnd	T1EDD	1,250	101	.051	1.54 x 1.23 x .79	19	29	49
			20% Tr	M1	Fab. belt								
Bulk packings		.30	Ball	M1		T1EFB	1,500	114	.057	1.54 x 1.23 x .79	17	26	43
			Ball	M2		T1EGB	1,500	110	.055	1.54 x 1.23 x .79	18	27	45
			Trac	M1		T1EPA	1,500	109	.055	1.54 x 1.23 x .79	18	27	45
			AP	M2		T1EDA	1,500	108	.054	1.54 x 1.23 x .79	18	27	46
MG	M2	.50	80% AP	M2	265 rnd. mlb	T1IBD	265	96	.048	1.54 x 1.23 x .79	20	31	52
			20% Tr	M1									
Bulk packings		.50	Ball	M2		T1IGB	350	114	.057	1.54 x 1.23 x .79	17	26	43
			Trac	M1		T1IPB	350	111	.056	1.54 x 1.23 x .79	18	27	45
			AP	M2		T1IBB	350	115	.058	1.54 x 1.23 x .79	17	26	43
Mort	All	60-mm	HE	M49A2		R4CAA	18	81	.041	1.92 x 1.18 x 1.11	24	37	61
Mort	All	81-mm	HE Lt	M43		R4FAA	8	91	.046	2.87 x .81 x .81	22	33	55
			HE Hv	M56		R4FLA	3	42	.021	2.15 x .68 x .63	47	71	119
			Smoke	M57		R4FOX	3	45	.023	2.15 x .68 x .63	44	66	111
Gun AT	M3	37-mm	HE	M63		R1GBA	20	100	.050	1.47 x 1.43 x 1.08	20	30	50
			AP	M51		R1GEA	20	100	.050	1.47 x 1.43 x 1.08	20	30	50

Gun AT	M1897A1	75-mm	HE	M48		R1LDA	3	68	.034	2.44 x .68 x .63	29	44	73
			AP	M61		R1LIX	3	68	.034	2.44 x .68 x .63	29	44	73
How	M2A1	105-mm	HE	M1		R1QBA	2	127	.064	3.19 x 1.06 x .58	15	23	39
			Smoke	M60		R1QKA	2	127	.064	3.19 x 1.06 x .58	15	23	39
How	M1918	155-mm	HE	M102		R2ADA	1	95	.048	2.23 x .61 dia.	21	31	52
	projectile.		Smoke	M105		R2AQX	1	95	.048	2.23 x .61 dia.	21	31	52
	Prop charge		Green	M1A1	Zones 1–5 incl	R2LCA	6	40	.020	2.08 x .99 x .93	50	75	125
			White	M2	Zones 5–7 incl	R2LDA	6	67	.034	2.08 x 1.16 x 1.09	30	44	74
	Fuse		PD	M51	SQ., .05 del	R3BHA	25	77	.039	1.45 x 1.32 x .75	26	39	65
			PD	M55	SQ, Time	R3BJA	25	77	.039	1.45 x 1.32 x .75	26	39	65
	Primer		Per	Mk.IIA	21 gr	R3DAA	2,400	85	.043	2.21 x .91 x .82	23	35	58
					Tin		50	1.8	.0009				
Complete round, white bag prop. chg.—109 lbs											18	27	45
Complete round, green bag prop chg.—105 lbs											19	28	47
Grenades, hand			Frag	Mk. II		S3ABA	25	50	.025	1.35 x 1.35 x .57	40	60	100
Mines, AT			HE	M1		R7AAA	5	85?(?)	.043		23	35	58
Signals, ground*				M17-M22		S4H—	50	64–66	.033	2.05 x 1.16 x .94	30	46	77
Pistol, Very**		10 ga		Mk. II		S4B—	252	31	.016	1.46 x .84 x .75	64	97	161

*S4HGA M17—White star, parachute.
S4HIA M18—White star, cluster.
S4HKA M19—Green star, parachute.
S4HMA M20—Green star, cluster.
S4HOA M21—Amber star, parachute.
S4HPA M22—Amber star. cluster.

**S4BAA—Green.
S4BBA—Red.
S4BCA—White.

?Assumed.

U/F SUMMARY (JAN. 1942)

Unit: Div. Arty (Inf Div)

(1)	(2)	(3)	(4)	(5)	(6)
Code	Component unit	Rnds.	Cont.	Tons	Remarks
R1GBA	3—105 H Bn		9		
	155 H Bn		3		
			12	0.60	
R1GEA	3—105H Bn		81		
	155 H Bn		27		
			108	5.40	
R1LDA	155 H Bn		14	.48	
R1LIX	155 H Bn		120	4.08	
R1QBA	3—105 H Bn		3645	233.28	
R1QKA	3—105 H Bn		405	25.92	
R2ADA	155 H Bn		1620	77.76	
R2AQX	155 H Bn		180	8.64	
R2LCA	155 H Bn		150	3.00	
R2LDA	155 H Bn		150	5.10	
R3BHA	155 H Bn		59	2.30	
R3BJA	155 H Bn		13	.51	
R3DAA	155 H Bn		1	.04	
T1CAA	Hq Btry		3		
	3—105 H Bn		42		
	155 H Bn		19		
			64	2.43	
T1IBD	Hq Btry		7		
	3—105 H Bn		144		
	155 H Bn		55		
			206	9.89	
T2AAA	3—105 H Bn		3		
	155 H Bn		1		
			4	.24	
				379.67	

U/F SUMMARY (JAN. 1942)

Unit: Inf. Div, less Div Arty

(1)	(2)	(3)	(4)	(5)	(6)
Code	Component unit	Rnds.	Cont.	Tons	Remarks
R1GBA	Engr Bn		4		
	3 Inf Regt		36		
			40	2.00	
R1GEA	Engr Bn		41		
	3 Inf Regt		324		
			365	18.25	
R4CAA	3 Inf Regt		450	18.45	
R4FAA	3 Inf Regt		315	14.49	
R4FLA	3 Inf Regt		120	2.52	
R4FOX	3 Inf Regt		240	5.76	
S4H—	Rcn Tr				
	Sig Co		1		
	3 Inf Regt		12		
			13	.42	Six different kinds
T1CAA	Hq and MP Co		3		
	Sig Co		1		
	QM Bn		9		
	Engr Bn		3		
	Rcn Tr		1		
	3 Inf Regt		87		
			104	3.95	
T1EDB	Hq and MP Co		1		
	Engr Bn		11		
	Rcn Tr		2		
	3 Inf Regt		102		
			116	5.80	
T1EDD	Rcn Tr		53	2.70	
T1EGD	Hq and MP Co		4		
	Engr Bn		39		
	3 Inf Regt		717		
			760	38.76	
T1EGE	Engr Bn		87		
	3 Inf Regt		261		
			348	17.75	
T1EPB	Hq and MP Co		1		
	Rcn Tr		1		
	Engr Bn		6		
	3 Inf Regt		207		
			215	10.75	
T1IBD	Rcn Tr		38		
	Engr Bn		31		
			69	3.31	
				144.91	

U/F SUMMARY (JAN. 1942)—Continued

(1)	(2)	(3)	(4)	(5)	(6)
Code	Component unit	Rnds.	Cont.	Tons	Remarks
T2AAA	Hq and MP Co	----------	1	----------	
	Sig Co	----------	8	----------	
	QM Bn	----------	----------	----------	
	Engr Bn	----------	1	----------	
	Rcn Tr	----------	1	----------	
	3 Inf Regt	----------	3	----------	
			14	.77	
T2APA	Engr Bn	----------	1	----------	
	Rcn Tr	----------	1	----------	
			2	.10	
S3ABA	3 Inf Regt	----------	54	1.35	
				147.13	
R7AAA	Engr Bn	----------	108	4.64	Not in U/F. Quantity given is one basic load.
S4B—	3 Inf Regt	----------	12	.19	Not in U/F. Quantity given is one basic load. Three different kinds.
				151.96	

U/F—UNIT TABULATION (WORKSHEET)

Unit: Div Hq, Hq and MP Co (Inf Div) (1)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Weapon	Number of weapons	Rounds per weapon	Total rounds	Rounds			Containers			Tons			Total		Remarks
				AP	Ball	Trac.	AP	Ball	Trac.	AP	Ball	Trac.	Cont.	Tons	
															List of codes on this sheet:
Pistol, .45	84	7	588	------	588	------	----------	1 T2AAA	----------	------	.06	----	1	.06	T1CAA T1EDB
Carbine, .30	100	60	6,000	------	6,000	------	----------	3 T1CAA	----------	------	.11	----	3	.11	T1EGD
Rifle M1, .30	47	150	7,050	705	4,935	1,410	1 T1EDB	4 T1EGD	1 T1EPB	.05	.20	.05	6	.30	T1EPB
														.47	T2AAA

U/F—UNIT TABULATION (WORKSHEET)—Continued

Unit: Rcn Tr (Inf Div, Tri) (1)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Weapon	Number of weapons	Rounds per weapon	Total rounds	Rounds			Containers			Tons			Total		Remarks
				AP	Ball	Trac.	AP	Ball	Trac.	AP	Ball	Trac.	Cont.	Tons	
Pistol, .45	134	7	938		938										T1CAA
SMG, .45	10	200	2,000		1,333	667									T1EDB
					2,271	667		1 T2AAA	1 T2APA		.06	.05	2	.11	T1EDD
Carbine, .30	33	60	1,980		1,980			1 T1CAA			.04		1	.04	T1EPB T1IBD
Rifle M1, .30	19	150	2,850	2,280		570	2 T1EDB		1 T1EPB	.10		.05	3	.15	
MG M1919A4, .30	3	2,000	6,000												T2AAA T2APA
MG M1917A1, .30	20	3,000	60,000												
			66,000	52,800		13,200		53 T1EDD			2.70		53	2.70	
MG HB, .50	11	900	9,900	7,920		1,980		38 T1IBD			1.82		38	1.82	
Proj., Sig	1	10	10	assorted signals										4.82	

Unit: Inf Regt (Inf Div) (3)

Pistol, .45	145	7	1,015		1,015			1 T2AAA			.06		1	.06	R1GBA R1GEA
Carbine, .30	1,036	60	62,160		62,160			29 T1CAA			1.10		29	1.10	R4CAA R4FCX R4FLA
Rifle M1, .30	2,099	150	314,850												
Bar, .30	125	750	93,750												
			408,600	40,860	286,020	81,720	34 T1EDB	239 T1EGD	69 T1EPB	1.70	12.19	3.45	342	17.34	R4FOX S3ABA
MG M1919A4, .30	18	2,000	36,000												S4H—
MG M1917A1, .30	24	3,000	72,000												T1CAA
			108,000		86,400	21,600		87 T1EGE			4.44		87	4.44	T1EDB
Mort, 60-mm	27	100	2,700		2.700			150 R4CAA			6.15		150	6.15	T1EGD T1EGE
Mort, 81-mm	12	100	1,200	M43, 840	M56, 120	M57, 240	M43, 105 R4FAA	M56, 40 R4FLA	M57, 80 R4FOX	M43, 4.83	M56, .84	M57 1.92	225	7.59	T1EPB
Gun AT, 37-mm	24	100	2,400	2,160	240		108 R1GEA	12 R1GBA		5.40	.60		120	6.00	T2AAA
Pistol, Very, 10-Proj, Sigga-	57 17	10	170	signals, assorted				4 S4H—					4	.13	
Grenades	9 R Co.	50	450					18 S3ABA			.45		18	.45	
														43.26	

U/F UNIT TABULATION (WORKSHEET)—Continued

Unit: Hq. Hq Btry—Div Arty (Inf Div) (1)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Weapon	Number of weapons	Rounds per weapon	Total rounds	Rounds			Containers			Tons			Total		Remarks
				AP	Ball	Trac.	AP	Ball	Trac.	AP	Ball	Trac.	Cont.	Tons	
Pistol, .45	28	7	196		196										T1CAA
Carbine, .30	91	60	5,460		5,460			3 T1CAA			.12		3	.12	T1IBD
MG HB, .50	2	900	1,800	1,440		360		7 T1IBD			.35		7	.35	
														.47	

Unit: 105 H Bn—Div Arty (Inf Div, Tri) (3)

Pistol, .45	94	7	658		658			1 T2AAA			.06		1	.06	R1GBA R1GEA
Carbine, .30	490	60	29,400		29,400			14 T1CAA			.53		14	.53	R1QBA
MG HB, .50	14	900	12,600	10,080		2,520		48 T1IBD			2.30		48	2.30	R1QJA T1CAA
Gun AT, 37-mm.	6	100	600	540	60		27 R1GEA	3 R1GBA		1.35	.15		30	1.50	T1IBD
How, 105-mm	12	225	2,700		2,430	270		1,215 R1QBA	135 R1QKA		77.76	8.64	1,350	86.40	T2AAA
														90.79	

Unit: 155 H Bn—Div Arty (Inf Div) (1)

Pistol, .45	114	7	798		798			1 T2AAA			.06		1	.06	R1GBA R1GEA
Carbine, .30	671	60	40, 260		40, 260			19 T1CAA			.72		19	.72	R1LDA
MG HB, .50	16	900	14, 400	11, 520		2, 880		55 T1IBD			2.64		55	2.64	R1LIX R2ADA
Gun AT 37-mm	6	100	600	540	60		27 R1GEA	3 R1GBA		1.35	.15		30	1.50	R2AQX
Gun AT 75-mm	8	50	400	360	40		120 R1LIX	14 R1LDA		4.08	.48		134	4.56	R2LCA R2LDA
How 155-mm	12	150	1, 800												
Projectile, 90% HE, 10% Sm.					1, 620	180		1620 R2ADA	180 R2AQX		77.76	8.64	1800	86.40	R3BHA
Prop Chg, 50% M1A1, 50% M2					M1A1 (Green) 900	M2 (White) 900		M1A1 150 R2LCA	M2 150 R2LDA		M1A1 3.00	M2 5.10	300	8.10	R3BJA R3DAA
Fuzes HE—80% M51, 20% M55					M51 (SQ, SD) 1476	M55 (SQ, T) 324		M51 59 R3BHA	M55 13 R3BJA		M51 2.30	M55 .51	72	2.81	T1CAA T1IBD
Sm—100% M51															
Primer 110%					Mk. IIA (21 gr) 1980			Mk. IIA 1 R3DAA			Mk. IIA .04			.04	T2AAA
													1	106.83	

U/F—UNIT TABULATION (WORKSHEET)—Continued

Unit: Sig Co (Inf Div, Tri) (1)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Weapon	Number of weapons	Rounds per weapon	Total rounds	Rounds			Containers			Tons			Total		Remarks
				AP	Ball	Trac.	AP	Ball	Trac.	AP	Ball	Trac.	Cont.	Tons	
Pistol, .45	261	7	1,827		1,827										S4H—
SMG, .45	65	200	13,000		13,000										T1CAA
					14,827			8 T2AAA			.44		8	.44	T2AAA
Carbine, .30	30	60	1,800		1,800			1 T1CAA			.04		1	.04	
Proj. Sig	5	10	50		signals, assorted			1 S4H—			.03		1	.03	
														.51	

Unit: Qm Bn (Inf Div, Tri) (1)

Pistol, .45	2	7	14		14										T1CAA
Carbine, .30	310	60	18,600		18,600			9 T1CAA			.34		9	.34	

Unit: Engr Bn (Inf Div, Tri) (1)

Pistol, .45	104	7	728		728											R1GBA
SMG, .45	9	200	1,800		1,440	360										R1GEA
					2,168	360		1 T2AAA	1 T2APA		.06	.05	2	.11		T1CAA
Carbine, .30	90	60	5,400		5,400			3 T1CAA			.11		3	.11		T1EDB T1EGD
Rifle M1, .30	440	150	66,000	13,200	46,200	6,600	11 T1EDB	39 T1EGD	6 T1EPB	.55	1.99	.30	56	2.84		T1EGE
MG, M1917A1, .30	36	3,000	108,000		86,400	21,600		87 T1EGE			4.44		87	4.44		T1EPB T1IBD
MG HB, .50	9	900	8,100	6,480		1,620		31 T1IBD			1.49		31	1.49		T2AAA
Gun AT, 37-mm.	9	100	900	810	90		41 R1GEA	4 R1GBA		2.05	.20		45	2.25		T2APA
														11.24		

APPENDIX I

TABULATION OF STANDARD AMMUNITION FOR A TYPE ARMY

1.	P1ZAM	155 G. M1; HE, M101, w/PDF M51	A
2.	P1ZCM	155 G. M1; HE, M101, w/TMF M	A
3.	P1ZAN	155 G. M1; Gas, HS, M104	A
4.	P1ZAO	155 G. M1; Smoke, WP, M104	A
5.	P1ZAP	155 G. M1; AP, M111	A
6.	P1ZBC	155 G. M1917-17A1-18M1; HE, M101, w/PDF M51	A
7.	P1ZCN	155 G. M1917-17A1-18M1; HE, M101, w/TMF M	A
8.	P1ZBD	155 G. M1917-17A1-18M1; Gas, HS, M104	A
9.	P1ZBE	155 G. M1917-17A1-18M1; Smoke, WP, M104	A
10.	P1ZBG	155 G. M1917-17A1-18M1; AP, M111	A
11.	P5EAA	37 AA G. M1A1-A2; HE, M54, w/tr & PDF M56	A
12.	P5EIX	37 AA G. M1A1-A2; AP, M59	A
13.	P5MEX	3" AA G. M'17-25M1, M2, M4; HE, M42, w/TMF M43A2	A
14.	P5MJX	3" AA G. M'17-25M1, M2, M4; AP, M62	A
15.	P5NCA	3" AA G. M'18-M1, M3; HE, M42, w/TMF M43A2	A
16.	P5NHX	3" AA G. M'18-M1, M3; AP, M62, w/tr	A
17.	P5SCX	90 AA G.; AP, M	A
18.	P5SEX	90 AA G.; HE, M58, w/TMF M43A2	A
19.	R1GBA	37 G. M3-M5-M6; HE, M63, w/PDF M58	A, B
20.	R1GEA	37 G. M3-M5-M6; AP, M51, w/tr	A, B
21.	R1GHA	37 G. M3-M5-M6; Canister, M2	A, B
22.	R1LCA	75 G. M1897-16-17; HE, M48, w/PDF M48, super chg	A, B
23.	R1LDA	75 G. M1897-16-17; HE, M48, w/PDF M48, normal chg	A, B
24.	R1LEA	75 G. M1897-16-17; HE, M48, w/PDF M48, reduced chg	A, B
25.	R1LFA	75 G. M1897-16-17; HE, M48, w/PDF M54, super chg	A, B
26.	R1LGA	75 G. M1897-16-17; HE, M48, w/PDF M54, normal chg	A, B
27.	R1LHA	75 G. M1897-16-17; HE, M48, w/PDF M54, reduced chg	A, B
28.	R1LIX	75 G. M1897-16-17; AP, M61	A, B
29.	R1LLB	75 G. M1897-16-17; Gas, HS, Mk. II, unfuzed (PDF M46)	A, B
30.	R1LMX	75 G. M1897-16-17; HE, M48, w/TMF M43A2, normal chg	A, B
31.	R1LOA	75 G. M1897-16-17; Smoke, FM Mk. II	A, B
32.	R1MCA	75 Pack H. M1, M1A1; HE, M48, w/PDF M48	A
33.	R1MDA	75 Pack H. M1, M1A1; HE, M48, w/PDF M54	A
34.	R1MJX	75 Pack H. M1, M1A1; Gas, HS, M64, w/PDF M57	A
35.	R1MKX	75 Pack H. M1, M1A1; Smoke, FS, M64, w/PDF M57	A
36.	R1NAA	75 G. T6; HE, M48, w/PDF M54, super chg	A, B
37.	R1NBA	75 G. T6; AP, M61	A, B
38.	R1OAA	75 G. M2, M3, T7; HE, M48, w/PDF M48, normal chg	A, B
39.	R1OBA	75 G. M2, M3, T7; AP, M61	A, B
40.	R1QBA	105 H. M2-M2A1; HE, M1, w/PDF M48	A
41.	R1QCA	105 H. M2-M2A1; HE, M1, w/PDF M54	A
42.	R1QIA	105 H. M2-M2A1; Gas, HS, M60, w/PDF M57	A
43.	R1QKA	105 H. M2-M2A1; Smoke, FS, M60, w/PDF M57	A
44.	R2ZAQ	155 H. M'17-17A1-18; HE, M102 w/PDF M51, gr. bag chg	A
45.	R2ZAR	155 H. M'17-17A1-18; HE, M102, w/PDF M51, wh. bag. chg	A
46.	R2ZAS	155 H. M'17-17A1-18; HE, M102, w/PDF M55, gr. bag chg	A
47.	R2ZAT	155 H. M'17-17A1-18; HE, M102, w/PDF M55, wh. bag chg	A
48.	R2ZBW	155 H. M'17-17A1-18; Gas, HS, M105, w/PDF M51, gr. bag chg	A
49.	R2ZBX	155 H. M'17-17A1-18; Gas, HS, M105, w/PDF M51, wh. bag chg	A
50.	R2ZBZ	155 H. M'17-17A1-18; Smoke, WP, M105, w/PDF M51 gr. bag chg	A
51.	R2ZCA	155 H. M'17-17A1-18; Smoke, WP, M105, w/PDF M51, wh. bag chg	A
52.	R2ZCH	155 H. M1; HE, M107, w/PDF M51, gr. bag chg	A
53.	R2ZCJ	155 H. M1; HE, M107, w/PDF M51, wh. bag chg	A
54.	R2ZCI	155 H. M1; HE, M107, w/PDF M55, gr. bag chg	A
55.	R2ZCK	155 H. M1; HE, M107, w/PDF M55, wh. bag chg	A

56.	R2ZCL	155 H. M1; Gas, HS, M110, w/PDF M51, gr. bag chg	A
57.	R2ZCM	155 H. M1; Gas, HS, M110, w/PDF M51, wh. bag chg	A
58.	R2ZCN	155 H. M1; Smoke, WP, M, w/PDF M, gr. bag chg	A
59.	R2ZCO	155 H. M1; Smoke, WP, M, w/PDF M, wh. bag chg	A
60.	R4CAA	60 Mortar, M1, M2; HE, M49A2, w/PDF M52	B
61.	R4FCX	81 Mortar, M1; HE, M43A1, (6.92#) w/PDF M52	B
62.	R4FLA	81 Mortar, M1; HE, M56, (10.05#) w/PDF M53	B
63.	R4FOX	81 Mortar, M1; Smoke, FS, M57, (11.86#) w/PDF M52	B
64.	R4FQX	81 Mortar, M1; Gas, HS, M57, (10.41#) w/PDF M52	B
65.	R7AAA	Mine, AT; HE, M1, fuzed	B
66.	S3ABA	Grenades, frag. Mk. II, w/fuze M10A1	B
67.	S4BAA	Lights, sig., Very, Mk. II, green	B
68.	S4BBA	Lights, sig., Very, Mk. II, red	B
69.	S4BCA	Lights, sig., Very, Mk. II, white	B
70.	S4HGA	Signals, ground, M17, white star, parachute	B
71.	S4HIA	Signals, ground, M18, white star, cluster	B
72.	S4HKA	Signals, ground, M19, green star, parachute	B
73.	S4HMA	Signals, ground, M20, green star, cluster	B
74.	S4HOA	Signals, ground, M21, amber star, parachute	B
75.	S4HPA	Signals, ground, M22, amber star, cluster	B
76.	T1CAA	.30; carbine cartridge	A, B
77.	T1EDB	.30; AP, 8/cp in bls	B
78.	T1EDC	.30; AP, 5/cp in bls	B
79.	T1EDD	.30; 80% AP, 20% tr, 250/fab belt	A, B
80.	T1EGA	.30; ball, 5/cp in bls	A, B
81.	T1EGD	.30; ball, 8/cp in bls	B
82.	T1EGE	.30; 80% ball, 20% tr, 250/fab belt	A, B
83.	T1EPB	.30; tr, 8/cp in bls	B
84.	T1EPC	.30; tr, 5/cp in bls	B
85.	T1IBD	.50; 80% AP, 20% tr, 265/mlb	A, B
86.	T2AAA	.45; ball, M1911, 20/ctn, boxed	A, B
87.	T2APA	.45; tr, 20/ctn, boxed	B

NOTE.— A—used by artillery units; B—used by units other than artillery.

The above list includes all standard types of ammunition required for the weapons in a field army as of November 24, 1941. Units, when requesting ammunition, should use the code shown herein. Supply echelons will always furnish a suitable substitute when the standard item is not available.

For the proper code for items not listed herein, such as components, see Ammunition Identification Code (OF 5B 3-14 or FM 9-6).

APPENDIX II

UNIT OF FIRE

(FM 101-10, June 15, 1941, modified by TC 1, January 6, 1942.)

Weapon	Caliber	Rds weapon
Pistol, automatic	.45	7
Submachine gun	.45	200
Carbine	.30	60
Rifle	.30	150
Bar	.30	750
Machine gun		
M1919A4	.30	2,000
M1917A1	.30	3,000
HB	.50	900
WC AA MG Btry	.50	2,400
WC AA G Btry	.50	1,200
Mortar		
60-mm	60-mm	100
81-mm	81-mm	100
Gun, antitank		
37-mm	37-mm	100
75-mm	75-mm	50
Gun, antiaircraft		
37-mm	37-mm	300
40-mm	40-mm	300
3-in	3-in.	150
90-mm	90-mm	125
Howitzer		
105-mm	105-mm	225
155-mm	155-mm	150
240-mm	240-mm	60
Gun, field		
155-mm	155-mm	100
Grenades, fragmentation		50 per R Co
Signals		
Ground		10 per projector
Very light	(Basic load is 18/pistol—6 each of 3 colors)	
Mines, AT	(Basic load is 540 per combat Bn)	

APPENDIX III

COMPUTATION OF UNITS OF FIRE AND BASIC LOADS OF AMMUNITION

■ 1. DEFINITION.—*a. Unit of fire.*—A unit of fire for a designated organization or weapon is the quantity in rounds or tons of ammunition, bombs, grenades, and pyrotechnics which it may be expected to expend on the average in 1 day of combat. (FM 100–10.) For a discussion of the unit of fire see FM 9–5.

b. Basic loads.—Basic loads, or loads prescribed in the Table of Basic Allowances, comprise that ammunition carried organically by various units. They will generally break down into three subdivisions:

(1) The ammunition with the weapon (on the individual, weapon carrier, prime mover, etc.).

(2) Ammunition on the unit train (combat train).

(3) Ammunition on the division or service train.

■ 2. COMPUTATION.—*a. General.*—The unit of fire and the basic load are both prescribed in terms of rounds per weapon, and the computations of the two quantities will be similar. Except as indicated in *d* below, the number of weapons of each kind in the organization is determined and multiplied by the appropriate number of rounds for that weapon.

b. Use of weapon.—In some cases the allowance of ammunition for a weapon will depend on its use. Thus, the allowance for a machine gun used for train defense may be smaller than that for a similar weapon in a combat vehicle. It will frequently be necessary, therefore, to determine the specific assignment of certain of the weapons in an organization.

c. Types of ammunition.—Ammunition for different weapons comes in several different types and packings. This matter must be given adequate attention to insure that the proper types and packings are tabulated.

d. Totaling by containers.—Ammunition will normally be issued from ASP's to trains of regiments of infantry or cav-

alry, battalions of artillery, etc., in whole containers. The number of rounds required for each of these basic units is, therefore, *reduced to the required number of containers.* The number of containers for a large unit, which includes a number of these basic units, is computed by multiplying the number of containers per basic unit by the number of basic units in the larger organization. For example, the number of containers required for the regiments in a triangular division is obtained by multiplying the *containers* (not rounds) required per regiment by three. This method of computation gives a larger number of rounds than are obtained if the number of weapons in a division is multiplied by the allowance per weapon, but it insures that each organization can draw its full allowance without breaking containers.

■ 3. BASIS FOR COMPUTATION.—*a. Number of weapons.*—The number of weapons in a given type organization may be obtained from Ordnance Equipment Charts, Tables of Organization, and Tables of Basic Allowances. The use of the weapons is given in Tables of Organization. In the field, it may be necessary to determine the number of weapons from a report of major items on hand.

b. Allowances or rates.—(1) *Unit of fire.*—Current definitions of units of fire are given in FM 101–10. They are subject to revision from time to time. The unit of fire for the infantry division as given in the tabulated data for chapter 3 is that of January 1942.

(2) *Basic loads.*—The allowances of ammunition for mobilization for units of the different arms and services are given in the appropriate Tables of Basic Allowances.

c. Types of ammunition.—The proportions of the different types of ammunition are given for some weapons in the definition of the unit of fire and in the Tables of Basic Allowances.

■ 4. FORMS.—The forms below or similar ones will facilitate the computations.

■ 5. USE OF FORMS.—*a. Unit of fire.*—A worksheet is prepared for each type of unit which will draw ammunition from an ASP (inf. regt., arty. bn., etc.), and the quantities of each kind of ammunition computed in containers. The summary

is prepared by listing each kind of ammunition by code and entering the number of containers for the required number of each kind of component unit. The total number of containers and weight in tons is shown for each code. See the computation for the infantry division given in the tabulated data in chapter 3.

b. Basic loads.—The computation for basic loads is made in a manner similar to that given above. Due to lack of space on the worksheet, the conversion from rounds to containers is made on the summary.

c. Variations.—It may occasionally be advisable or necessary to vary the above procedure somewhat. In the case of weapons with multiple allowances (for different uses of the weapon), the weapon may be listed once for each different assignment of the weapon. It may be advisable to break a large organization down into its component organizations to facilitate the determination of the number of weapons for each different use. In this case, a worksheet may be used for each component organization and the total obtained on a summary. *The conversion from rounds to containers should be made, in every case, for organizations which normally draw the ammunition from the ASP's, such as regiments of infantry, battalions of artillery, etc.*

U/F—UNIT TABULATION (WORKSHEET)

Unit: _____

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Weapon	No. of weapons	Rnds. per weap.	Total rounds	Rounds			Containers			Tons			Total		Remarks
				AP	Ball	Trac.	AP	Ball	Trac.	AP	Ball	Trac.	Cont.	Tons	

U/F—SUMMARY

Unit: _____

(1)	(2)	(3)	(4)	(5)	(6)
Unit	Component unit	Rounds	Cont.	Tons	Remarks

BASIC AMMUNITION LOADS—UNIT TABULATION (WORKSHEET)

Unit: .....

(1)	(2)	(3)			(4)			(5)			(6)			(7)	(8)
Armament	Number	Rounds with weapon			Rnds. on combat train			Rnds. on div. train			Total rounds			Cont. Remarks	Tons Packing
		AP	Ball	Trac.	AP	Ball	Trac.	AP	Ball	Trac.	AP	Ball	Trac.		

Unit: ----------

SUMMARY (BASIC LOADS)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Code	With the weapon			On combat train			On division train			Total			Component unit	Remarks
	Rounds	Cont.	Tons	Rounds	Cont.	Tons	Rounds	Cont.	Tons	Rounds	Cont.	Tons		

APPENDIX IV

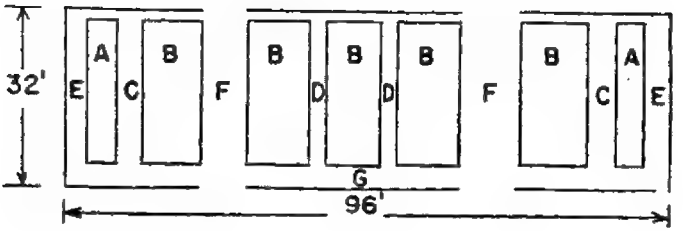
METHOD OF STACKING AMMUNITION IN COVERED STORAGE

NOTE.—This table contains only one item of a series in which the size of the container is common. Height of stack includes 2 inches for dunnage.

Code	Item	No. in container	Stack A						Stack B						Total in one magazine			Width of aisles					Height of stack
			No. of stacks	No. of containers					No. of stacks	No. of containers					Containers	Rounds	Tons	C	D	E	F	G	
				Long	Wide	High	In one stack	Total		Long	Wide	High	In one stack	Total									
T1EFB	Cartridge, ball, cal. .30, M1	1,500	2	28	1	6	168	336	14	28	2	6	336	4,704	5,040	7,560,000	288	30	30	6	90	49	91
T1EFD	Cartridge, ball, cal. .30, M1	1,250	2	28	1	6	168	336	14	28	2	6	336	4,704	5,040	6,300,000	254	30	30	6	90	49	91
T1EFC	Cartridge, ball, cal. .30, M1	1,200	2	28	1	6	168	336	14	28	2	6	336	4,704	5,040	6,048,000	262	30	30	6	90	49	91
T2AAA	Cartridge, ball, cal. .45, M1911	2,000	2	21	1	11	231	462	14	21	2	11	462	6,468	6,930	13,860,000	376	39	32	6	90	49	86
T11BA	Cartridge, ball, cal. .50, M2	300	2	28	1	6	168	336	14	28	2	6	336	4,704	5,040	1,512,000	252	30	30	6	90	49	91
T11FB	Cartridge, ball, cal. .50, M1	350	2	28	1	6	168	336	14	28	2	6	336	4,704	5,040	1,764,000	289	30	30	6	90	49	91
T11FC	Cartridge, ball, cal. .50, M1	200	2	28	1	6	168	336	14	28	2	6	336	4,704	5,040	1,008,000	180	30	30	6	90	49	91
R4CAA	Shell, HE, 60-mm mortar, M1 & M2	18	2	18	1	7	105	210	12	18	2	7	210	1,620	1,830	32,940	75	35	30	6	90	49	77
R4FAA	Shell, light, 81-mm mortar, M43	8	2	27	1	9	243	486	9	27	2	9	486	4,374	4,860	38,880	222	35	30	6	90	49	89
R4FBA	Shell, light, 81-mm mortar,																						
R4FBA	Shell, light, 81-mm mortar, M43	6	2	32	1	9	252	504	9	32	2	9	504	4,536	5,040	30,240	149	35	30	6	90	49	96
R4FNA	Shell, heavy, 81-mm mortar	3	2	32	1	9	252	504	11	32	2	9	504	5,544	6,048	18,144	127	35	30	6	90	49	96
R1FAA	Shell, HE, 37-mm gun, M4	20	2	22	1	7	154	308	15	22	2	7	308	4,620	4,928	98,560	150	35	30	6	90	49	94
R1GEA	Shot, AP, 37-mm gun, M3 & M5	20	2	15	1	7	105	210	14	15	2	7	210	2,940	3,150	63,000	158	35	30	6	90	49	94
R1LAC	Shell, HE, 75-mm gun, M48	3	2	32	1	9	252	504	10	32	2	9	504	5,040	5,544	16,632	188	35	30	6	90	49	96

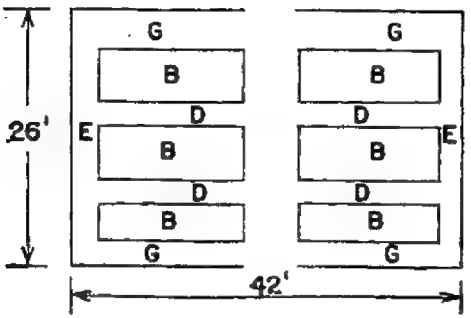
METHOD OF STACKING AMMUNITION IN COVERED STORAGE—Continued

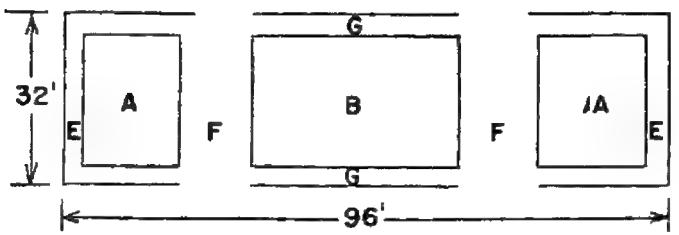
Code	Item	No. in Container	Stack A						Stack B						Total in one magazine			Width of aisles					Height of stack
			No. of stacks	No. of containers					No. of stacks	No. of containers					Containers	Rounds	Tons	C	D	E	F	G	
				Long	Wide	High	In one stack	Total		Long	Wide	High	In one stack	Total									
R1MAA	Shell, HE, 75-mm pack howitzer	3	2	32	1	9	252	504	11	32	2	9	504	5, 544	6, 048	18, 144	208	35	30	6	90	49	96
R1QBA	Shell, HE, 105-mm howitzer, M1	2	2	20	1	10	200	400	8	20	2	10	400	3, 200	3, 600	7, 200	228	40	40	6	100	49	89
R2ADA	Shell, HE, 155-mm howitzer, M102	1	2	36	4	1	144	288	10	36	8	1	288	2, 880	3, 168	3, 168	150	35	30	6	90	49	29
P1FMX	Shrapnel, 155-mm gun or howitzer	2	2	18	1	7	126	252	12	18	2	7	252	3, 024	3, 276	6, 652	358	35	29	6	90	49	54
P1HAA	Shell, HE, 8" gun Mk. I	1	2	28	3	1	84	168	10	28	6	1	168	1, 680	1, 848	1, 848	185	35	35	6	90	49	33
P1RAA	Shell, HE, 240-mm howitzer, Mk. III	1	2	24	3	1	72	144	9	24	6	1	144	1, 296	1, 440	1, 440	248	35	35	6	90	49	40


32'
A
B
B
B
B
B
B
A
E
C
F
D
D
F
C
E
G
96'

METHOD OF STACKING AMMUNITION IN COVERED STORAGE—Continued

Code	Item	No. in container	Stack B						Total in one magazine			Width of aisles				Height of stack
			No. of stacks	No. of containers												
				Long	Wide	High	In one stack	Total	Containers	Rounds	Tons	D	E	F	G	
S3AAA	Grenade, hand, fragmentation, Mk. II	25	10	13	2	13	338	3,380	3,380	84,500	85	24	6	60	22	90
S3DAA	Grenade, hand, smoke, M8	25	10	12	2	10	240	2,400	2,400	60,000	79	22	6	65	22	81
S4AEB	Flare, aircraft, landing, M8A1	1	10	8	6	16	768	7,680	7,680	7,680	102	20	6	63	22	99
S4AGA	Flare, aircraft, reconnaissance, M9	25	10	14	2	5	140	1,400	1,400	35,000	54	22	6	54	20	79
S1LCA	Flare, bomb, flashlight, M23	1	10	8	6	18	864	8,640	8,640	8,640	72	23	6	63	22	99
S4EAA	Flare, landing field, lighting, M13	36	10	8	2	4	64	640	640	23,000	36	28	6	53	22	67
S4DCA	Signals, aircraft	60	10	9	2	8	144	1,440	1,440	86,400	38	30	6	55	22	81
S4HGA	Signals, ground, M17	50	10	8	3	6	144	1,440	1,440	72,000	49	22	12	78	23	85
R3AAA	Fuze M1907M	80	10	8	2	7	112	1,120	1,120	89,600	88	25	12	76	22	54
R3ABA	Fuze	50	10	11	2	7	154	1,540	1,540	77,000	102	20	6	54	22	63
R3BDA	Fuze M35, PD	50	10	11	4	9	396	3,960	3,960	198,000	105	24	6	80	24	85
R3BBA	Fuze, Mk. IV, PD	100	10	24	2	9	432	4,320	4,320	432,000	110	21	6	61	22	89
R3BAA	Fuze Mk. III, PD	50	10	24	2	9	432	4,320	4,320	216,000	136	21	6	61	22	89
R3DAA	Primer, 21 gr., Mk. II or Mk. IIA	2,400	10	8	3	7	168	1,680	1,680	4,032,000	72	24	6	58	22	71


G
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B
B
D
D
26'
E
B
B
E
D
D
B
B
G
G
42'

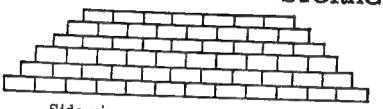

G
32'
A
B
IA
E
F
F
E
G
96'

METHOD OF STACKING AMMUNITION IN COVERED STORAGE—Continued

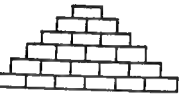
Code	Item	No. in container	Stack A					Stack B					Total in one magazine			Width of aisles			Height of stack
			No. of stacks	No. of containers				No. of stacks	No. of containers				Containers	Rounds	Tons	E	F	G	
				Long	Wide	High	In one stack	Total		Long	Wide	High	In one stack	Total						
R2LAB	Charge, propelling, 155-mm how., M17	3	2	35	31	2	2,170	4,340	1	35	68	2	4,760	4,760	9,100	27,300	205	6	48	45	84
R2LAA	Charge, propelling, 155-mm how., M17	4	2	15	8	8	960	1,920	1	15	17	8	2,040	2,040	3,960	15,840	134	6	56	48	79
R2LBA	Charge, propelling, green bag, M1	5	2	35	31	2	2,170	4,340	1	35	68	2	4,760	4,760	9,100	45,500	186	6	48	45	84
R2LCB	Charge, propelling, green bag, M1A1	4	2	15	8	8	960	1,920	1	15	17	8	2,040	2,040	3,960	15,840	95	6	56	48	79
R2LCA	Charge, propelling, green bag, M1A1	6	2	23	10	10	185	1,850	1	23	21	10	185	3,885	5,735	39,410	115	6	48	45	93
R2LDA	Charge, propelling, white bag, M2	6	2	20	10	6	105	1,050	1	20	21	6	105	2,205	3,255	19,530	109	6	48	42	78

APPENDIX V

METHOD OF STACKING AMMUNITION FOR OPEN STORAGE



Side view.



End view.

Diagram of standard "A" stack.

The longest dimension of the container is placed parallel to the ridge of the stack; the shortest vertically.

NUMBER OF CONTAINERS IN A STANDARD "A" STACK

Containers, long	Containers, wide and high									
	3	4	5	6	7	8	9	10	11	12
	Containers in stack									
5	26	40	55							
6	32	50	70	91						
7	38	60	85	112	140					
8	44	70	100	133	168	204				
9	50	80	115	154	196	240	285			
10	56	90	130	175	224	276	330	385		
11	62	100	145	196	252	312	375	440	506	
12	68	110	160	217	280	348	420	495	572	650
13	74	120	175	238	308	384	465	550	638	728
14	80	130	190	259	336	420	510	605	704	806
15	86	140	205	280	364	456	555	660	770	884
16	92	150	220	301	392	492	600	715	836	962
17	98	160	235	322	420	528	645	770	902	1, 040
18	104	170	250	343	448	564	690	825	968	1, 118
19	110	180	265	364	476	600	735	880	1, 034	1, 196
20	116	190	280	385	504	636	780	935	1, 100	1, 274
21	122	200	295	406	532	672	825	990	1, 166	1, 352
22	128	210	310	427	560	708	870	1, 045	1, 232	1, 430
23	134	220	325	448	588	744	915	1, 100	1, 298	1, 508
24	140	230	340	469	616	780	960	1, 155	1, 364	1, 586
25	146	240	355	490	644	816	1, 005	1, 210	1, 430	1, 664
26	152	250	370	511	672	852	1, 050	1, 265	1, 496	1, 742
27	158	260	385	532	700	888	1, 095	1, 320	1, 562	1, 820
28	164	270	400	553	728	924	1, 140	1, 375	1, 628	1, 898
29	170	280	415	574	756	960	1, 185	1, 430	1, 694	1, 976
30	176	290	430	595	784	996	1, 230	1, 485	1, 760	2, 054
31	182	300	445	616	812	1, 032	1, 275	1, 540	1, 826	2, 132
32	188	310	460	637	840	1, 068	1, 320	1, 595	1, 892	2, 210
33	194	320	475	658	868	1, 104	1, 365	1, 650	1, 958	2, 288
34	200	330	490	679	896	1, 140	1, 410	1, 705	2, 024	2, 366
35	206	340	505	700	924	1, 176	1, 455	1, 760	2, 090	2, 444
36	212	350	520	721	952	1, 212	1, 500	1, 815	2, 156	2, 522
37	218	360	535	742	980	1, 248	1, 545	1, 870	2, 222	2, 600
38	224	370	550	763	1, 008	1, 284	1, 590	1, 925	2, 288	2, 678
39	230	380	565	784	1, 036	1, 320	1, 635	1, 980	2, 354	2, 756
40	236	390	580	805	1, 064	1, 356	1, 680	2, 035	2, 420	2, 834

Example: The length of a stack to contain 550 containers, when the height is limited to 6 containers, is found from the table to be 28 containers.

METHOD OF STACKING AMMUNITION FOR OPEN STORAGE

[L—length, W—width, H—height]

Item	Number in box	One "A" stack per 50 yards								Five "A" stacks per 50 yards							
		Boxes	Quantity	Dimensions of stack						Boxes	Quantity	Dimensions of each stack					
				Boxes			Feet					Boxes			Feet		
				L	W	H	L	W	H			L	W	H	L	W	H
Caliber .30:																	
In clips and bandoleers for rifle	1,200	600	720,000	31	6	6	47.7	7.7	4.7	120	144,000	13	4	4	20.0	4.9	3.1
In fabric belts (MG)	1,250	600	750,000	31	6	6	47.7	7.7	4.7	120	150,000	13	4	4	20.0	4.9	3.1
For carbine	2,150	860	1,857,600	33	7	7	50.1	8.6	5.5	172	371,520	19	4	4	29.3	4.9	3.1
Caliber .45:																	
Ball and tracer	2,000	545	1,090,000	28	6	6	38.3	6.3	3.8	109	218,000	12	4	4	16.4	4.2	2.6
Caliber .50, mlb	265	625	165,625	32	6	6	49.3	7.4	4.7	125	33,125	14	4	4	21.6	4.9	3.1
Signals:																	
Ground	50	460	23,000	24	6	6	49.2	7.0	5.6	92	4,600	11	4	4	22.6	4.6	3.8
Very lights	252	970	244,440	37	7	7	54.0	6.0	5.3	194	48,888	15	5	5	21.9	4.2	3.8
Grenades, fragmentation	25	600	15,000	31	6	6	41.7	8.1	3.4	120	3,000	13	4	4	17.6	5.4	2.3
60 mm mortar	18	740	13,320	23	3	2 4	44.2	14.4	4.4	148	2,664	16	4	2 2	30.7	7.2	2.2
81-mm mortar:																	
Shell, HE, light	6	1,035	6,210	22	10	2 5	56.1	6.8	3.2	207	1,242	12	6	2 3	30.6	4.1	1.9
Shell, HE, heavy, and Shell, smoke	3	1,335	4,005	21	12	1 6	45.2	8.2	3.8	267	801	10	8	2 4	21.5	5.4	2.5
37-mm antitank	20	600	12,000	42	5	5	61.7	7.2	5.4	120	2,400	13	4	4	19.1	5.7	4.3
75-mm antitank:																	
[illegible]	3	880	2,640	19	10	2 5	46.4	6.8	3.2	176	528	8	8	2 4	19.5	5.4	2.5
HE and AP	3	880	2,640	19	10	2 5	46.4	6.8	3.2	176	528	8	8	2 4	19.5	5.4	2.5
Gas and Smoke	3	1,000	3,000	17	12	1 6	38.4	8.1	3.8	200	600	8	8	2 4	17.9	5.4	2.5
75-mm pack howitzer	3	880	2,640	19	10	2 5	41.2	6.8	3.2	176	528	8	8	2 4	17.4	5.4	2.5
105-mm howitzer	2	475	950	16	8	2	51.0	8.5	4.6	95	190	11	4	4	35.1	4.2	2.3
Antiaircraft artillery:																	
37-mm M1A1, M1A2	25	600	15,000	42	5	5	59.6	6.3	5.8	120	3,000	13	4	4	18.5	5.0	4.6
3" (all models)	4	400	1,600	21	6	6	71.4	5.8	5.3	80	320	9	4	4	30.6	3.8	3.8

155-mm howitzer with green bag propelling charge:																	
Projectiles	1	570	570	38	15	[3] 1	23.2	9.2	2.2	114	114	19	6	[3] 1	11.6	3.7	2.2
Green bag prop. chg	6	95	570	7	6	[2] 3	14.6	5.9	2.8	19	114	4	4	[2] 3	8.3	4.0	2.8
Fuzes	25	23	575	5	3	3	7.3	4.0	2.3	5	125	3	2	1	4.4	2.6	0.8
Primers [4]	50	13	650	Spread on top of fuzes						3	150	Spread on top of fuzes					
							[5] 51.1								[5] 30.3		
155-mm howitzer with white bag propelling charge:																	
Projectiles	1	540	540	36	15	[3] 1	22.0	9.2	2.2	108	108	18	6	[3] 1	11.0	3.7	2.2
White bag prop. chg	6	90	540	6	6	[2] 3	12.5	7.0	3.3	18	108	4	4	[2] 3	8.3	4.6	3.3
Fuzes	25	22	550	5	3	3	7.3	4.0	2.3	5	125	3	2	1	4.4	2.6	0.8
Primers [4]	50	12	600	Spread on top of fuzes						3	150	Spread on top of fuzes					
							[5] 47.8								[5] 29.7		
155-mm gun M1:																	
Projectiles	1	420	420	28	15	[3] 1	17.1	9.2	2.2	84	84	14	6	[3] 1	8.5	2.4	2.2
Propelling charges	3	140	420	7	7	[2] 4	23.5	13.0	6.9	28	84	4	4	[2] 2	13.4	7.4	3.5
Fuzes	25	17	425	4	3	3	5.8	4.0	2.3	4	100	2	2	1	2.9	2.6	0.8
Primers [4]	50	10	500	Spread on top of fuzes						2	100	Spread on top of fuzes					
							[5] 52.4								[5] 30.8		
155-mm gun M'17, M'17A1, M'18M1:																	
Projectiles	1	450	450	30	15	[3] 1	18.3	9.2	2.2	90	90	15	6	[3] 1	9.4	2.4	2.2
Propelling charges	3	150	450	8	7	[2] 4	26.5	8.1	4.4	30	90	4	4	[2] 2	13.2	4.6	2.2
Fuzes	25	18	450	4	3	3	5.8	4.0	2.3	4	100	2	2	1	2.9	2.6	0.8
Primer [4]	50	10	500	Spread on top of fuzes						2	100	Spread on top of fuzes					
							[5] 56.6								[5] 31.3		

[1] Standard packing data not available. Assumed to have same box weight and dimensions as cal. .30 rifle.
[2] Triangular bundles may be nestled, thereby reducing the height of a stack.
[3] Projectiles are stood on their bases.
[4] 110% primers. Substantially more boxes of fuzes and primers than shown above will be needed if small issues are made from the stacks, since individual primers and fuzes cannot be supplied.
[5] Total length of stack, including one yard between piles of components.

NOTE.—For safety a maximum quantity of each kind of ammunition per 50 yards is prescribed. The extreme arrangements of this maximum quantity per 50 yards are: one stack on one side of the road; or, five stacks on one side of the road. This table shows quantities in stacks in these extremes. The stacks are arranged to suit the terrain and cover available. One vehicle occupies 10 yards of road, either loading or unloading. There must be at least two widely separated stacks of each kind and type of ammunition at every ASP. Ammunition must be segregated by lot.

APPENDIX VI

MOVEMENT OF AMMUNITION

■ 1. PHYSICAL HANDLING.—*a. General.*—The movement of ammunition by rail or truck and the establishment of ammunition depots involve considerations of time, vehicles, and men required. These considerations are in turn controlled by rates, weights, distances, etc., as shown in the paragraphs below. The assumptions which constitute the basis for the method of solution proposed herein are based upon actual experience. They constitute a sound basis for preliminary planning. Every effort must be made by all interested personnel to evaluate constantly all factors involved, in order that a greater degree of accuracy, based on experience, may be attained.

b. Average handling rate.—In unloading from a railway car to a truck or to the ground, or from a truck to the ground, one man can unload at the rate of 5/6 tons per hour for 4 continuous hours (with at least 4 hours' rest thereafter). A man can average this rate for 8 hours out of the 24, or can unload 6⅔ tons in 24 hours. In loading from the ground to a truck, one man can load ¾ ton per hour, or, as computed for unloading, 6 tons in 24 hours.

c. Unloading railroad trains.—(1) Not more than 11 men (1 supervisor, 10 laborers can be used advantageously in unloading a 50-ton car from one side, and not more than 18 men if it is possible to unload from both sides.

(2) One truck only can be loaded from one side of a car at a time.

(3) Average time required to unload a train of 50 ton cars, using 11 men per car, is 6 hours.

(4) An allowance of 30 minutes should be made for clearance of the empty train and spotting of the next full train.

(5) Minimum time between trains on the same siding averages 6 hours, 30 minutes.

(6) When the number of unloading points on the same siding is insufficient to accommodate all cars in the train

simultaneously, additional time must be allowed for the shifting of unloaded cars away from, and loaded cars up to, the unloading points. For purposes of solution of the problem, this may be assumed to be 15 minutes.

d. Determination of labor and transportation requirements for ammunition handling.—(1) The following factors must be evaluated in all ammunition handling problems and are interrelated; a change in one factor causes a change in the other two factors:

(*a*) V=number of trucks to be used.

(*b*) M=number of laborers to be used for loading vehicles.

$2M$=number of laborers used for both loading and unloading.

(*c*) T=time in hours required to unload the ammunition railway train.

(2) Determination of the factors listed above will be governed by the following considerations:

(*a*) W=tons of ammunition to be hauled.

(*b*) C=capacity of each truck in tons.

(*c*) D=length of turnaround in miles.

(*d*) S=average speed of trucks in miles per hour which can be maintained on turnarounds.

(*e*) P= number of loading points available for simultaneous loading of trucks.

■ 2. Derivation of Movement Formulas.—*a. Men required to unload train in least possible time.*—Since 10 is the maximum number of men that can be used for loading at any one loading point (par. 1c(1)), the maximum number of men required will be governed by the number of loading points available, or the number of vehicles available for simultaneous loading at the loading points. Then:

$M_{max}=10P$; or $10V$, whichever is smaller (formula I), where V is the number of trucks available for simultaneous loading. It should be remembered that "M" given by this formula is only half the total men required (par. 1*d*(1)(*b*)), is only for a specific period of work, 4 hours, and that supervisory personnel must be added.

b. Number of vehicles needed to unload the train in the least possible time.—Each man loads ⅝ tons/hour (par. 1*a*).

Number of men at each loading point is M/P (total men/number of loading points). These men, therefore, can load $\frac{5}{6} \times M/P = 5M/6P$ tons/hour/loading point. Therefore, the time required to load, or unload, each truck of C tons capacity is:

$$T = \frac{C}{\frac{5M}{6P}} = \frac{6PC}{5M} \text{ (hours)}.$$

Therefore, the time required for the truck to proceed to the unloading point, unload, and return to the loading point is:

$$T = \frac{6PC}{5M} \text{(unloading time)} + \frac{D}{S} \text{(traveling time)}.$$

During this total time that a truck is away from the loading point, other trucks can be loaded. The total number of trucks that can be loaded before the first truck returns for its second load is:

$$V = \frac{\frac{6PC}{5M} + \frac{D}{S}}{\frac{6PC}{5M}} = \frac{\text{(total time)}}{\text{(time to load each truck)}} = 1 + \frac{5MD}{6PCS}.$$

Therefore, the maximum number of trucks which can be utilized at each loading point is:

$$V = 1 + \frac{5MD}{6PCS} + 1 = \frac{5MD}{6PCS} + 2.$$

Since there are P loading points, the maximum number of vehicles traveling the circuit becomes:

$$V_{max} = \left[\frac{5MD}{6PCS} + 2\right]P \quad \text{(formula II)}.$$

When V_{max} given by formula II is a fraction, the true V_{max} should be taken as the nearest whole number which, when divided by P, will yield a whole number. Also, the maximum number of trucks can never exceed $\frac{W}{C} = \frac{\text{(tons on train)}}{\text{(capacity of truckload)}}$. Thus, $\frac{W}{C}$ becomes V_{max} whenever it is smaller than the figure given by formula II.

c. Time to unload train.—(1) Using the maximum number of men given by formula I, and the rate per man of $\frac{5}{6}$ tons

per hour, then the total tonnage handled by the men per hour is $5M/6$. Therefore, *the least possible time* required to unload the train is:

$$\frac{W}{5M/6}=\frac{\text{(total tonnage on train)}}{\text{(tons handled per hour)}} \text{ or } \frac{6W}{5M} \text{ (formula IIIa).}$$

This value for the time required is predicated on a continuous chain of trucks and steady work by the men.

(2) The derivation of the formula for the time required to unload the train when men and/or trucks available are less than the maximum required is given below. The time required for each truck to make the complete turnaround is traveling time, $\frac{D}{S}$, plus loading time, $\frac{6PC}{5M}$, plus unloading time, $\frac{6PC}{5M}$; or:

$$T=\frac{D}{S}+\frac{12PC}{5M}$$

Therefore, tons/hour handled by each vehicle is: $\frac{C}{\frac{D}{S}+\frac{12PC}{5M}}$

This value multiplied by V gives the tons/hour handled by all the vehicles. Therefore, *the total time required to unload the train is:*

$$T=\frac{W}{\frac{VC}{\frac{D}{S}+\frac{12PC}{5M}}}=\frac{\text{(total tons)}}{\text{(tons per hour)}}$$

$$=\frac{W}{V}\left[\frac{D}{CS}+\frac{12P}{5M}\right] \text{ (formula IIIb).}$$

If the maximum number of men is available, or $\frac{M}{P}=10$, formula IIIb reduces to:

$$T=\frac{W}{V}\left[\frac{D}{CS}+0.24\right] \text{ (formula IIIc).}$$

The times given by formula III can never be less than that given by formula IIIa. Therefore, the solution of any problem by formula IIIb or IIIc should be checked by formula IIIa. The larger of these two values is the proper time to use.

d. Time required to complete entire operation.—The time required to complete the entire operation is the time required

to unload the train (T), plus the time it takes the first truck to get to the loading point ($D/2S$), plus the time it takes the last truck to get back to the depot, ($D/2S$), plus the time required to unload the last truck, $6PC/5M$. In equation form, where H is the total time required:

$$H=T+\frac{D}{S}+\frac{6PC}{5M}\text{(formula IV)}.$$

e. Résumé of procedure for solution of specific problem.—(1) See that $M=10P$, or $10V$ (take smaller) (formula I).

(2) See that $V=\left[\frac{5MD}{6CPS}+2\right]P$, or $\frac{W}{C}$ (take smaller) (formula II).

(3) Solve for T, $T=\frac{W}{D}\left[\frac{D}{CS}+\frac{12P}{5M}\right]$ or $\frac{6W}{5M}$ (take larger) (formulae III.)

(4) Solve for H; $H=T+\frac{D}{S}+\frac{6PC}{5M}$ (formula IV).

■ 3. SOLUTION OF TYPE AMMUNITION HANDLING PROBLEM.—Given:

$W=160$ tons of ammunition on 4 railway cars.

$P=4$ loading points.

$D=4$ miles turnaround.

$C=2\frac{1}{2}$ tons, capacity of each truck.

$S=16$ mph.

a. When men and vehicles are readily available.—(1) From formula I: $M=10P=40$ men each at loading and unloading points.

(2) From formula II: $V_{max}=\left[\frac{5MD}{6CPS}+2\right]P=\left[\frac{5}{6}+2\right]4$

$=12$ trucks.

(3) From formula IIIb:

$$T=\frac{W}{V}\left[\frac{D}{CS}+\frac{12P}{5M}\right]=\frac{160}{12}\left[\frac{4}{2\frac{1}{2}\times 16}+0.24\right]$$

$=4.53$ hours.

However, $T=\frac{6W}{5M}=4.8$ hours, the least possible time in which the train can be unloaded.

(4) From formula IV: $H=T+\frac{D}{S}+\frac{6PC}{5M}=4.8+\frac{4}{16}+\frac{6\times4\times2\frac{1}{2}}{5\times40}$
$=4.8+0.25+0.3=5.35$ hours

b. When only 64 men and 8 trucks are available.

(1) From formula III:

$$T=\frac{W}{V}\left[\frac{D}{CS}+\frac{12P}{5M}\right]=\frac{160}{8}\left[\frac{4}{2\frac{1}{2}\times16}+\frac{12\times4}{5\times32}\right]$$
$=20(0.1+0.3)=8.0$ hours.

Checking: $\frac{6W}{5M}=\frac{930}{160}=5.8$ hours.

(2) From formula IV: $H=T+\frac{D}{S}+\frac{6PC}{5M}=8+\frac{4}{16}+\frac{6\times4\times2\frac{1}{2}}{5\times32}$
$=8.0+0.25+0.375$
$=8.625$ hours

■ 4. TABLES FOR THE SOLUTION OF AMMUNITION HANDLING PROBLEMS.—*a. General.*—Tables of values for the quantity $\left[\frac{5MD}{6CPS}+2\right]$ in formula II, and for the quantity $\left[\frac{D}{CS}+\frac{12P}{5M}\right]$ in formula IIIb, are given on the following pages. These tables permit rapid solutions to ammunition handling problems for all turnarounds under 44 miles, average speed of 3, 15, 20, or 25 miles per hour, and truck capacities of either $2\frac{1}{2}$ or $3\frac{1}{2}$ tons.

b. Application of tables to formulas II and IIIb.—(1) Assuming the basic data of the ammunition handling problem in paragraph 3*a* above, enter table II at $D=4$, $M/P=10$, and find: $T=0.35$, $V=2.89$. The solution is as follows:

From formula II: $V=2.89\times4=11.56=12$ trucks.

From formula III: $T=\frac{W}{V}\times0.35=\frac{160}{12}\times0.35=4.66$ hours.

However, $\frac{6W}{5M}=4.8$ hours, the least possible time in which the train can be unloaded.

(2) Assuming 64 men and 8 trucks available (par. 3*b*), since the time alone remains to be determined, enter table II at $D=4$, $M/P=8$. This gives 0.41 for the value to be used in formula III.

From formula III: $T=\frac{160}{8}\times 0.41=8.2$ hours.
The slight discrepancies between the solutions by longhand and those by the tabular functions are due to the slight difference in the average speed of the trucks.

c. Discussion.—In the solution of all problems, several items must be remembered and checked before the final solution is accepted. These are:

(1) The time elements listed in paragraphs 1*c*(4) and (6) must be considered.

(2) The *total* men required for labor for the movement will usually be twice the number used at the train siding, plus supervisory personnel.

(3) The calculations are based on the handling rates given in paragraph 1*b*. Total numbers of men required must be based on these rates. Thus, if it takes 100 men to maintain a steady flow of trucks through the loading area, and the total time required is 8 hours, the total number of men required is $8/4\times 100=200$ men at the loading point, plus 200 men at the unloading point, or a total of 400 men. Such facts will materially affect the total unloading time required, and the movement of railroad trains.

(4) Unloading times must be checked against the minimum yielded by formula III*a*.

TABLE I.—*T and V constants*

[S=3 mph

Miles=D												
M/P		2	4	6	8	10	12	14	16	18	20	22
10	T	0.51	0.77	1.04	1.31	1.57	1.84	2.11	2.37	2.64	2.91	3.17
	V	4.22	6.44	8.67	10.89	13.11	15.33	17.56	19.78	22.00	24.22	26.44
9	T	0.54	0.80	1.07	1.34	1.60	1.87	2.14	2.40	2.67	2.94	3.20
	V	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
8	T	0.57	0.83	1.10	1.37	1.63	1.90	2.17	2.43	2.70	2.97	3.23
	V	3.78	5.56	7.33	9.11	10.89	12.67	14.44	16.22	18.00	19.78	21.56
7	T	0.61	0.87	1.14	1.41	1.67	1.94	2.21	2.47	2.74	3.01	3.27
	V	3.56	5.11	6.67	8.22	9.78	11.33	12.89	14.44	16.00	17.56	19.11
6	T	0.67	0.93	1.20	1.47	1.73	2.00	2.27	2.53	2.80	3.07	3.33
	V	3.33	4.67	6.00	7.33	8.67	10.00	11.33	12.67	14.00	15.33	16.67
5	T	0.75	1.01	1.28	1.55	1.81	2.08	2.35	2.61	2.88	3.15	3.41
	V	3.11	4.22	5.33	6.44	7.56	8.67	9.78	10.89	12.00	13.11	14.22
4	T	0.87	1.13	1.40	1.67	1.93	2.20	2.47	2.73	3.00	3.27	3.53
	V	2.89	3.78	4.67	5.56	6.44	7.33	8.22	9.11	10.00	10.89	11.78
3	T	1.07	1.33	1.60	1.87	2.13	2.40	2.67	2.93	3.20	3.47	3.73
	V	2.67	3.33	4.00	4.67	5.33	6.00	6.67	7.33	8.00	8.67	9.33
2	T	1.47	1.73	2.00	2.27	2.53	2.80	3.07	3.33	3.60	3.87	4.13
	V	2.44	2.89	3.33	3.78	4.22	4.67	5.11	5.56	6.00	6.44	6.89
1	T	2.67	2.93	3.20	3.47	3.73	4.00	4.27	4.53	4.80	5.07	5.33
	V	2.22	2.44	2.67	2.89	3.11	3.33	3.56	3.78	4.00	4.22	4.44
M/P		2	4	6	8	10	12	14	16	18	20	22
Miles=D												

for ammunition transfer formulas

C=2½ tons)

Miles = D												
24	26	28	30	32	34	36	38	40	42	44		M/P
3.44	3.71	3.97	4.24	4.51	4.77	5.04	5.31	5.57	5.84	6.11	T	10
28.67	30.89	33.11	35.33	37.56	39.78	42.00	44.22	46.44	48.67	50.89	V	
3.47	3.74	4.00	4.27	4.54	4.80	5.07	5.34	5.60	5.87	6.14	T	9
26.00	28.00	30.00	32.00	34.00	36.00	38.00	40.00	42.00	44.00	46.00	V	
3.50	3.77	4.03	4.30	4.57	4.83	5.10	5.37	5.63	5.90	6.17	T	8
23.33	25.11	26.89	28.67	30.44	32.22	34.00	35.78	37.56	39.33	41.11	V	
3.54	3.81	4.07	4.34	4.61	4.87	5.14	5.41	5.67	5.94	6.21	T	7
20.67	22.22	23.78	25.33	26.89	28.44	30.00	31.56	33.11	34.67	36.22	V	
3.60	3.87	4.13	4.40	4.67	4.93	5.20	5.47	5.73	6.00	6.27	T	6
18.00	19.33	20.67	22.00	23.33	24 67	26.00	27.33	28.67	30.00	31.33	V	
3.68	3.95	4.21	4.48	4.75	5.01	5.28	5.55	5.81	6.08	6.35	T	& 5
15.33	16.44	17.56	18.67	19.78	20.89	22.00	23.11	24.22	25.33	26.44	V	
3.80	4.07	4.33	4.60	4.87	5.13	5.40	5.67	5.93	6.20	6.47	T	4
12.67	13.56	14.44	15.33	16.22	17.11	18.00	18.89	19.78	20.67	21.56	V	
4.00	4.27	4.53	4.80	5.07	5.33	5.60	5.87	6.13	6.40	6.67	T	3
10.00	10.67	11.33	12.00	12.67	13.33	14.00	14.67	15.33	16.00	16.67	V	
4.40	4.67	4.93	5.20	5.47	5.73	6.00	6.27	6.53	6.80	7.07	T	2
7.33	7.78	8.22	8.67	9.11	9.56	10.00	10.44	10.89	11.33	11.78	V	
5.60	5.87	6.13	6.40	6.67	6.93	7.20	7.47	7.73	8.00	8.27	T	1
4.67	4.89	5.11	5.33	5.56	5.78	6.00	6.22	6.44	6.67	6.89	V	
24	26	28	30	32	34	36	38	40	42	44		M/P
Miles = D												

TABLE II.—*T and V constants*

(S=15 mph

		Miles=D										
M/P		2	4	6	8	10	12	14	16	18	20	22
10	T	0.29	0.35	0.40	0.45	0.51	0.56	0.61	0.67	0.72	0.77	0.83
	V	2.44	2.89	3.33	3.78	4.22	4.67	5.11	5.56	6.00	6.44	6.89
9	T	0.32	0.38	0.43	0.48	0.54	0.59	0.64	0.70	0.75	0.80	0.86
	V	2.40	2.80	3.20	3.60	4.00	4.40	4.80	5.20	5.60	6.00	6.40
8	T	0.35	0.41	0.46	0.51	0.57	0.62	0.67	0.73	0.78	0.83	0.89
	V	2.36	2.71	3.07	3.42	3.78	4.13	4.49	4.84	5.20	5.56	5.91
7	T	0.39	0.45	0.50	0.55	0.61	0.66	0.71	0.77	0.82	0.87	0.93
	V	2.31	2.62	2.93	3.24	3.56	3.87	4.18	4.49	4.80	5.11	5.42
6	T	0.45	0.51	0.56	0.61	0.67	0.72	0.77	0.83	0.88	0.93	0.99
	V	2.27	2.53	2.80	3.07	3.33	3.60	3.87	4.13	4.40	4.67	4.93
5	T	0.53	0.59	0.64	0.69	0.75	0.80	0.85	0.91	0.96	1.01	1.07
	V	2.22	2.44	2.67	2.89	3.11	3.33	3.56	3.78	4.00	4.22	4.44
4	T	0.65	0.71	0.76	0.81	0.87	0.92	0.97	1.03	1.08	1.13	1.19
	V	2.18	2.36	2.53	2.71	2.89	3.07	3.24	3.42	3.60	3.78	3.96
3	T	0.85	0.91	0.96	1.01	1.07	1.12	1.17	1.23	1.28	1.33	1.39
	V	2.13	2.27	2.40	2.53	2.67	2.80	2.93	3.07	3.20	3.33	3.47
2	T	1.25	1.31	1.36	1.41	1.47	1.52	1.57	1.63	1.68	1.73	1.79
	V	2.09	2.18	2.27	2.36	2.44	2.53	2.62	2.71	2.80	2.89	2.98
1	T	2.45	2.51	2.56	2.61	2.67	2.72	2.77	2.83	2.88	2.93	2.99
	V	2.04	2.09	2.13	2.18	2.22	2.27	2.31	2.36	2.40	2.44	2.49
M/P		2	4	6	8	10	12	14	16	18	20	22
		Miles=D										

for ammunition transfer formulas

$C=2\frac{1}{2}$ tons]

Miles = D												
24	26	28	30	32	34	36	38	40	42	44		M/P
0.88	0.93	0.99	1.04	1.09	1.15	1.20	1.25	1.31	1.36	1.41	T	10
7.33	7.78	8.22	8.67	9.11	9.56	10.00	10.44	10.89	11.33	11.78	V	
0.91	0.96	1.02	1.07	1.12	1.18	1.23	1.28	1.34	1.39	1.44	T	9
6.80	7.20	7.60	8.00	8.40	8.80	9.20	9.60	10.00	10.40	10.80	V	
0.94	0.99	1.05	1.10	1.15	1.21	1.26	1.31	1.37	1.42	1.47	T	8
6.27	6.62	6.98	7.33	7.69	8.04	8.40	8.76	9.11	9.47	9.82	V	
0.98	1.03	1.09	1.14	1.19	1.25	1.30	1.35	1.41	1.46	1.51	T	7
5.73	6.04	6.36	6.67	6.98	7.29	7.60	7.91	8.22	8.53	8.84	V	
1.04	1.09	1.15	1.20	1.25	1.31	1.36	1.41	1.47	1.52	1.57	T	6
5.20	5.47	5.73	6.00	6.27	.653	6.80	7.07	7.33	7.60	7.87	V	
1.12	1.17	1.23	1.28	1.33	1.39	1.44	1.49	1.55	1.60	1.65	T	5
4.67	4.89	5.11	5.33	5.56	5.78	6.00	6.22	6.44	6.67	6.89	V	
1.24	1.29	1.35	1.40	1.45	1.51	1.56	1.61	1.67	1.72	1.77	T	4
4.13	4.31	4.49	4.67	4.84	5.02	5.20	5.38	5.56	5.73	5.91	V	
1.44	1.49	1.55	1.60	1.65	1.71	1.76	1.81	1.87	1.92	1.97	T	3
3.60	3.73	3.87	4.00	4.13	4.27	4.40	4.53	4.67	4.80	4.93	V	
1.84	1.89	1.95	2.00	2.05	2.11	2.16	2.21	2.27	2.32	2.37	T	2
3.07	3.16	3.24	3.33	3.42	3.51	3.60	3.69	3.78	3.87	3.96	V	
3.04	3.09	3.15	3.20	3.25	3.31	3.36	3.41	3.47	3.52	3.57	T	1
2.53	2.58	2.62	2.67	2.71	2.76	2.80	2.84	2.89	2.93	2.98	V	
24	26	28	30	32	34	36	38	40	42	44		M/P
Miles = D												

TABLE III.—*T and V constants*

[S=20 mph

Miles=D												
M/P		2	4	6	8	10	12	14	16	18	20	22
10	T	0.28	0.32	0.36	0.40	0.44	0.48	0.52	0.56	0.60	0.64	0.68
	V	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00	5.33	5.67
9	T	0.31	0.35	0.39	0.43	0.47	0.51	0.55	0.59	0.63	0.67	0.71
	V	2.30	2.60	2.90	3.20	3.50	3.80	4.10	4.40	4.70	5.00	5.30
8	T	0.34	0.38	0.42	0.46	0.50	0.54	0.58	0.62	0.66	0.70	0.74
	V	2.27	2.53	2.80	3.07	3.33	3.60	3.87	4.13	4.40	4.67	4.93
7	T	0.38	0.42	0.46	0.50	0.54	0.58	0.62	0.66	0.70	0.74	0.78
	V	2.23	2.47	2.70	2.93	3.17	3.40	3.63	3.87	4.10	4.33	4.57
6	T	0.44	0.48	0.52	0.56	0.60	0.64	0.68	0.72	0.76	0.80	0.84
	V	2.20	2.40	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20
5	T	0.52	0.56	0.60	0.64	0.68	0.72	0.76	0.80	0.84	0.88	0.92
	V	2.17	2.33	2.50	2.67	2.83	3.00	3.17	3.33	3.50	3.67	3.83
4	T	0.64	0.68	0.72	0.76	0.80	0.84	0.88	0.92	0.96	1.00	1.04
	V	2.13	2.27	2.40	2.53	2.67	2.80	2.93	3.07	3.20	3.33	3.47
3	T	0.84	0.88	0.92	0.96	1.00	1.04	1.08	1.12	1.16	1.20	1.24
	V	2.10	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90	3.00	3.10
2	T	1.24	1.28	1.32	1.36	1.40	1.44	1.48	1.52	1.56	1.60	1.64
	V	2.07	2.13	2.20	2.27	2.33	2.40	2.47	2.53	2.60	2.67	2.73
1	T	2.44	2.48	2.52	2.56	2.60	2.64	2.68	2.72	2.76	2.80	2.84
	V	2.03	2.07	2.10	2.13	2.17	2.20	2.23	2.27	2.30	2.33	2.37
M/P		2	4	6	8	10	12	14	16	18	20	22
Miles=D												

for ammunition transfer formulas

$C = 2\frac{1}{2}$ tons]

Miles = D												
24	26	28	30	32	34	36	38	40	42	44		M/P
0.72	0.76	0.80	0.84	0.88	0.92	0.96	1.00	1.04	1.08	1.12	T	10
6.00	6.33	6.67	7.00	7.33	7.67	8.00	8.33	8.67	9.00	9.33	V	
0.75	0.79	0.83	0.87	0.91	0.95	0.99	1.03	1.07	1.11	1.15	T	9
5.60	5.90	6.20	6.50	6.80	7.10	7.40	7.70	8.00	8.30	8.60	V	
0.78	0.82	0.86	0.90	0.94	0.98	1.02	1.06	1.10	1.14	1.18	T	8
5.20	5.47	5.73	6.00	6.27	6.53	6.80	7.07	7.33	7.60	7.87	V	
0.82	0.86	0.90	0.94	0.98	1.02	1.06	1.10	1.14	1.18	1.22	T	7
4.80	5.03	5.27	5.50	5.73	5.97	6.20	6.43	6.67	6.90	7.13	V	
0.88	0.92	0.96	1.00	1.04	1.08	1.12	1.16	1.20	1.24	1.28	T	6
4.40	4.60	4.80	5.00	5.20	5.40	5.60	5.80	6.00	6.20	6.40	V	
0.96	1.00	1.04	1.08	1.12	1.16	1.20	1.24	1.28	1.32	1.36	T	5
4.00	4.17	4.33	4.50	4.67	4.80	5.00	5.17	5.33	5.50	5.67	V	
1.08	1.12	1.16	1.20	1.24	1.28	1.32	1.36	1.40	1.44	1.48	T	4
3.60	3.73	3.87	4.00	4.13	4.27	4.40	4.53	4.67	4.80	4.93	V	
1.28	1.32	1.36	1.40	1.44	1.48	1.52	1.56	1.60	1.64	1.68	T	3
3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90	4.00	4.10	4.20	V	
1.68	1.72	1.76	1.80	1.84	1.88	1.92	1.96	2.00	2.04	2.08	T	2
2.80	2.87	2.93	3.00	3.07	3.13	3.20	3.27	3.33	3.40	3.47	V	
2.88	2.92	2.96	3.00	3.04	3.08	3.12	3.16	3.20	3.24	3.28	T	1
2.40	2.43	2.47	2.50	2.53	2.57	2.60	2.63	2.67	2.70	2.73	V	
24	26	28	30	32	34	36	38	40	42	44		M/P
Miles = D												

TABLE IV.—*T and V constants*

[S=25 mph

Miles=D												
M/P		2	4	6	8	10	12	14	16	18	20	22
10	T	0.27	0.30	0.34	0.37	0.40	0.44	0.46	0.50	0.53	0.56	0.59
	V	2.27	2.53	2.80	3.07	3.33	3.60	3.87	4.13	4.40	4.67	4.93
9	T	0.30	0.33	0.37	0.40	0.43	0.46	0.49	0.53	0.56	0.59	0.62
	V	2.24	2.48	2.72	2.96	3.20	3.44	3.68	3.92	4.16	4.40	4.64
8	T	0.33	0.36	0.40	0.43	0.46	0.49	0.52	0.56	0.59	0.62	0.65
	V	2.21	2.43	2.64	2.85	3.07	3.28	3.49	3.71	3.92	4.13	4.35
7	T	0.37	0.40	0.44	0.47	0.50	0.53	0.56	0.60	0.63	0.66	0.69
	V	2.19	2.37	2.56	2.75	2.93	3.12	3.31	3.49	3.68	3.87	4.05
6	T	0.43	0.46	0.50	0.53	0.56	0.59	0.62	0.66	0.69	0.72	0.75
	V	2.16	2.32	2.48	2.64	2.80	2.96	3.12	3.28	3.44	3.60	3.76
5	T	0.51	0.54	0.58	0.61	0.64	0.67	0.70	0.74	0.77	0.80	0.83
	V	2.13	2.27	2.40	2.53	2.67	2.80	2.93	3.07	3.20	3.33	3.47
4	T	0.63	0.66	0.70	0.73	0.76	0.79	0.82	0.86	0.89	0.92	0.95
	V	2.11	2.21	2.32	2.43	2.53	2.64	2.75	2.85	2.96	3.07	3.17
3	T	0.83	0.86	0.90	0.93	0.96	0.99	1.02	1.06	1.09	1.12	1.15
	V	2.08	2.16	2.24	2.32	2.40	2.48	2.56	2.64	2.72	2.80	2.88
2	T	1.23	1.26	1.30	1.33	1.36	1.39	1.42	1.46	1.49	1.52	1.55
	V	2.05	2.11	2.16	2.21	2.27	2.32	2.37	2.43	2.48	2.53	2.59
1	T	2.43	2.46	2.50	2.53	2.56	2.59	2.62	2.66	2.69	2.72	2.75
	V	2.03	2.05	2.08	2.11	2.13	2.16	2.19	2.21	2.24	2.27	2.29
M/P		2	4	6	8	10	12	14	16	18	20	22
Miles=D												

for ammunition transfer formulas

C=2½ tons]

Miles=D												
24	26	28	30	32	34	36	38	40	42	44		M/P
0.62	0.66	0.69	0.72	0.75	0.78	0.82	0.85	0.88	0.91	0.94	T	10
5.20	5.47	5.73	6.00	6.27	6.53	6.80	7.07	7.33	7.60	7.87	V	
0.65	0.69	0.72	0.75	0.78	0.81	0.85	0.88	0.91	0.94	0.97	T	9
4.88	5.12	5.36	5.60	5.84	6.08	6.32	6.56	6.80	7.04	7.28	V	
0.68	0.72	0.75	0.78	0.81	0.84	0.88	0.91	0.94	0.97	1.00	T	8
4.56	4.77	4.99	5.20	5.41	5.63	5.84	6.05	6.27	6.48	6.69	V	
0.72	0.76	0.79	0.82	0.85	0.88	0.92	0.95	0.98	1.01	1.04	T	7
4.24	4.43	4.61	4.80	4.99	5.17	5.36	5.55	5.73	5.92	6.11	V	
0.78	0.82	0.85	0.88	0.91	0.94	0.98	1.01	1.04	1.07	1.10	T	6
3.92	4.08	4.24	4.40	4.56	4.72	4.88	5.04	5.20	5.36	5.52	V	
0.86	0.90	0.93	0.96	0.99	1.02	1.06	1.09	1.12	1.15	1.18	T	5
3.60	3.73	3.87	4.00	4.13	4.27	4.40	4.53	4.67	4.80	4.93	V	
0.98	1.02	1.05	1.08	1.11	1.14	1.18	1.21	1.24	1.27	1.30	T	4
3.28	3.39	3.49	3.60	3.71	3.81	3.92	4.03	4.13	4.24	4.35	V	
1.18	1.22	1.25	1.28	1.31	1.34	1.38	1.41	1.44	1.47	1.50	T	3
2.96	3.04	3.12	3.20	3.28	3.36	3.44	3.52	3.60	3.68	3.76	V	
1.58	1.62	1.65	1.68	1.71	1.74	1.78	1.81	1.84	1.87	1.90	T	2
2.64	2.69	2.75	2.80	2.85	2.91	2.96	3.01	3.07	3.12	3.17	V	
2.78	2.82	2.85	2.88	2.91	2.94	2.98	3.01	3.04	3.07	3.10	T	1
2.32	2.35	2.37	2.40	2.43	2.45	2.48	2.51	2.53	2.56	2.59	V	
24	26	28	30	32	34	36	38	40	42	44		M/P
Miles=D												

TABLE V.—*T and V constants for*

[S=3 mph

Miles=D												
M/P		2	4	6	8	10	12	14	16	18	20	22
10	T	0.43	0.62	0.81	1.00	1.19	1.38	1.57	1.76	1.95	2.14	2.34
	V	3.59	5.17	6.76	8.35	9.94	11.52	13.11	14.70	16.29	17.87	19.46
9	T	0.46	0.65	0.84	1.03	1.22	1.41	1.60	1.79	1.98	2.17	2.37
	V	3.43	4.86	6.29	7.71	9.14	10.57	12.00	13.42	14.86	16.29	17.71
8	T	0.49	0.68	0.87	1.06	1.25	1.44	1.63	1.82	2.01	2.20	2.40
	V	3.27	4.54	5.81	7.08	8.35	9.62	10.89	12.16	13.43	14.70	15.97
7	T	0.53	0.72	0.91	1.10	1.29	1.48	1.67	1.86	2.05	2.24	2.44
	V	3.11	4.22	5.33	6.44	7.56	8.67	9.78	10.89	12.00	13.11	14.22
6	T	0.59	0.78	0.97	1.16	1.35	1.54	1.73	1.92	2.11	2.30	2.50
	V	2.95	3.90	4.86	5.81	6.76	7.71	8.67	9.62	10.57	11.52	12.48
5	T	0.67	0.86	1.05	1.24	1.43	1.62	1.81	2.00	2.19	2.38	2.58
	V	2.79	3.59	4.38	5.17	5.97	6.76	7.56	8.35	9.14	9.94	10.73
4	T	0.79	0.98	1.17	1.36	1.55	1.74	1.93	2.12	2.31	2.50	2.70
	V	2.63	3.27	3.90	4.54	5.17	5.81	6.44	7.08	7.71	8.35	8.98
3	T	0.99	1.18	1.37	1.56	1.75	1.94	2.13	2.32	2.51	2.70	2.90
	V	2.48	2.95	3.43	3.99	4.38	4.86	5.33	5.81	6.29	6.76	7.24
2	T	1.39	1.58	1.77	1.96	2.15	2.34	2.53	2.72	2.91	3.10	3.30
	V	2.32	2.63	2.95	3.27	3.59	3.90	4.22	4.54	4.86	5.17	5.49
1	T	2.59	2.78	2.97	3.16	3.35	3.54	3.73	3.92	4.11	4.30	4.50
	V	2.16	2.32	2.48	2.63	2.79	2.95	3.11	3.27	3.43	3.59	3.75
M/P		2	4	6	8	10	12	14	16	18	20	22
Miles=D												

ammunition transfer formulas

C=3½ tons]

Miles = D												
24	26	28	30	32	34	36	38	40	42	44		M/P
2.53	2.72	2.91	3.10	3.29	3.48	3.67	3.86	4.05	4.24	4.43	T	10
21.05	22.63	24.22	25.81	27.40	28.98	30.57	32.16	33.75	35.33	36.92	V	
2.56	2.75	2.94	3.13	3.32	3.51	3.70	3.89	4.08	4.27	4.46	T	9
19.14	20.57	22.00	23.43	24.86	26.29	27.71	29.14	30.57	32.00	33.43	V	
2.59	2.78	2.97	3.16	3.35	3.54	3.73	3.92	4.11	4.30	3.49	T	8
17.24	18.51	19.78	21.05	22.32	23.59	24.86	26.13	27.40	28.67	29.94	V	
2.63	2.82	3.01	3.20	3.39	3.58	3.77	3.96	4.15	4.34	4.53	T	7
15.33	16.44	17.56	18.67	19.78	20.89	22.00	23.11	24.22	25.33	26.44	V	
2.69	2.88	3.07	3.26	3.45	3.64	3.83	4.02	4.21	4.40	4.59	T	6
13.43	14.38	15.33	16.29	17.24	18.19	19.14	20.10	21.05	22.00	22.95	V	
2.77	2.96	3.15	3.34	3.53	3.72	3.91	4.10	4.29	4.48	4.67	T	5
11.52	12.32	13.11	13.90	14.70	15.49	16.29	17.08	17.87	18.67	19.46	V	
2.89	3.08	3.27	3.46	3.65	3.84	4.03	4.22	4.41	4.60	4.79	T	4
9.26	10.25	10.89	11.52	12.16	12.79	13.43	14.06	14.70	15.33	15.97	V	
3.09	3.28	3.47	3.66	3.85	4.04	4.23	4.42	4.61	4.80	4.99	T	3
7.71	8.19	8.67	9.14	9.62	10.10	10.57	11.05	11.52	12.00	12.48	V	
3.49	3.68	3.87	4.06	4.25	4.44	4.63	4.82	5.01	5.20	5.39	T	2
5.81	6.13	6.44	6.76	7.08	7.40	7.71	8.03	8.35	8.67	8.98	V	
4.69	4.88	5.07	5.26	5.45	5.64	5.83	6.02	6.21	6.40	6.59	T	1
3.90	4.06	4.22	4.38	4.54	4.70	4.86	5.02	5.17	5.33	5.49	V	
24	26	28	30	32	34	36	38	40	42	44		M/P.
Miles = D												

TABLE VI.—*T and V constants for*

[S=15 mph

		Miles=D										
M/P		2	4	6	8	10	12	14	16	18	20	22
10	T	0.28	0.32	0.35	0.39	0.43	0.47	0.51	0.54	0.58	0.62	0.66
	V	2.32	2.63	2.95	3.27	3.59	3.90	4.22	4.54	4.86	5.17	5.49
9	T	0.31	0.35	0.38	0.42	0.46	0.50	0.54	0.57	0.61	0.65	0.69
	V	2.29	2.57	2.86	3.14	3.43	3.71	4.00	4.29	4.57	4.86	5.14
8	T	0.34	0.38	0.41	0.45	0.49	0.53	0.57	0.60	0.64	0.68	0.72
	V	2.25	2.51	2.76	3.02	3.27	3.52	3.78	4.03	4.29	4.54	4.79
7	T	0.38	0.42	0.45	0.49	0.53	0.57	0.61	0.64	0.68	0.72	0.76
	V	2.22	2.44	2.67	2.89	3.11	3.33	3.56	3.78	4.00	4.22	4.44
6	T	0.44	0.48	0.51	0.55	0.59	0.63	0.67	0.70	0.74	0.78	0.82
	V	2.19	2.38	2.57	2.76	2.95	3.14	3.33	3.52	3.71	3.90	4.10
5	T	0.52	0.56	0.59	0.63	0.67	0.71	0.75	0.78	0.82	0.86	0.90
	V	2.16	2.32	2.48	2.63	2.79	2.95	3.11	3.27	3.43	3.59	3.75
4	T	0.64	0.68	0.71	0.75	0.79	0.83	0.87	0.90	0.94	0.98	1.02
	V	2.13	2.25	2.38	2.51	2.63	2.76	2.89	3.02	3.14	3.27	3.40
3	T	0.84	0.88	0.91	0.95	0.99	1.03	1.07	1.10	1.14	1.18	1.22
	V	2.10	2.19	2.29	2.38	2.48	2.57	2.67	2.76	2.86	2.95	3.05
2	T	1.24	1.28	1.31	1.35	1.39	1.43	1.47	1.50	1.54	1.58	1.62
	V	2.06	2.13	2.19	2.25	2.32	2.38	2.44	2.51	2.57	2.63	2.70
1	T	2.44	2.48	2.51	2.55	2.59	2.63	2.67	2.70	2.74	2.78	2.82
	V	2.03	2.06	2.10	2.13	2.16	2.19	2.22	2.25	2.29	2.32	2.35
M/P		2	4	6	8	10	12	14	16	18	20	22
		Miles=D										

ammunition transfer formulas

C=3½ tons]

Miles = D												
24	26	28	30	32	34	36	38	40	42	44		M/P
0.70	0.74	0.77	0.81	0.85	0.89	0.93	0.96	1.00	1.04	1.08	T	10
5.81	6.13	6.44	6.76	7.08	7.40	7.71	8.03	8.35	8.67	8.98	V	
0.73	0.77	0.80	0.84	0.88	0.92	0.96	0.99	1.03	1.07	1.11	T	9
5.43	5.71	6.00	6.29	6.57	6.86	7.14	7.43	7.71	8.00	8.29	V	
0.76	0.80	0.83	0.87	0.91	0.95	0.99	1.02	1.06	1.10	1.14	T	8
5.05	5.30	5.56	5.81	6.06	6.32	6.57	6.83	7.08	7.33	7.59	V	
0.80	0.84	0.87	0.91	0.95	0.99	1.03	1.06	1.10	1.14	1.18	T	7
4.67	4.89	5.11	5.33	5.56	5.78	6.00	6.22	6.44	6.67	6.89	V	
0.86	0.90	0.93	0.97	1.01	1.05	1.09	1.12	1.16	1.20	1.24	T	6
4.29	4.48	4.67	4.86	5.05	5.24	5.43	5.62	5.81	6.00	6.19	V	
0.94	0.98	1.01	1.05	1.09	1.13	1.17	1.20	1.24	1.28	1.32	T	5
3.90	4.06	4.22	4.38	4.54	4.70	4.86	5.02	5.17	5.33	5.49	V	
1.06	1.10	1.13	1.17	1.21	1.25	1.29	1.32	1.36	1.40	1.44	T	4
3.52	3.65	3.78	3.90	4.03	4.16	4.29	4.41	4.54	4.67	4.79	V	
1.26	1.30	1.33	1.37	1.41	1.45	1.49	1.52	1.56	1.60	1.64	T	3
3.14	3.24	3.33	3.43	3.52	3.62	3.71	3.81	3.90	4.00	4.10	V	
1.66	1.70	1.73	1.77	1.81	1.85	1.89	1.92	1.96	2.00	2.04	T	2
2.76	2.83	2.89	2.95	3.02	3.08	3.14	3.21	3.27	3.33	3.40	V	
2.86	2.90	2.93	2.97	3.01	3.05	3.09	3.12	3.16	3.20	3.24	T	1
2.38	2.41	2.44	2.48	2.51	2.54	2.57	2.60	2.63	2.67	2.70	V	
24	26	28	30	32	34	36	38	40	42	44		M/P
Miles = D												

TABLE VII.—*T and V constants for*

[S=20 mph

		Miles=D										
M/P		2	4	6	8	10	12	14	16	18	20	22
10	*T*	0.27	0.30	0.33	0.35	0.38	0.41	0.44	0.47	0.50	0.53	0.55
	V	2.24	2.48	2.71	2.95	3.19	3.43	3.67	3.90	4.14	4.38	4.62
9	*T*	0.30	0.33	0.36	0.38	0.41	0.44	0.47	0.50	0.53	0.56	0.58
	V	2.21	2.43	2.64	2.86	3.07	3.29	3.50	3.71	3.93	4.14	4.36
8	*T*	0.33	0.36	0.39	0.41	0.44	0.47	0.50	0.53	0.56	0.59	0.61
	V	2.19	2.38	2.57	2.76	2.95	3.14	3.33	3.52	3.71	3.90	4.10
7	*T*	0.37	0.40	0.43	0.45	0.48	0.51	0.54	0.57	0.60	0.63	0.65
	V	2.17	2.33	2.50	2.67	2.83	3.00	3.17	3.33	3.50	3.67	3.83
6	*T*	0.43	0.46	0.49	0.51	0.54	0.57	0.60	0.63	0.66	0.69	0.71
	V	2.14	2.29	2.43	2.57	2.71	2.86	3.00	3.14	3.29	3.43	3.57
5	*T*	0.51	0.54	0.57	0.59	0.62	0.65	0.68	0.71	0.74	0.77	0.79
	V	2.12	2.24	2.36	2.48	2.60	2.71	2.83	2.95	3.07	3.19	3.31
4	*T*	0.63	0.66	0.69	0.71	0.74	0.77	0.80	0.83	0.86	0.89	0.91
	V	2.10	2.19	2.29	2.38	2.48	2.57	2.67	2.76	2.86	2.95	3.05
3	*T*	0.83	0.86	0.89	0.91	0.94	0.97	1.00	1.03	1.06	1.09	1.11
	V	2.07	2.14	2.21	2.29	2.36	2.43	2.50	2.57	2.64	2.71	2.79
2	*T*	1.23	1.26	1.29	1.31	1.34	1.37	1.40	1.43	1.46	1.49	1.51
	V	2.05	2.10	2.14	2.19	2.24	2.29	2.33	2.38	2.43	2.48	2.52
1	*T*	2.43	2.46	2.49	2.51	2.54	2.57	2.60	2.63	2.66	2.69	2.71
	V	2.02	2.05	2.07	2.10	2.12	2.14	2.17	2.19	2.21	2.24	2.26
M/P		2	4	6	8	10	12	14	16	18	20	22
		Miles=D										

ammunition transfer formulas

C=3½ tons]

Miles=*D*												
24	26	28	30	32	34	36	38	40	42	44		*M/P*
0.58	0.61	0.64	0.67	0.70	0.73	0.75	0.78	0.81	0.84	0.87	*T*	10
4.86	5.10	5.33	5.57	5.81	6.05	6.29	6.52	6.76	7.00	7.24	*V*	
0.61	0.64	0.67	0.70	0.73	0.76	0.78	0.81	0.84	0.87	0.90	*T*	9
4.57	4.79	5.00	5.21	5.43	5.64	5.86	6.07	6.29	6.52	6.71	*V*	
0.64	0.67	0.70	0.73	0.76	0.79	0.81	0.84	0.87	0.90	0.93	*T*	8
4.29	4.48	4.67	4.86	5.05	5.24	5.43	5.62	5.81	6.00	6.19	*V*	
0.68	0.71	0.74	0.77	0.80	0.83	0.85	0.88	0.91	0.94	0.97	*T*	7
4.00	4.17	4.33	4.50	4.67	4.83	5.00	5.17	5.33	5.50	5.67	*V*	
0.74	0.77	0.80	0.83	0.86	0.89	0.91	0.94	0.97	1.00	1.03	*T*	6
3.71	3.86	4.00	4.14	4.29	4.43	4.57	4.71	4.86	5.00	5.14	*V*	
0.82	0.85	0.88	0.91	0.94	0.97	0.99	1.02	1.05	1.08	1.11	*T*	5
3.43	3.55	3.67	3.79	3.90	4.02	4.14	4.26	4.38	4.50	4.62	*V*	
0.94	0.97	1.00	1.03	1.06	1.09	1.11	1.14	1.17	1.20	1.23	*T*	4
3.14	3.24	3.33	3.43	3.52	3.62	3.71	3.81	3.90	4.00	4.10	*V*	
1.14	1.17	1.20	1.23	1.26	1.29	1.31	1.34	1.37	1.40	1.43	*T*	3
2.86	2.93	3.00	3.07	3.14	3.21	3.29	3.36	3.43	3.50	3.57	*V*	
1.54	1.57	1.60	1.63	1.66	1.69	1.71	1.74	1.77	1.80	1.83	*T*	2
2.57	2.62	2.67	2.71	2.76	2.81	2.86	2.90	2.95	3.00	3.05	*V*	
2.74	2.77	2.80	2.83	2.86	2.89	2.91	2.94	2.97	3.00	3.03	*T*	1
2.29	2.31	2.33	2.36	2.38	2.40	2.43	2.45	2.48	2.50	2.52	*V*	
24	26	28	30	32	34	36	38	40	42	44		*M/P*
Miles=*D*												

TABLE VIII.—*T and V constants*

[*S*=25 mph

Miles=*D*												
M/P		2	4	6	8	10	12	14	16	18	20	22
10	*T*	0.26	0.29	0.31	0.33	0.35	0.38	0.40	0.42	0.45	0.47	0.49
	V	2.19	2.38	2.57	2.76	2.95	3.14	3.33	3.52	3.71	3.90	4.10
9	*T*	0.29	0.32	0.34	0.36	0.38	0.41	0.43	0.45	0.48	0.50	0.52
	V	2.17	2.34	2.51	2.69	2.86	3.03	3.20	3.37	3.54	3.71	3.89
8	*T*	0.32	0.35	0.37	0.39	0.41	0.44	0.46	0.48	0.51	0.53	0.55
	V	2.15	2.30	2.46	2.61	2.76	2.91	3.07	3.22	3.37	3.52	3.68
7	*T*	0.36	0.39	0.41	0.43	0.45	0.48	0.50	0.52	0.55	0.57	0.59
	V	2.13	2.27	2.40	2.53	2.67	2.80	2.93	3.07	3.20	3.33	3.47
6	*T*	0.42	0.45	0.47	0.49	0.51	0.54	0.56	0.58	0.61	0.63	0.65
	V	2.11	2.23	2.34	2.46	2.57	2.69	2.80	2.91	3.03	3.14	3.26
5	*T*	0.50	0.53	0.55	0.57	0.59	0.62	0.64	0.66	0.69	0.71	0.73
	V	2.10	2.19	2.29	2.38	2.48	2.57	2.67	2.76	2.86	2.95	3.05
4	*T*	0.62	0.65	0.67	0.69	0.71	0.74	0.76	0.78	0.81	0.83	0.85
	V	2.08	2.15	2.23	2.30	2.38	2.46	2.53	2.61	2.69	2.76	2.84
3	*T*	0.82	0.85	0.87	0.89	0.91	0.94	0.96	0.98	1.01	1.03	1.05
	V	2.06	2.11	2.17	2.23	2.29	2.34	2.40	2.46	2.51	2.57	2.63
2	*T*	1.22	1.25	1.27	1.29	1.31	1.34	1.36	1.38	1.41	1.43	1.45
	V	2.04	2.08	2.11	2.15	2.19	2.23	2.27	2.30	2.34	2.38	2.42
1	*T*	2.42	2.45	2.47	2.49	2.51	2.54	2.56	2.58	2.61	2.63	2.65
	V	2.02	2.04	2.06	2.08	2.10	2.11	2.13	2.15	2.17	2.19	2.21
M/P		2	4	6	8	10	12	14	16	18	20	22
Miles=*D*												

for ammunition transfer formulas

$C=3\frac{1}{2}$ tons]

Miles=D												
24	26	28	30	32	34	36	38	40	42	44		*M/P*
0. 51	0. 54	0. 56	0. 58	0. 61	0. 63	0. 65	0. 67	0. 70	0. 72	0. 74	*T*	10
4. 29	4. 48	4. 67	4. 86	5. 05	5. 24	5. 43	5. 62	5. 81	6. 00	6. 19	*V*	
0. 54	0. 57	0. 59	0. 61	0. 64	0. 66	0. 68	0. 70	0. 73	0. 75	0. 77	*T*	9
4. 06	4. 23	4. 40	4. 57	4. 74	4. 91	5. 09	5. 26	5. 43	5. 60	5. 77	*V*	
0. 57	0. 60	0. 62	0. 64	0. 67	0. 69	0. 71	0. 73	0. 76	0. 78	0. 80	*T*	8
3. 83	3. 98	4. 13	4. 29	4. 44	4. 59	4. 74	4. 90	5. 05	5. 20	5. 35	*V*	
0. 61	0. 64	0. 66	0. 68	0. 71	0. 73	0. 75	0. 77	0. 80	0. 82	0. 84	*T*	7
3. 60	3. 73	3. 87	4. 00	4. 13	4. 27	4. 40	4. 53	4. 67	4. 80	4. 93	*V*	
0. 67	0. 70	0. 72	0. 74	0. 77	0. 79	0. 81	0. 83	0. 86	0. 88	0. 90	*T*	6
3. 37	3. 49	3. 60	3. 71	3. 83	3. 94	4. 06	4. 17	4. 29	4. 40	4. 51	*V*	
0. 75	0. 78	0. 80	0. 82	0. 85	0. 87	0. 89	0. 91	0. 94	0. 96	0. 98	*T*	5
3. 14	3. 24	3. 33	3. 43	3. 52	3. 62	3. 71	3. 81	3. 90	4. 00	4. 10	*V*	
0. 87	0. 90	0. 92	0. 94	0. 97	0. 99	1. 01	1. 03	1. 06	1. 08	1. 10	*T*	4
2. 91	2. 99	3. 07	3. 14	3. 22	3. 30	3. 37	3. 45	3. 52	3. 60	3. 68	*V*	
1. 07	1. 10	1. 12	1. 14	1. 17	1. 19	1. 21	1. 23	1. 26	1. 28	1. 30	*T*	3
2. 69	2. 74	2. 80	2. 86	2. 91	2. 97	3. 03	3. 09	3. 14	3. 20	3. 26	*V*	
1. 47	1. 50	1. 52	1. 54	1. 57	1. 59	1. 61	1. 63	1. 66	1. 68	1. 70	*T*	2
2. 46	2. 50	2. 53	2. 57	2 61	2. 65	2. 69	2. 72	2. 76	2. 80	2. 84	*V*	
2. 67	2. 70	2. 72	2. 74	2. 77	2. 79	2. 81	2. 83	2. 86	2. 88	2. 90	*T*	1
2. 23	2. 25	2. 27	2. 29	2. 30	2. 32	2. 34	2. 36	2. 38	2. 40	2. 42	*V*	
24	26	28	30	32	34	36	38	40	42	44		*M/P*
Miles=*D*												

APPENDIX VII

NUMBER OF TRUCKS IN AMMUNITION TRAINS

Unit	1½-ton trucks	2½-ton trucks	1-ton trailers	Total tons	Ammunition to be issued								
					Small arms	Mortar	37-mm gun	75-mm gun	75-mm how.	105-mm how.	155-mm how.	155-mm gun	37 mm AA gun	3" AA gun
Infantry division:														
Recn Tr	----	1	----	2.5	x	---	---	---	---	---	---	---	---	---
Inf Reg't	13	----	----	19.5	x	x	x	---	---	---	---	---	---	---
105-mm How Bn	----	12	12	42.0	x	---	x	---	---	x	---	---	---	---
155-mm How Bn	----	12	12	42.0	x	---	x	x	---	---	x	---	---	---
Cavalry division:														
Div Hq Tr	----	1	----	2.5	x	---	---	---	---	---	---	---	---	---
AT Tr	----	1	----	2.5	x	---	x	---	---	---	---	---	---	---
Recn Sq	----	5	----	12.5	x	---	x	---	---	---	---	---	---	---
75 How Bn	----	6	6	21.0	x	---	x	---	x	---	---	---	---	---
105 How Bn	----	12	12	42.0	x	---	x	---	---	x	---	---	---	---
Brig Hq Tr	----	1	----	2.5	x	---	---	---	---	---	---	---	---	---
Brig W Tr	----	1	----	2.5	x	x	x	---	---	---	---	---	---	---
Cav Reg't	----	11	----	27.5	x	x	---	---	---	---	---	---	---	---
Corps troops:														
Engr Reg't, Comb	1	----	1	2.5	x	---	---	---	---	---	---	---	---	---
AT Bn	6	----	----	9.0	x	---	x	---	---	---	---	---	---	---
AA Gun Bn	----	6	----	15.0	x	---	---	---	---	---	---	---	---	x
AA AW Bn	4	----	----	6.0	x	---	---	---	---	---	---	---	x	---
AA 37 Gun Bn, Sep	4	----	----	6.0	x	---	---	---	---	---	---	---	x	---
Cav Reg't, HM	----	6	----	15.0	x	---	---	---	---	---	---	---	---	---
155 How Bn	----	12	12	42.0	x	---	x	x	---	---	x	---	---	---
155 Gun Bn	----	12	12	42.0	x	---	x	---	---	---	---	x	---	---
Army troops:														
Engr Reg't, Gen Serv	1	----	----	1.5	x	---	---	---	---	---	---	---	---	---
AT Bn	6	----	----	9.0	x	---	x	---	---	---	---	---	---	---
AA Gun Bn	----	6	----	15.0	x	---	---	---	---	---	---	---	---	x
AA AW Bn	4	----	----	6.0	x	---	---	---	---	---	---	---	x	---

NOTE.—This table indicates the composition of the ammunition trains of the basic units of the army, together with the types of ammunition they will carry from the ASP's.

APPENDIX VIII

CONVERSION TABLES—ROUNDS TO CONTAINERS—CONTAINERS TO TRUCKS

To diminish the "overhead" down time at the ASP office, tables should be available to convert each transportation order into terms of containers and trucks to facilitate the preparation of the tallies for the individual trucks. The following tables have been designed with this purpose in mind. They enable the ordnance personnel in the ASP office to translate the transportation order rapidly into terms of containers to be loaded on to each of the trucks in the ammunition train.

The first table below is used to convert the number of rounds requested on the transportation order into the number of containers required. The next table used to determine the number of trucks required to carry the containers, and the number of containers of each type of ammunition that should be placed on each truck. The use of these tables may best be explained by solving a type problem with them. A scratch pad and pencil must be used in the operation.

Problem 1: To prepare tally-outs for an ammunition train requesting 8,200 rounds T1IBD (cal. .50), 550 rounds R1QBA (105-mm HE), and 540 rounds R1GEA (37-mm AT, AP) on a transportation order.

Solution: The packings of this ammunition are known to be: T1IBD—265/cont.; R1QBA—2 rds./cont.; R1GEA—20 rds./cont. The number of rounds desired is first broken down into its component digits, that is, to a sum of tens of thousands, thousands, hundreds, tens, and units. For example, 8,200 rounds of T1IBD becomes 8,000 rounds plus 200 rounds. The tables are then used to compute the number of containers required for each component, and added together to yield the number of containers required for the total number of rounds. Thus, under the column headed 265, the table indicates 30.2 containers for 8,000 rounds and 0.8 containers for 200 rounds. The number of containers required is the sum of 30.2 and 0.8 or 31. Similarly the numbers of containers for R1QBA and R1GEA are found to be 275

and 27, respectively. In some cases actual division of the rounds required by the rounds per container will be more rapid than the use of the tables.

The second table is now used to convert the containers into terms of trucks required to carry these containers. Assuming that eight 2½-ton trucks make up the ammunition train, the loads that these trucks can carry are shown under the proper types of ammunition. One 2½-ton truck can carry 71 containers of carbine ammunition. The 31 boxes thus require less than half a truck. Seven 2½-ton trucks can carry 273 containers of 105-mm shell, 39 containers on each truck. The 275 containers thus may be loaded onto seven trucks if two extra boxes are put on the seventh truck. One 2½-ton truck can carry 50 containers of 37-mm shell; thus 27 boxes may be placed on approximately ½ truck. The completed scratch sheet will be somewhat as follows:

T1IBD (265)	*R1QBA (2)*	*R1GEA (20)*
8,000—30.2	500—250.0	500—25.0
200— 0.8	50— 25.0	40— 2.0
8,200—31*	550—275*	540—27*
Per 2½T—71	39	50
Trucks Req'd—½*	6 @ 39*	½*
	1 @ 41*	

*Standard packing.

The truck train will thus be composed of six trucks with 39 boxes of 105-mm shell each, 1 truck with 41 boxes of 105-mm shell, and 1 truck with 31 boxes of cal. .50 and 27 boxes of 37-mm shell.

CONVERSION TABLE—ROUNDS TO CONTAINERS

Rounds	Rounds per container (standard packing)*						Rounds
	2	3	4	5	8	18	
1	0.5	0.3	0.3	0.2	0.1		1
2	1.0	.7	.5	.4	.3		2
3	1.5	1.0	.8	.6	.4	0.2	3
4	2.0	1.3	1.0	.8	.5	.2	4
5	2.5	1.7	1.3	1.0	.6	.3	5
6	3.0	2.0	1.5	1.2	.8	.3	6
7	3.5	2.3	1.8	1.4	.9	.4	7
8	4.0	2.7	2.0	1.6	1.0	.4	8
9	4.5	3.0	2.3	1.8	1.1	.5	9
10	5.0	3.3	2.5	2.0	1.3	.6	10
20	10.0	6.7	5.0	4.0	2.5	1.1	20
30	15.0	10.0	7.5	6.0	3.8	1.7	30
40	20.0	13.3	10.0	8.0	5.0	2.2	40
50	25.0	16.7	12.5	10.0	6.3	2.8	50
60	30.0	20.0	15.0	12.0	7.5	3.3	60
70	35.0	23.3	17.5	14.0	8.8	3.9	70
80	40.0	26.7	20.0	16.0	10.0	4.4	80
90	45.0	30.0	22.5	18.0	11.3	5.0	90
100	50.0	33.3	25.0	20.0	12.5	5.6	100
200	100.0	66.7	50.0	40.0	25.0	11.1	200
300	150.0	100.0	75.0	60.0	37.5	16.7	300
400	200.0	133.3	100.0	80.0	50.0	22.2	400
500	250.0	166.7	125.0	100.0	62.5	27.7	500
600	300.0	200.0	150.0	120.0	75.0	33.3	600
700	350.0	233.3	175.0	140.0	87.5	38.9	700
800	400.0	266.7	200.0	160.0	100.0	44.4	800
900	450.0	300.0	225.0	180.0	112.5	50.0	900
1,000	500.0	333.3	250.0	200.0	125.0	55.6	1,000
2,000	1,000.0	666.7	500.0	400.0	250.0	111.1	2,000
3,000	1,500.0	1,000.0	750.0	600.0	375.0	166.7	3,000
4,000	2,000.0	1,333.3	1,000.0	800.0	500.0	222.2	4,000
5,000	2,500.0	1,666.7	1,250.0	1,000.0	625.0	277.8	5,000
6,000	3,000.0	2,000.0	1,500.	1,200.0	750.0	333.3	6,000
7,000	3,500.0	2,333.3	1,750.0	1,400.0	875.0	388.9	7,000
8,000	4,000.0	2,666.7	2,000.0	1,600.0	1,000.0	444.4	8,000
9,000	4,500.0	3,000.0	2,250.0	1,800.0	1,125.0	500.0	9,000
10,000	5,000.0	3,333.3	2,500.0	2,000.0	1,250.0	555.6	10,000
20,000	10,000.0	6,666.7	5,000.0	4,000.0	2,500.0	1,111.1	20,000
30,000	15,000.0	10,000.0	7,500.0	6,000.0	3,750.0	1,666.7	30,000
40,000	20,000.0	13,333.3	10,000.0	8,000.0	5,000.0	2,222.2	40,000
50,000	25,000.0	16,666.7	12,500.0	10,000.0	6,250.0	2,777.8	50,000

*Standard packing:
2 105-mm howitzer, shell.
3 75-mm gun, shell; 81-mm mortar (heavy), shell.
4 3" AA gun, shell; 90-mm AA gun, shell.
5 Mines, AT.
8 81-mm mortar (light), shell.
18 60-mm mortar, shell.

CONVERSION TABLE—ROUNDS TO CONTAINERS—Continued

Rounds	Rounds per container (standard packing)*							Rounds
	20	25	265	1200	1250	2000	2160	
3	.2	.1						3
4	.2	.2						4
5	.3	.2						5
6	.3	.2						6
7	.4	.3						7
8	.4	.4						8
9	.5	.4						9
10	.5	.4						10
20	1.0	.8						20
30	1.5	1.2						30
40	2.0	1.6						40
50	2.5	2.0						50
60	3.0	2.4						60
70	3.5	2.8						70
80	4.0	3.2						80
90	4.5	3.6						90
100	5.0	4.0	.4	.1	.1	.1		100
200	10.0	8.0	.8	.2	.2	.1	.1	200
300	15.0	12.0	1.1	.3	.3	.2	.1	300
400	20.0	16.0	1.5	.3	.3	.2	.2	400
500	25.0	20.0	1.9	.4	.4	.3	.2	500
600	30.0	24.0	2.3	.5	.5	.3	.3	600
700	35.0	28.0	2.6	.6	.6	.4	.3	700
800	40.0	32.0	3.0	.7	.6	.4	.4	800
900	45.0	36.0	3.4	.8	.7	.5	.4	900
1,000	50.0	40.0	3.8	.8	.8	.5	.5	1,000
2,000	100.0	80.0	7.5	1.7	1.6	1.0	.9	2,000
3,000	150.0	120.0	11.3	2.5	2.4	1.5	1.4	3,000
4,000	200.0	160.0	15.1	3.3	3.2	2.0	1.8	4,000
5,000	250.0	200.0	18.9	4.2	4.0	2.5	2.3	5,000
6,000	300.0	240.0	22.6	5.0	4.8	3.0	2.8	6,000
7,000	350.0	280.0	26.4	5.8	5.6	3.5	3.2	7,000
8,000	400.0	320.0	30.2	6.7	6.4	4.0	3.7	8,000
9,000	450.0	360.0	34.0	7.5	7.2	4.5	4.2	9,000
10,000	500.0	400.0	37.7	8.3	8.0	5.0	4.6	10,000
20,000	1,000.0	800.0	75.5	16.7	16.0	10.0	9.3	20,000
30,000	1,500.0	1,200.0	113.2	25.0	24.0	15.0	13.9	30,000
40,000	2,000.0	1,600.0	150.9	33.3	32.0	20.0	18.5	40,000
50,000	2,500.0	2,000.0	188.7	41.6	40.0	25.0	23.1	50,000
60,000			226.4	50.0	48.0	30.0	27.8	60,000
70,000			264.2	58.3	56.0	35.0	32.4	70,000
80,000			301.9	66.7	64.0	40.0	37.0	80,000
90,000			339.6	75.0	72.0	45.0	41.7	90,000
100,000			377.4	83.3	80.0	50.0	46.3	100,000

*Standard packing:

20 37-mm, shell.
25 Grenades, fragmentation.
265 Cal. .50, mlb.
1,200 Cal. .30, clips and bandoleers, rifle.
1,250 Cal. .30, 250/fab. belt, MG.
2,000 Cal. .45.
2,160 Cal. .30, carbine.

CONVERSION TABLE—ROUNDS TO CONTAINERS—Continued

Rounds	Rounds per container (standard packing)							Rounds
	20	25	265	1200	1250	2000	2160	
200,000			754.7	166.7	160.0	100.0	92.6	200,000
300,000			1,132.1	250.0	240.0	150.0	138.9	300,000
400,000			1,509.4	333.3	320.0	200.0	185.2	400,000
500,000			1,886.8	416.7	400.0	250.0	231.5	500,000
600,000			2,264.1	500.0	480.0	300.0	277.8	600,000
700,000			2,641.5	583.3	560.0	350.0	324.0	700,000
800,000			3,018.8	666.7	640.0	400.0	370.4	800,000
900,000			3,396.2	750.0	720.0	450.0	416.7	900,000
1,000,000			3,773.5	833.3	800.0	500.0	463.0	1,000,000

CONVERSION TABLE—CONTAINERS TO TRUCKS

Trucks required		1	2	3	4	5	6	7	8	9	10
Item	Truck capacity (tons)	Containers required									
Cal. .30, carbine (2,160 rds./cont.).	1½	43	86	129	172	215	258	301	344	387	430
	2½	71	142	213	284	355	426	497	568	639	710
	3½	100	200	300	400	500	600	700	800	900	1,000
Cal. .30, rifle and MG (1,200 and 1,250 rds./cont.).	1½	30	60	90	120	150	180	210	240	270	300
	2½	50	100	150	200	250	300	350	400	450	500
	3½	70	140	210	280	350	420	490	560	630	700
Cal. .45 (2,000 rds./cont.).	1½	27	54	81	108	135	162	189	216	243	270
	2½	45	90	135	180	225	270	315	360	405	450
	3½	64	128	192	256	320	384	448	512	576	640
Cal. .50, mlb. (265 rds./cont.).	1½	31	62	93	124	155	186	217	248	279	310
	2½	52	104	156	208	260	312	364	416	468	520
	3½	73	146	219	292	365	438	511	584	657	730
Grenades, frag. (25 rds./cont.).	1½	60	120	180	240	300	360	420	480	540	600
	2½	100	200	300	400	500	600	700	800	900	1,000
	3½	140	280	420	560	700	840	980	1,120	1,260	1,400
60-mm mortar (18 rds./cont.).	1½	37	73	111	148	185	222	259	296	333	370
	2½	62	124	186	248	310	372	434	496	558	620
	3½	86	172	258	344	430	516	602	688	774	860
81-mm mortar HE, M43, light (8 rds./cont.).	1½	33	66	99	132	165	198	231	264	297	330
	2½	55	110	165	220	275	330	385	440	495	550
	3½	77	154	231	308	385	462	539	616	693	770
HE, M56, M57, heavy (3 rds./cont.).	1½	67	134	201	268	335	402	469	536	603	670
	2½	111	222	333	444	555	666	777	888	999	1,110
	3½	156	312	468	624	780	936	1,092	1,248	1,404	1,560

CONVERSION TABLE—CONTAINERS TO TRUCKS—Continued

Trucks required		1	2	3	4	5	6	7	8	9	10
Item	Truck capacity (tons)	Containers required									
37-mm AA (20 rds./cont.).	1½	35	70	105	140	175	210	245	280	315	350
	2½	59	118	177	236	295	354	413	472	531	590
	3½	82	164	246	328	410	492	574	656	738	820
37-mm gun M3, M5, M6 (20 rds./cont.).	1½	30	60	90	120	150	180	210	240	270	300
	2½	50	100	150	200	250	300	350	400	450	500
	3½	70	140	210	280	350	420	490	560	680	700
75-mm gun and 75-mm pack howitzer (3 rds./cont.).	1½	44	88	132	176	220	264	308	352	396	440
	2½	73	146	219	292	365	438	511	584	657	730
	3½	103	206	309	412	515	618	721	824	927	1,030
105-mm howitzer (2 rds./cont.).	1½	24	48	72	96	120	144	168	192	216	240
	2½	39	78	117	156	195	234	273	312	351	390
	3½	55	110	165	220	275	330	385	440	495	550
Mine, AT, HE, M1 (5 rds./cont.).	1½	59	118	177	236	295	354	413	472	531	590
	2½	98	196	294	392	490	588	686	784	882	980
	3½	137	274	411	548	685	822	959	1,096	1,233	1,370
3" AA gun M'17, M'25M1, M2, M4 (4 rds./cont.).	1½	18	36	54	72	90	108	126	144	162	180
	2½	30	60	90	120	150	180	210	240	270	300
	3½	42	84	126	168	210	252	294	336	378	420
3" AA gun M'18, M1, M3 (4 rds./cont.).	1½	20	40	60	80	100	120	140	160	180	200
	2½	33	66	99	132	165	198	231	264	297	330
	3½	46	92	138	184	230	276	322	368	414	460
90-mm AA gun (4 rds./cont.).	1½	13	26	39	52	65	78	91	104	117	130
	2½	22	44	66	88	110	132	154	176	198	220
	½ω	31	62	93	124	155	186	217	248	279	310

CONVERSION TABLE—COMPLETE ROUNDS TO TRUCKS

Trucks required		1	2	3	4	5	6	7	8	9	10
Item	Truck capacity (tons)	Containers required									
155-MM HOW.*											
Projectile (1)	----	28	56	84	112	140	168	196	224	252	280
Prop. Chg. (3) [1]	----	4 &2	9 &1	14 &0	18 &2	23 &1	28 &0	32 &2	37 &1	42 &0	46 &2
Fuze (25/box) [2]	1½	2:22	3:19	4:16	5:13	6:10	7:7	8:4	9:1	11:23	12:20
Primer (50/tin) [3]	----	1:19	2:38	2:8	3:27	4:46	4:15	5:34	5:4	6:23	7:42
Projectile (1)	----	46	92	138	184	230	276	322	368	414	460
Prop. Chg. (3) [1]	----	7 &2	15 &1	23 &0	30 &2	38 &1	46 &0	53 &2	61 &1	69 &0	76 &2
Fuze (25/box) [2]	2½	2:4	4:8	6:12	8:16	10:20	12:24	13:3	15:7	17:11	19:15
Primer (50/tin) [3]	----	1:0	2:0	4:48	5:48	6:47	7:46	8:46	9:45	10:45	11:44
Projectile (1)	----	66	132	198	264	330	396	462	528	594	660
Prop. Chg. (3) [1]	----	11 &0	22 &0	33 &0	44 &0	55 &0	66 &0	77 &0	88 &0	99 &0	110 &0
Fuze (25/box) [2]	3½	3:9	6:18	8:2	11:11	14:20	16:4	19:13	22:22	24:6	27:15
Primer (50/tin) [3]	----	2:27	3:5	5:33	6:10	8:37	9:14	11:42	12:19	14:47	15:24
155-MM GUN†											
Projectile (1)	----	21	42	63	84	105	126	147	168	189	210
Prop. Chg. (6) [1]	----	7 &0	14 &0	21 &0	28 &0	35 &0	42 &0	49 &0	56 &0	63 &0	70 &0
Fuze (25/box) [2]	1½	1:4	2:8	3:12	4:16	5:20	6:24	6:3	7:7	8:11	9:15
Primer (50/tin) [3]	----	1:27	1:4	2:31	2:8	3:35	3:12	4:39	4:16	5:43	5:19
Projectile (1)	----	36	72	108	144	180	216	252	288	324	360
Prop. Chg. (6) [1]	----	12 &0	24 &0	36 &0	48 &0	60 &0	72 &0	84 &0	96 &0	108 &0	120 &0
Fuze (25/box) [2]	2½	2:14	3:3	5:17	6:6	8:20	9:9	11:23	12:12	13:1	15:15
Primer (50/tin) [3]	----	1:10	2:21	3:31	4:42	4:2	5:12	6:23	7:33	8:44	8:4
Projectile (1)	----	50	100	150	200	250	300	350	400	450	500
Prop. Chg. (6) [1]	----	16 &2	33 &1	50 &0	66 &2	83 &1	100 &0	116 &2	133 &1	150 &0	166 &2
Fuze (25/box) [2]	3½	2:0	4:0	6:0	8:0	10:0	12:0	14:0	16:0	18:0	20:0
Primer (50/tin) [3]	---	2:45	3:40	4:35	5:30	6:25	7:20	8:15	9:10	10:5	11:0

[1] Complete bundles and CSC's; e. g., 18 &2 means 18 bundles and 2 CSC's of propelling charges are required.

[2] Complete boxes: Excess fuses; e. g., 5:13 means 5 boxes of fuses are required, of which 13 are fuses in excess of the number of complete rounds.

[3] Complete tins: Excess primers; e. g., 3:27 means 3 tins of primers are required, of which 27 primers are in excess of 110 percent complete rounds.

*Propelling charges for 155-mm how. packed in bundles of three CSC's, each CSC containing two propelling charges. Bundles may be broken and individual CSC's issued when necessary; 155-mm how. issued in multiples of two only.

†Propelling charges for 155-mm gun packed in bundles of three CSC's, each CSC containing one propelling charge. Bundles may be broken and individual CSC's issued when necessary.

APPENDIX IX

COLORS USED IN VISUAL IDENTIFICATION OF AMMUNITION

Ammunition	Colors on container	Colors on ammunition
Small arms:		
Ball	Red	None.
A. P	Blue on yellow	Black tip.
Tracer	Green on yellow	Red tip.
Ball and tracer	Yellow, red, and green	
Grenades:		
Fragmentation	None	Yellow.
Gas	None	Gray with red band.
Smoke	None	Gray with yellow band.
Artillery:		
High explosive	Yellow	Yellow.
Low explosive and shrapnel	Red	Red.
Armor-piercing:		
with HE content	Yellow	Yellow.
without HE content.	Black	Black.
Chemical:		
HS, M1 gas	Gray with 2 green bands	Gray with two green bands.
Cl, CG, PS gas	Gray with 1 green band	Gray with one green band.
Irritant gas	Gray with 1 red band	Gray with one red band.
Smoke	Gray with 1 yellow band	Gray with one yellow band.
Incendiary	Gray with 1 purple band	Gray with one purple band.
Propelling charges:		
Green bag	Green corner on crate, green band on fiber container.	Green cloth bag.
White bag	White corner on crate, white band on fiber container.	White cloth bag.
Igniter pads	Red	Red cloth pad.

Bands on cal. .30 and cal. .45 containers are horizontal and vertical; bands on cal. .50 containers are diagonal.

APPENDIX X

STORAGE OF AMMUNITION IN THE DESERT

■ 1. GENERAL.—The information given in the paragraphs below on the storage of ammunition in the desert have been evolved as a result of experience.

■ 2. DISPERSION.—Most desert country is fairly hard going and it is usually possible to disperse the stacks over a wide area while still allowing access by trucks to each stack. The most convenient size of stacks has been found to be between 10 and 20 tons. The purpose of dispersion is not so much to prevent sympathetic detonation as to present the enemy with a target that is not worth while bombing and to minimize the loss should an aerial attack take place. Ground space is almost limitless, and guarding, except near native villages, is simple to arrange. The only factor, therefore, that limits dispersion is general convenience of control.

■ 3. CAMOUFLAGE.—Cover scarcely exists, or when it does, in isolated cases, invites special attention from the enemy. Open stacking is therefore the rule, and camouflage is all important. Shadows are the most conspicuous objects in the desert and must be avoided by low or pyramidal stacking and sloping traverses. Typical means of camouflaging are—

a. In flat scrubby country, irregular stacks, one box high, covered by brush or stone, or small pyramidal stacks garnished to resemble bushes.

b. In broken, stone-littered, country, low irregular stacks surrounded and covered with stone.

c. In sandy country, stacking in small pits and covering with sand bags or loose sand, air spaces for ventilation being provided whenever possible.

d. In desert country, boxes should be painted a stone color.

■ 4. PROTECTION FROM HIGH EXPLOSIVES.—The covering of stacks with sand or stones, in addition, provides protection from blasts and bomb splinters. Cases have been reported of heavy bombs bursting 8 feet from a stack covered with stone and causing negligile damage to the ammunition. The

use of metal or wood containers filled with sand as a complete external covering for stacks is very effective against heat, blast, and fragments.

■ 5. PROTECTION FROM WEATHER.—Rain falls only in certain seasons but dews are often heavy. The same covering of stone or sand will keep the ammunition at a more constant temperature and avoid harm from heat and condensation.

■ 6. PROTECTION FROM FIRE.—*a.* It has been frequently proved that ammunition is not easily burnt and blown up. On one occasion when a truck containing bulk explosives and detonators caught fire, the only explosion was caused by the gasoline tank. The provision of fire extinguishers and appliances to deal with incendiaries is however of the utmost importance even in the desert where the fire risk is extremely low.

b. Ammunition containing a tracer element should be separated from other types.

■ 7. EFFECT OF THE SUN.—Generally the method of camouflage affords a certain amount of protection against the sun and special protective covering is used for fuzes, primers, and detonators. Probably due to rapid turnover there is no direct evidence of marked deterioration due to exposure to the sun.

APPENDIX XI

LIST OF REFERENCES

Subject	Publication	Title
Accountability	FM 100-10	Field Service Regulations, Administration.
Administration	TM 12-250	Administration.
Ammunition:		
Fires in	TM 9-1900	Ammunition, General.
General instructions	OFSB, 3-series	Ordnance Field Service Bulletins, Ammunition.
Identification code	OFSB 3-14	Ammunition Identification code.
Identification of	TM 9-1900	Ammunition, General.
	SNL, groups P, R, S, and T.	Standard Nomenclature List.
Storage of	TM 9-1900	Ammunition, General.
Supply	FM 9-6	Ammunition Supply.
Armament of different units.	T/O	Table of Organization.
	T/BA	Table of Basic Allowances.
	OEC (For the unit concerned.)	Ordnance Equipment Chart.
Assignment of ammunition companies.	FM 9-5	Ordnance Field Manual.
Basic loads of ammunition	T/BA (For the unit concerned.)	
Bivouacs	FM 100-5	Field Service Regulations, Operations.
Camouflage	FM 5-20	Camouflage.
Complete rounds of artillery ammunition.	OFSB 3-14	Ammunition Identification Code.
	SNL, groups P, R, and S.	
Depot operation, general supplies.	FM 9-25	The Depot Company.
Equipment, ammunition company.	T/BA 9	Table of Basic Allowances, Ordnance.
	SNL N-12	General Tools and Supplies, Ordnance Ammunition Company.
Loading and material handling.	IOSSC-h	Introduction to Ordnance Storage and Shipment Charts.
Gas, defense against	FM 21-40	Defense Against Chemical Attack.
Motor marches	FM 25-10	Motor Transport.
Organization, ammunition Ammunition Battalion	T/O 9-17	Table of Organization.
	T/O 9-15	Table of Organization.
Packing and shipping data	OSSC	Ordnance Storage and Shipment Charts.
	SNL, groups P, R, S, and T.	Standard Nomenclature List.
Sanitation	FM 21-10	Military Sanitation and First Aid.
Unit of fire	FM 101-10	Staff Officers' Field Manual, Organization, Technical and Logistical Data.

	Paragraph	Page
Administrative system, purpose	114	65
Allocation of credits (OFM Form 301)	119	67
Ammunition:		
Battalion. *See* Battalion.		
Company. *See* Company.		
Depot. *See* Depot.		
Identification	app. IX	246
Loading and packing data	164	181
Movement	app. VI	214
Percentages	162	180
Receipt	65	41
Stacking, covered storage	app. IV	205
Open storage	app. V	211
Stock record (OFM Form 307)	122	69
Storage	66	42
Supply point. *See* ASP.		
Trains, trucks in	app. VII	238
Transportation order (OFM Form 302)	120	68
Used by type army	app. I	195
Assignments:		
Ammunition battalion	133	86
Ammunition company	3	2
ASP:		
Definition	2	1
Destruction	23	14
Lay-out	98–100	56
Lay-out worksheet	124	71
Location	92	50
Movement	22	14
Office:		
Duties in connection with issues	46	30
Duties in connection with replenishments	47	32
Location	101	58
Operations	45	30
Organization	42	28
Records	129	84
Officer, duties	52	36
Police	11	8
Requirements	91	50
Security	94	52
Site, preparation	63	40
Traffic	93	52
Basic loads of ammunition, computation of	app. III	198
Battalion, ammunition:		
Assignments of	133	86
Equipment	137	87
Manner of operation	135	87
Mission	132	86
Operation as a unit	138	87
Organization	136	87
Responsibilities	134	86

	Paragraph	Page
Battalion headquarters:		
Equipment	150	99
Military section, operations	152	99
Organization	149	98
Technical section, operations	153	102
Book, policy	5	3
Camouflage sergeant	71	43
Chief clerk, duties	53	36
Communications zone depot. *See* Depot.		
Company, ammunition:		
Assignments	3	2
Equipment	18	13
Mission	1	1
Movement	20	14
Operations	19	14
Organization	16	11
Company:		
Clerk, duties	38	23
Commander, responsibilities	30	18
Headquarters:		
Equipment	36	22
Organization	35	21
Office, responsibilities	38	23
Conversion tables—rounds to containers to truckloads	app. VIII	239
Credit records (OFM Form 308)	123	70
Definition:		
ASP	89	49
Sub-ASP	2	1
Depot, communications zone	139	87
Communications	141	88
Facilities	145	90
Location	140	87
Operation	147	93
Organization	146	91
Planning	148	95
Security	143	90
Size and permanence	144	90
Terrain	142	88
Desert, storage of ammunition	app. X	247
Destruction of ASP	23	14
Detachment, service platoon, for sub-ASP	75	44
Down time	8	5
Dumps, ammunition	112	64
Duties. *See* the individual concerned.		
Equipment, ammunition battalion	137	87
Battalion headquarters	150	99
Company, ammunition	18	13
Company headquarters	36	22
Service platoon	74	43
Executive officer, company	31	20
Files	130	84
First sergeant	38	23
Facilities, depot	145	90

	Paragraph	Page
Guard, guide, and traffic section, service platoon	80	47
Headquarters:		
Battalion:		
Equipment	150	99
Organization	149	98
Company:		
Equipment	36	22
Organization	35	21
Identification of ammunition	app. IX	246
Installation of ASP	155	109
Issues, general procedure	46	30
Labor for stockage	106	59
Magazine platoon	60	39
Lay-out, ASP	98–100	56
Worksheet	124	71
Loading and packing data	164	181
Time	8	5
Location:		
ASP	92	50
ASP office	101	58
Depot	140	87
Record	126	73
Service platoon	102	58
Lot record	128	74
Magazine platoon	60	39
Commander, duties	68	42
Organization	61	40
Maps, situation	51	35
Mess sergeant, duties	40	25
Military section, battalion headquarters	152	99
Mission:		
Battalion	132	86
Company	1	1
Motor marches	21	14
Movement of ammuntion	app. VI	214
Of ASP	22	14
Of company	20	14
Office records, ASP	129	84
Operation:		
ASP	156	115
ASP office	45	30
Battalion as a unit	138	87
Company	19	14
Continuity	25	17
Depot, communications zone	147	93
Magazine platoon at sub-ASP	61	40
Manner, battalion	135	87
Military section, battalion headquarters	152	99
Service platoon	77–78	45
Technical	24	15
Technical section, battalion headquarters	153	100

	Paragraph	Page
Organization:		
ASP	159	147
ASP office	42	28
Battalion	136	87
Headquarters	149	98
Company	16	11
Headquarters	35	21
Depot, communications zone	146	91
Magazine platoon	61	40
Service platoon	73	43
Packing and loading data	164	181
Percentages, ammunition	162	180
Placement tally	127	73
Plan for operation, ASP	158	146
Planning	6	4
Depot	148	95
For stockage	105	58
Police, ASP	11	8
Preparation of site, ASP	5	3
Property responsibility	63	40
Railheads, ammunition	13	8
Receipt of ammunition	111	63
Reconnaissance of ASP area	65	41
Records and reports, ASP	97	56
Records:		
ASP office	157	119
Maintenance	129	84
Replenishment:		
By truck	7	5
Duties of ASP office in	48	34
General procedure	47	32
Responsibilities:		
Battalion	134	86
Company	4	2
Company office	38	23
Rounds, complete, 155-mm How. ammunition	163	180
Sanitation	12	
Schedules of operation	95	55
Security:		
ASP	94	52
Depot	143	90
Service platoon:		
Commander, duties	83	48
Detachment for sub-ASP	75	44
Equipment	74	43
Guard, guide, and traffic section	80	47
Operations	77–78	45
Organization	73	43
Service section	81	47
Shipping and receiving section	79	46
Transportation section	81	47
Site, ASP, preparation	63	40
Stacking ammunition	app. IV, V	205, 211
Staking ASP site	104	58
Status of stocks report (OFM Form 306)	121	69
Stock record (OFM Form 307)	122	69

Stockage:	Paragraph	Page
Forward ASP's	110	62
Labor for	106	59
Planning for	105	58
Storage of ammunition	66	42
Sub-ASP operation:		
Magazine platoon in	61	40
Service platoon, detachment for	75	44
Superintendent of storage, responsibilities	56	37
Supply office:		
Company	39	24
Sergeant	30	18
Tables and charts	131	84
Conversion—rounds to containers to truckloads	app. VIII	239
Tally	125	72
Technical section, battalion headquarters, operations	153	100
Terrain, depot area	142	88
Time:		
Down	8	5
For stockage	108	61
Traffic in ASP	93	52
Training	15	10
Transportation for stockage	106	59
Transportation order (OFM Form 302)	120	68
Truckmaster	41	27
Trucks in ammunition trains	app. VII	238
Units, ammunition	116	66
Unit of fire	app. III	197
Computation	app. III	198
Table, infantry division, triangular	165	181